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Childhood Immunization Coverage Survey in Key Populations (KPCICS) – Health Care Worker Parents

Final Report

Prepared for Health Canada

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Canada The wordmark for Canada, with a small red maple leaf icon above the letter 'a'.

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Supplier name: EKOS Research Associates Inc.

Date: September 2023

This public opinion research report presents the results of an online survey conducted by EKOS Research Associates Inc. on behalf of Health Canada. The research study was conducted with 486 health care workers who are also parents, legal guardians or persons making health care decisions for children under 18, collected between March 30 and June 1, 2023.

Cette publication est aussi disponible en français sous le titre: Enquête sur la couverture vaccinale des enfants dans les populations clés (ECVEPC) – Parents travailleurs de la santé

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TABLE OF CONTENTS

List of Tables	4
List of Charts	4
Executive Summary	5
A. Background and Objectives	5
B. Methodology	6
C. Key Findings	8
D. Note to Readers	11
E. Contract Value	11
F. Political Neutrality Certification	12
Detailed Findings	13
A. Key Characteristics of the Sample	13
B. Immunization	16
C. Views about Vaccination	27
Summary, Conclusions and Recommendations	35
A. Summary	35
B. Conclusions	37
C. Limitations of the Research	38
Appendices	39
A. Methodological Details	39
B. Banner Tables	46
C. Survey Questionnaire	48

LIST OF TABLES

- Table 1: Child Vaccinations Not Received
- Table 2: Source of Information Likely to be Consulted
- Table 3: Response Rates
- Table 4: Sample Characteristics Used in Calculation of Weight
- Table 5: Sample Characteristics – Parent, Household, and Selected Child

LIST OF CHARTS

- Chart 1: Current Health Care Provider Role of Parent
- Chart 2: Rating of Physical and Mental Health of Parent
- Chart 3: Vaccination Status of Child
- Chart 4: Vaccination Obstacles
- Chart 5: Reasons for Not Immunizing Child
- Chart 6: Reasons for Immunizing Child
- Chart 7: Vaccine Hesitancy of Parent
- Chart 8: Reasons for Vaccine Hesitancy of Parent
- Chart 9: Doses of COVID-19 Vaccines Received by Child
- Chart 10: Reasons for Providing COVID-19 Vaccine to Child
- Chart 11: COVID-19 Vaccine Hesitancy of Parent
- Chart 12: Reasons for COVID-19 Vaccine Hesitancy of Parent
- Chart 13: Parents' Pre-pandemic Views about Vaccine Safety and Effectiveness of Vaccines
- Chart 14: Proportion of Parents Changing Vaccine Views Since COVID-19
- Chart 15: Parents' Current Views about Vaccine Safety and Effectiveness
- Chart 16: Current Intent to Vaccinate Child in Future
- Chart 17: Parents' Views about Vaccines
- Chart 18: Parents' Views about Vaccines (II)
- Chart 19: Parent Concerns about Side Effects of Vaccines

EXECUTIVE SUMMARY

A. BACKGROUND AND OBJECTIVES

Vaccines have proven to be an effective tool to reduce or eliminate diseases. An examination of Canadian cases has shown that routine childhood vaccines have eliminated polio, reduced the observed cases of measles, mumps, rubella, and diphtheria by 99%, and reduced cases of whooping cough by 87%¹. Surveillance data, however, suggests that vaccine coverage in Canada is uneven.

The childhood National Immunization Coverage Survey (cNICS) measures the immunization status of the general population of children in Canada and collects data on parental knowledge of vaccines and the diseases they prevent. The cNICS helps to determine coverage and changes in update of recommended immunization schedules, provides international organizations with estimates of coverage of specific vaccines, and provides information on parent and guardian knowledge and beliefs about vaccines².

The data produced from the cNICS is limited in the ability to provide information from children in all age ranges, and from key at-risk populations. Further, the COVID-19 pandemic has increased the discussion of vaccines and shifted the knowledge, attitudes and beliefs of some Canadians. The prevalence of vaccine hesitancy and refusal of COVID-19 vaccines for some has resulted in the need to understand the implications on childhood immunization coverage, and any education support needed to promote continued vaccination among children.

The Public Health Agency of Canada (PHAC) intends to address data coverage gaps related to at-risk populations through a new surveillance initiative: the Childhood Immunization Coverage Survey Among Key At-Risk Populations (KPCICS) in Canada. As a result of indications that there has been a high prevalence of vaccine hesitancy for COVID-19 vaccines among health care workers, this study was conducted among health care workers who are parents, legal guardians, or persons most knowledgeable for a child or children aged 17 or younger.

¹ Public Health Agency of Canada. *Vaccines Work*. October 9, 2019. Online: [Infographic: Vaccines Work - Canada.ca](https://www.canada.ca/en/public-health/services/vaccines-work-infographic.html)

² Statistics Canada. Childhood National Immunization Coverage Survey (CNICS). August 8, 2022. Online: [Childhood National Immunization Coverage Survey \(CNICS\) \(statcan.gc.ca\)](https://www150.statcan.gc.ca/n1/pub/82-625-x/2022001/article/00001-eng.htm)

Study Objectives

This survey provides up-to-date childhood vaccine coverage data specific to health care workers who have children. The opinions and views of parents, guardians, or persons most knowledgeable collected will help to inform the following areas:

- Their child's immunization uptake, as well as vaccine hesitancy and vaccine refusal, the reasons for vaccine hesitancy and the impact on routine childhood immunization.
- The unknown effects of the COVID-19 pandemic on concurrent childhood immunizations to determine priorities for vaccine-preventable diseases, with the aim of identifying whether catch-up routine immunization campaigns are required.

Specifically, the surveillance project collected information on:

- Routine childhood and COVID-19 immunizations status;
- Intent to get vaccinated for those not yet vaccinated;
- Reasons for non-vaccination (including barriers);
- Parent/ legal guardian/ other PMK's knowledge, attitudes and beliefs (KAB) toward child's immunization;
- Sources of information on immunization, including routine childhood vaccines and COVID-19 vaccines; and,
- Sociodemographic characteristics that are linked to inequalities in vaccination uptake.

B. METHODOLOGY

The survey sample includes 486 respondents who indicated that they are 18 years of age or older; work or volunteer in health care including in a hospital, a health clinic, a long-term care or nursing home, or in another community setting; and are also a parent or legal guardian or person responsible for health decisions for a child 17 years of age and younger. Eligible parents indicated the number of children 17 years of age and younger that they are a parent, legal guardian or person most knowledgeable for. One child was then randomly selected as the child that the parent would complete the survey about. All analyses provided herein are in regard to immunization experiences relating to the randomly selected child.

The primary sample source used was our in-house *Probit* panel of randomly recruited Canadians. The survey was intended to be administered online among eligible participants recruited from the panel, though a proportion of participants was to be recruited through telephone if the panel source was not sufficient to achieve the intended sample size. Because we did not expect that our in-house panel would be sufficient to complete the number of cases required, we supplemented our in-house panel sample with a nationally representative sample, including

landlines selected through random digit dialing (RDD), as well as cell phone sample in a 30%:70% ratio. The screened sub-sample completed the survey by telephone. Although the original intent was to include 550 respondents in the final sample, we collected 486 but were unable to collect the remaining 64 responses with health care workers (HCWs).

We assumed that approximately 125 cases would be completed online based on telephone recruitment, however, 195 of the 486 were completed by telephone in order to maximize the sample of completed cases (179 completed with panel members and 16 completed with members of the general public through RDD sample). Sixty percent of the sample (n=291) was completed online by panel members. Each panel member received one initial email invitation and up to three email reminders. About half of sampled panel members received between one and four follow-up telephone calls, although many received up to nine calls over the course of six weeks.

The *Probit* panel is assembled using an RDD process for sampling from a blended land-line cellphone frame, which provides full coverage of Canadians with telephone access. The distribution of the recruitment process is meant to mirror the actual population in Canada (as defined by Statistics Canada). As such, our more than 120,000 member panel can be considered representative of the general public in Canada (meaning the incidence of a given target population within our panel very closely resembles the public at large) and margins of error can be applied. All households/individuals in the *Probit* panel are contacted by telephone, the nature of the panel is explained in greater detail (as are our privacy policies), and demographic information is collected. At this time, the online/off-line as well as landline/cellphone status is ascertained in order to determine the method of completing surveys (i.e., online, telephone, or mail). Ongoing activities take place several times each year to monitor, maintain, and refresh the panel. These activities include review of data quality and participation rates, and ongoing recruitment of new panel members.

The online survey was conducted between March 30 and June 1, 2023. Appendix A provides details on the characteristics of the sample. The randomly recruited probability sample carries with it a margin of error³ of +/-4.5%. The margin of error for most segments within the sample for which results were isolated is between +/-5% and +/-9%⁴. Results were not isolated for

³ Level of precision associated with each sample segment for which results are isolated in the survey (i.e., results are expected to be within this range of the reported findings, 19 times out of 20).

⁴ The margin of error is between 5% and 9% in 23 segments, however, it is between +/-11% and +/-15% in six segments (parents of a child under 5 years of age, parents who are or have been hesitant about routine vaccines, and parents in BC/territories, Alberta, Saskatchewan/Manitoba, and the Atlantic).

segments with fewer than 10 responses to ensure that confidentiality was not compromised, and due to higher imprecision (i.e., margin of error) associated with small sample sizes. The primary sample source was an in-house Probit panel of randomly recruited Canadians⁵. The survey instrument was delivered online as well as by telephone and available in both official languages. The average length of the survey was 13 minutes online and 19 minutes by telephone. The overall response rate for the survey was 24%. [Appendix A](#) presents further details on the methodology for the survey.

The survey sample was weighted based on Statistics Canada 2021 Census population figures for highest level of education among HCWs⁶, as well as provincial/territorial distribution of HCWs using information from the Canadian Institute on Health Information (health-workforce-canada-2017-2021)⁷. The sample is also weighted based on the age and sex at birth of the selected child using Statistics Canada 2021 Census population figures for the general public⁸ since no population figures were available for age and gender of children of parents who are HCWs.

C. KEY FINDINGS

Respondents to the survey were comprised of health care providers who are parents. One in five are allied health workers (21%), a nurse or nurse practitioner (19%), or a community health worker (18%). More than one in 10 (13%) are in an administrative, support or managerial role. Parents in the sample are primarily between 35 and 54 years of age (76%) and three in five (61%) are women.

Health care workers who are parents were asked for their description of their physical and mental health using a five-point scale from poor to excellent. Physical health was rated more strongly than mental health where 91% described their physical health as good to excellent, compared to 80% for mental health.

Childhood Vaccination

Among all parents in the sample, 97% indicated that their child had received at least some of the recommended vaccines for their age, with 66% reporting that they received all of the

⁵ Probit panellists were selected using a random-digit dial (RDD) landline-cell phone hybrid sample frame.

⁶ <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=9810058501>

⁷ <https://www.cihi.ca/en/health-workforce-in-canada-in-focus-including-nurses-and-physicians/go-in-depth-most-recent-data-on>

⁸ <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=9810002301>

recommended vaccines. Among the parents indicating that their child had received “some” (but not “all”) of the recommended vaccines for the child’s age, those not received were most commonly the vaccine for influenza (52%), Human Papillomavirus (HPV) vaccine (32%), or the Hepatitis A and B vaccine (30%). One in five children who had received only “some” recommended vaccines for their age group did not receive the rotavirus (22%), chickenpox (21%) or Rubella (21%) vaccines.

The majority of parents (68%) said they did not encounter any obstacles that made it more difficult to get their child vaccinated. Difficulty booking time for the appointment was noted by 10% of parents. Between five and six percent of parents noted a child’s fear of needles, parental opposition or issues with access to health care. Among parents whose child did not receive one or more of the recommended vaccines, more than one in three (37%) said they did not consider one or more of the recommended vaccines to be necessary.

The primary reason stated by parents for immunizing their child is to protect their child themselves, and others from disease (76%). More than half indicated that the benefits are more important than the risks (56%) or that they received advice from their doctor or health care professional (54%).

Thirteen percent of all parents said that they are or have been hesitant in the past about their child receiving one or more of the recommended vaccines. Among these parents, 68% have concerns about the safety of the vaccine or side effects, 35% mistrust vaccine related information, and 33% have concerns about the effectiveness of the vaccine.

COVID-19 Vaccination

Seven in 10 parents indicated that their child has received a COVID-19 vaccine; including 7% who received one dose, 35% received two doses, and 28% with three or more doses. Parents reported a multitude of reasons for vaccinating their child against COVID-19, including to protect themselves and/or household members against COVID-19 infection and/or severe outcomes (72%). Nearly six in 10 said their child received a COVID-19 vaccine based on public health recommendations (59%) or to prevent the spread of COVID-19 in their community (57%). Half of parents said their child received a COVID-19 vaccine to protect themselves against long COVID (50%). Slightly fewer than half indicated it was to help restore a more normal life (47%) and more than one in three (38%) said it was because the COVID-19 vaccine was recommended by a health care professional. Over one in three parents (37%) are or have been hesitant to vaccinate their child against COVID-19; the majority indicated this is because of concerns that not enough research on the vaccine has been done on children (69%), or for concerns of the safety of the vaccine and/or side effects (56%).

Views about Vaccination

Prior to the COVID-19 pandemic, 95% of parents who are health care workers believed that vaccines were safe and effective for children. In general, 29% of parents agree that their views about vaccines have changed since the pandemic. However, the vast majority continue to believe it is true that childhood vaccines are effective (94%) or safe (93%). Nine in 10 (89%) parents will continue to get their child vaccinated with the recommended childhood routine vaccines in the future, while much fewer (59%) will get their child vaccinated with the COVID-19 vaccine.

Parents were asked to react to a battery of positive and negative statements about childhood immunizations. In terms of reactions to positive statements, 95% of parents agree that vaccines help protect their child's health and 92% of parents agree that having their child vaccinated protects others in the family and community. More than eight in 10 (83%) parents also agree that unvaccinated children are at higher risk of getting some serious diseases, including COVID-19. More than three in four (77%) parents agree that delaying childhood vaccines causes risk to their child's health and the same proportion (77%) believe that most parents have their child vaccinated.

When considering negative statements, 85% of parents disagree that the use of alternative practices such as homeopathy or naturopathy can eliminate the need for vaccination. About the same proportion (82%) disagree that a healthy lifestyle can replace the need for vaccination, although 14% agree. While eight in 10 parents (79%) also disagree that children receive too many vaccinations overall, one in five (18%) agree with this view. Just over seven in 10 (73%) parents disagree that it is better to develop immunity from having a disease rather than from a vaccine; however, close to one in four (21%) agree. About the same proportion of parents agree that children receive too many vaccines at the same visit (24%).

Sources of Childhood Immunization Information

Most parents said they would be most likely to consult the Public Health Agency of Canada or Health Canada (72%), or health care providers (71%) in order to find information about childhood immunization. Half or more would consult their local public health unit or clinic (59%), scientific publications and journals (58%), the Ministry of Health within their province or territory (54%), or international organizations (50%), and the National Advisory Committee on Immunization (NACI) was mentioned by 42%. More than one in three (39%) parents would consult with community nursing stations or clinics. Other sources include the news or media (16%), family and friends (16%) or social media (6%).

D. NOTE TO READERS

Detailed findings are presented in the sections that follow. Overall results are presented in the main portion of the narrative and are typically supported by graphic or tabular presentation of results. The programmed survey instrument can be found in Appendix B.

It should be noted that the survey asks a number of questions about behaviours that may have a tendency to exert pressure to respond in a socially desirable way for respondents to under-report their attitudes and behaviours related to vaccine hesitancy⁹. Results for the proportion of respondents in the sample who either said “don’t know” or did not provide a response are not indicated in the graphic representation of the results of survey questions where multiple resources were possible, particularly where they are not sizable (i.e., 10% or less). Results may also not total 100% due to rounding or where multiple responses could be provided.

E. CONTRACT VALUE

The contract value for the POR project is \$58,640.02 (including HST).

⁹ Ivar Krumpal, “Determinants of Social Desirability Bias in Sensitive Surveys: A Literature Review”, *Quality and Quantity*, June 2013, Volume 47, Issue 4, pp. 2025-2047.

F. POLITICAL NEUTRALITY CERTIFICATION

I hereby certify as Senior Officer of EKOS Research Associates Inc. that the deliverables fully comply with the Government of Canada political neutrality requirements outlined in the Policy on Communications and Federal Identity and the Directive on the Management of Communications. 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.

Signed by:



Susan Galley (Vice President)

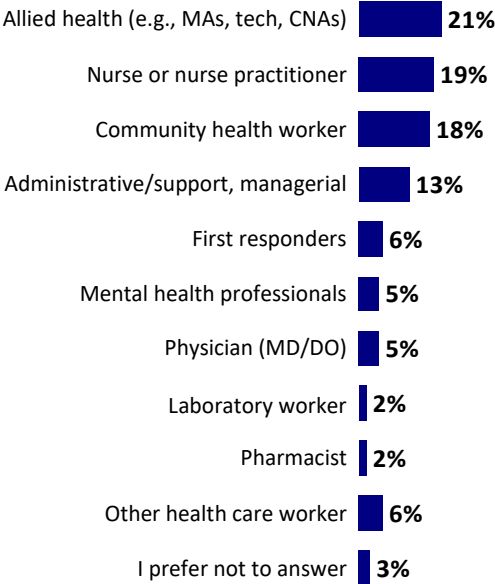
DETAILED FINDINGS

A. KEY CHARACTERISTICS OF THE SAMPLE

Current Health Care Provider Role of Parent

A total of 486 parents/legal guardians/persons most knowledgeable (referred to as “parents” from here on) responded to the survey. Among them, 21% described themselves as allied health workers, 19% indicated they are a nurse or nurse practitioner and 18% are a community health worker. Further, 13% described an administrative, support or managerial role in a health care setting and six percent or fewer said they are a first responder, mental health professional, physician, laboratory worker, pharmacist or another type of health care worker.

Chart 1: Current Health Care Provider Role of Parent



S13. What is your current role?

Base: All respondents, n=486

Characteristics of the Sample

As shown in Table 3 (Appendix A), parents in the sample are typically between 35 and 54 years of age, and 61% describe themselves as women. Nine in 10 (89%) are the birth parent, and 96% live with the child (primary or secondary residence).

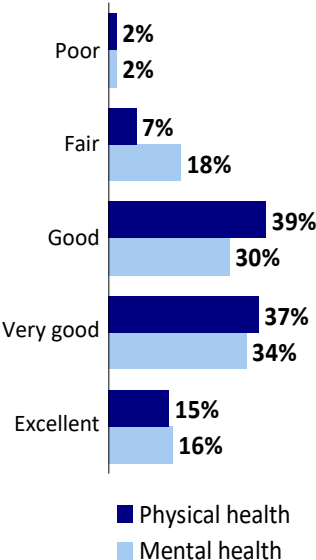
Respondents in the sample are generally educated and affluent. Although 10% do not have post-secondary education, 30% have a college level of education, and 54% have a university certificate, diploma or degree. Just under one in three (31%) indicated their household income to be under \$100,000 (for the year ending December 31, 2022); however, 27% said it is between \$100,000 and \$150,000, and 31% reported it to be more than \$150,000.

Families in the sample are found in all regions, generally reflecting the population density of Canadians across the country. Eleven per cent live in a rural community.

Parents responding to the survey were asked to indicate the number of children, as well as ages of the children in the household. In households with more than one child, one of the children was randomly selected in order to enable parents or guardians to respond to specific questions about immunization. One in five (21%) respondents selected a child in the household who is under five years of age, while 38% indicated the age of the selected child to be between five and 12 years of age and 38% selected a child who is 12 to 17. The sex at birth of the selected child is male in 51% of cases and female in 49% of cases.

Parents were asked for their description of their physical and mental health using a five-point scale from poor to excellent. Results suggest that parents' physical health is reasonably good with only 7% describing it as only fair. Another 39% described it as good, 37% said it is very good and 15% rate it as excellent. Parents' description of their mental health, however, is not as positive, with 20% rating it as "fair" to "poor", 30% rating it as "good" and the other half rating it as "very good" (34%) or "excellent" (16%).

Chart 2: Rating of Physical and Mental Health of Parent



B3. In general, how would you describe your physical health?

Base: All respondents, n=486

B4. In general, how would you describe your mental health?

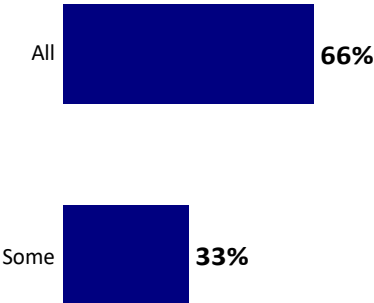
Base: All respondents, n=486

B. IMMUNIZATION

Vaccination Status

Among all parents in the sample, 97% indicated that their (randomly selected) child had ever been vaccinated. Two percent said that their child had not been vaccinated and the remaining few respondents preferred not to answer or said they did not know. Among the 97% who said their child had been vaccinated at some point, 66% indicated that they received all of the recommended vaccines for the child’s age. One in three (33%) said that they had received some of the recommended vaccines.

Chart 3: Vaccination Status of Child



C2. To the best of your knowledge, would you say that your child has received all, some, or none of the recommended vaccines for their age?

Base: Parents saying their child had been vaccinated at some point, n=478

Among the parents indicating that their child had received “some” (but not “all”) of the recommended routine vaccines for the child’s age, half (52%) of parents said the child had not received the vaccine for influenza¹⁰. About three in 10 parents of children five years of age or older said the child had not received the Human Papillomavirus (HPV) vaccine (32%). About the same percentage of parents of children who are six months of age or older (30%) said the child did not receive the Hepatitis A and B vaccine. The Hepatitis B vaccine had not been received by

¹⁰ It should be noted that the figure for influenza may be overestimated given that this is an annual vaccine, and therefore, may have been reported by some parents as “not received” in the recent past, although it may have been received in earlier years.

27% of children who have not received “all” vaccines for their age. Among children who had not received “some” or “all” recommended routine vaccines for their age group, 22% did not receive rotavirus, 21% did not receive chickenpox and 21% did not receive Rubella vaccines. Between 15% and 18% missed one of the other vaccines noted in Table 1, below.

Table 1: Child Routine Vaccinations Not Received

<i>C2a. Which of the following recommended vaccines has your child not received? (multiple responses)</i>	<i>n=137 Those receiving “some” vaccines</i>
Influenza (flu)*	52%
HPV (Human Papillomavirus) ***	32%
Hepatitis A and B (combined vaccine) *	30%
Hepatitis B (Hep B or HB)	27%
Rotavirus (Rota)	22%
Chickenpox (Varicella or Var) *	21%
Rubella	21%
Haemophilus influenzae Type b (Hib)	20%
Diphtheria, Tetanus and Pertussis (DTaP, Tdap or Td)	18%
Meningococcal (Men, Men-C-C or Men-C-ACYW-135) ****	17%
Measles, Mumps, Rubella (MMR) *	17%
Measles, Mumps, Rubella, Varicella (MMRV) *	16%
Pneumococcal (Pneu-C-13, Pneu-C-10, or Pneu-P-23) *****	15%
Polio (IPV)	15%
I don't know	15%
I prefer not to answer	1%

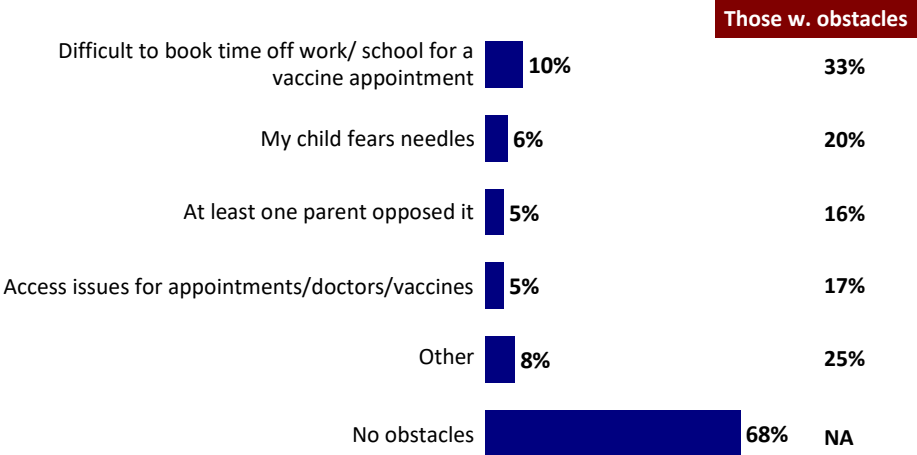
* Child 6 months of age or older / ** Child two and a half years of age or older / *** Child five years of age or older/****Child 4 years of age or younger/*****Child of 2 years of age or younger

Obstacles to Vaccination

Parents were also asked what obstacles, if any, they encountered that made it difficult to get their child vaccinated. Two in three parents (68%) said they did not encounter any obstacles, including 75% of parents reporting that their child received all recommended vaccines for their age, and 57% of parents reporting that their child did receive some of the recommended vaccines. Difficulty booking time for the appointment was noted by 10% of parents, including 13% of parents who reported that their children received all recommended vaccines and 6% among parents reporting that only “some” vaccines were received. Overall, between five and six percent

of all parents sampled noted a child’s fear of needles, parental opposition or issues with access to health care were obstacles to receiving vaccination. Focusing exclusively on parents who reported one or more obstacles, 33% indicated difficulty booking an appointment; 20% mentioned their child’s fear of needles, 16% noted parent opposition, and 17% noted access issues.

Chart 4: Obstacles to Getting Child Vaccinated



C4. What obstacles, if any, have made it more difficult to get your child vaccinated with one or more of the recommended childhood vaccines? (multiple responses)

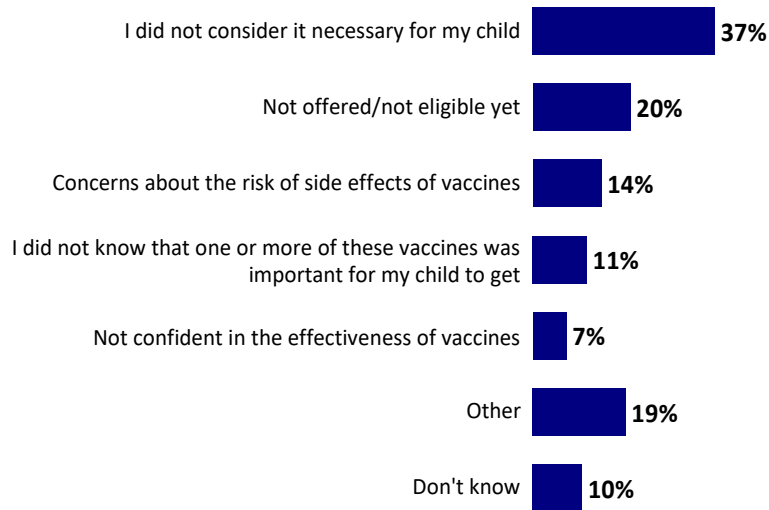
Base: All respondents, n=486

Reasons for Not Immunizing

Among parents indicating that their child has received “some” of the recommended routine vaccines, more than one in three (37%) said they did not consider one or more of the recommended vaccines to be necessary¹¹. One in five (20%) said that one or more of the recommended vaccines is not offered or their child is not eligible to receive it, and 14% indicated concerns about the risk of side effects. Another 11% said they were not aware that one or more of the vaccines are important for their child to receive, and 7% expressed concerns about the effectiveness of one or more of the vaccines.

¹¹ Of the 8 parents indicating that their child has never been vaccinated, 2 of the children were one month old and therefore too young to be vaccinated. A third child was between 6 months of age and 2.5 years of age, although the exact age is unknown. The remaining 5 children were 5 years of age or older. Data for the reasons for not immunizing the child was not collected for these cases.

Chart 5: Reasons for Not Immunizing Child



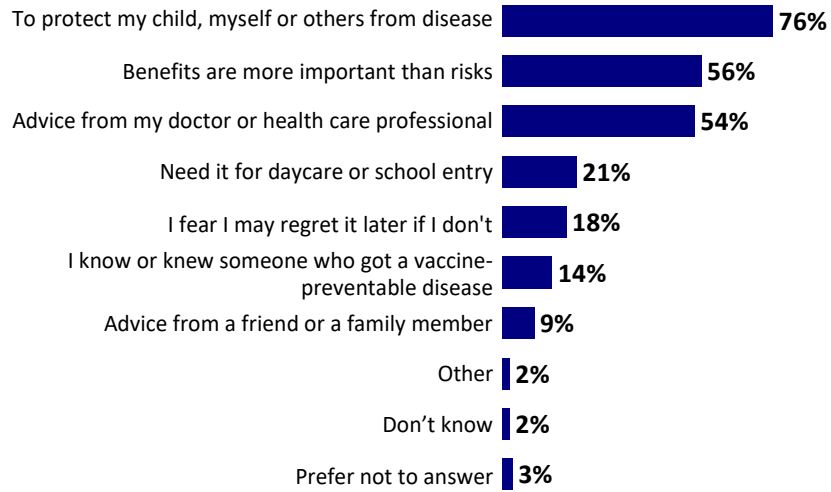
C5. For what reason(s) has your child not been immunized with one or more recommended childhood vaccines? Please exclude COVID-19 vaccines. (multiple responses)

Base: Those who have received some recommended vaccines, n=132

Reasons for Immunizing

Among the parents who said their child received “some” or “all” of the recommended routine childhood vaccines, protection of their child and others from disease was the most often noted reason (76%). Half of parents said that they vaccinated their child because the benefits outweigh the risks (56%) and based on the advice of a doctor (54%). About one in five said that it was a requirement for school or daycare (21%), or they feared they might regret it later (18%). Fewer said this was because they knew someone who got a vaccine-preventable disease (14%), or they were following the advice of a friend or family member (9%).

Chart 6: Reasons for Immunizing Child



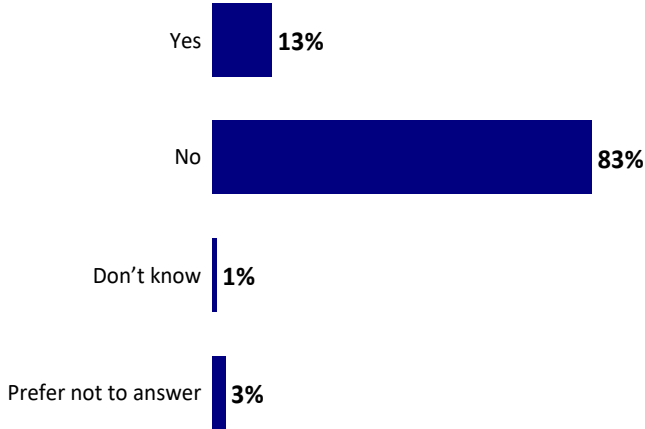
C7. Why did your child receive one or more recommended childhood immunizations? Please exclude COVID-19 vaccines. Was it: (multiple responses)

Base: all respondents, excluding those saying “none”, “don’t know prefer not to say regarding receipt of some or all of recommended vaccines, n=472

Vaccine Hesitancy

Thirteen percent of all parents said that they are or have been hesitant in the past about their child receiving one or more of the recommended childhood routine vaccines.

Chart 7: Vaccine Hesitancy of Parent

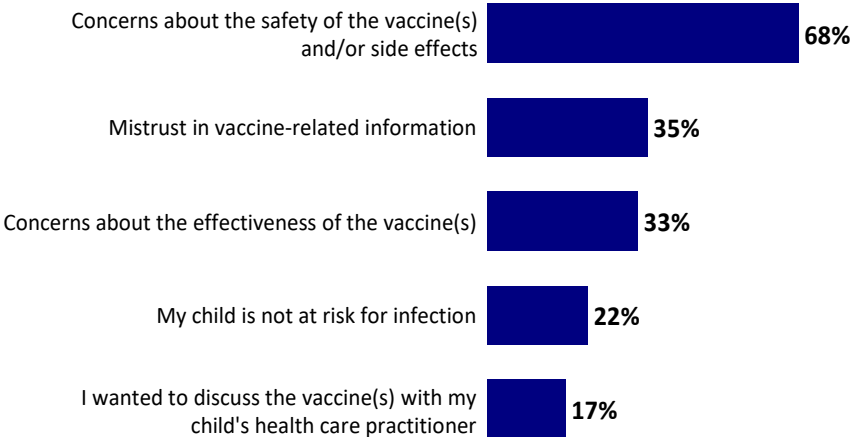


C9A. Are you or have you been hesitant to vaccinate with one or more recommended childhood immunizations? Please exclude COVID-19 vaccines.

Base: All respondents, n=486

Among the 13% of parents indicating some hesitancy to get their child vaccinated with recommended childhood vaccines, two in three (68%) said this is because they have concerns about the safety or side effects of one or more of the vaccines. One in three said it was because of mistrust in vaccine-related information (35%) or have concerns about the effectiveness of one or more of the vaccines (33%). Fewer cited a lack of risk of infection for their child (22%) or the desire to discuss the vaccine with a health care professional (17%).

Chart 8: Reasons for Vaccine Hesitancy



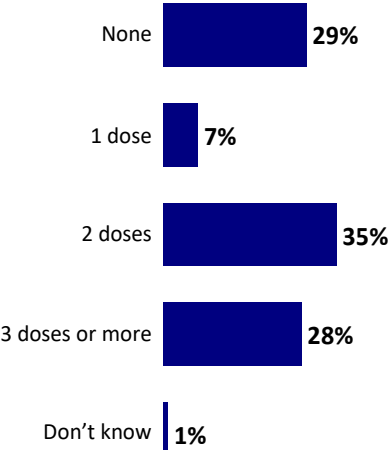
C10. For what reasons were/are you hesitant and/or decided not to get your child immunized for one or more recommended childhood immunizations? Please exclude COVID-19 vaccines. (multiple responses)

Base: Parents indicating they are or have been hesitant about one or more of the recommended vaccines, n=71

COVID-19 Vaccination

Seven in 10 parents indicated their child has received at least one dose of a COVID-19 vaccine. Among these, 7% received one dose, 35% received two doses, and 28% received three or more doses. A reported 29% of parents said their child did not receive any doses of a COVID-19 vaccine.

Chart 9: Doses of COVID-19 Vaccines Received by Child



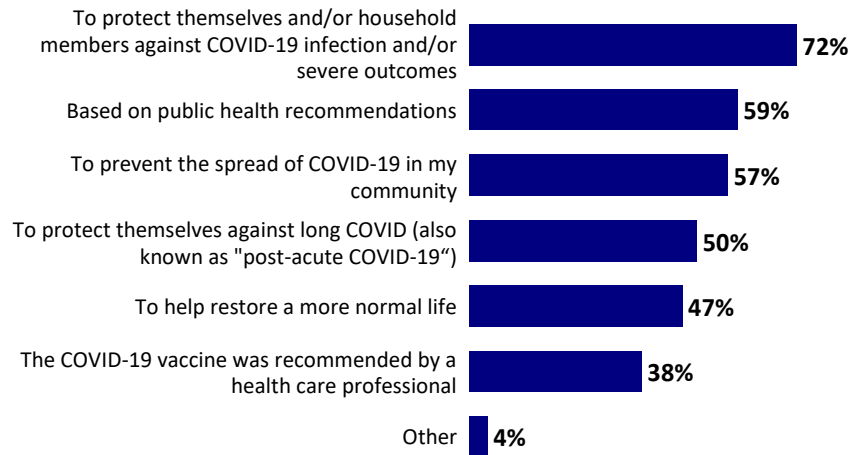
C3. How many doses of the Health Canada approved COVID-19 vaccines has your child received?

Base: Parents of child 6 months or older, n=475

Reasons for COVID-19 Immunization

The primary reason parents decided for their child to receive the COVID-19 vaccine is to protect themselves and/or household members against COVID-19 infection and/or severe outcomes (72%). Nearly six in 10 said their child received a COVID-19 vaccine based on public health recommendations (59%) or to prevent the spread of COVID-19 in their community (57%). Half said it was to protect themselves against long COVID (50%). Slightly fewer indicated it was to help restore a more normal life (47%). Over one in three said their decision was because the COVID-19 vaccine was recommended by a health care professional (38%).

Chart 10: Reasons for Providing COVID-19 Vaccine to Child



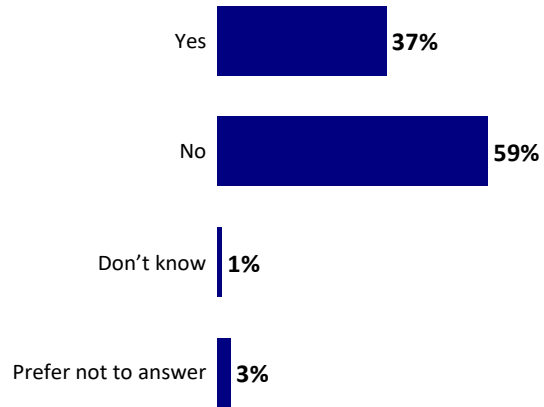
C8. Why did your child receive a COVID-19 vaccine? (multiple responses)

Base: Parents of child receiving one or more doses of COVID-19 vaccine, n=355

COVID-19 Vaccine Hesitancy

The majority of parents (59%) are not or have not been hesitant to vaccinate their child against COVID-19, while 37% said they are or have been hesitant. Looking at vaccine hesitancy among the full sample of parents, (regardless of hesitancy for recommended childhood vaccines or the COVID-19 vaccines), only 59% of parents are not or have not been hesitant about either recommended or COVID-19 vaccines. Eleven percent are or have been hesitant about both recommended vaccines and the COVID-19 vaccine. Three percent are or have been hesitant about recommended vaccines alone (but not the COVID-19 vaccine). One in four parents (27%), however, are or have been hesitant about the COVID-19 vaccines, even though they are not and have not been hesitant about recommended vaccines.

Chart 11: COVID-19 Vaccine Hesitancy of Parent

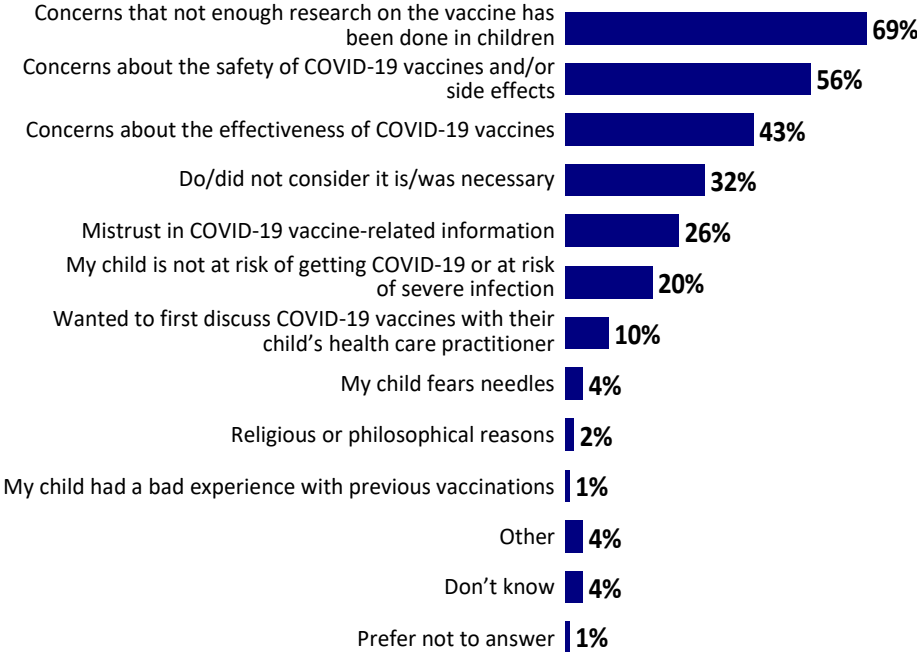


C9B. Are you or have you been hesitant to vaccinate your child against COVID-19?

Base: Parents of child six months of age or older, n=481

Among parents who are or were hesitant to vaccinate their child against COVID-19, two in three (69%) said this was because of concerns that not enough research has been done in children. More than half (56%) are concerned about the safety of COVID-19 vaccines and/or the side effects. More than two in five (43%) cited concerns about the effectiveness of the COVID-19 vaccines. One in three or less felt that the COVID-19 vaccine was not necessary (32%), mistrust COVID-19 vaccine-related information (26%), believe their child is not at risk of getting COVID-19 or at risk of severe infection (20%), or wanted to first discuss COVID-19 vaccines with their child’s health care practitioner (10%).

Chart 12: Parents’ Reasons for COVID-19 Vaccine Hesitancy



C11. For what reasons were/are you hesitant and/or decided not to get a COVID-19 vaccine for your child? (multiple responses)

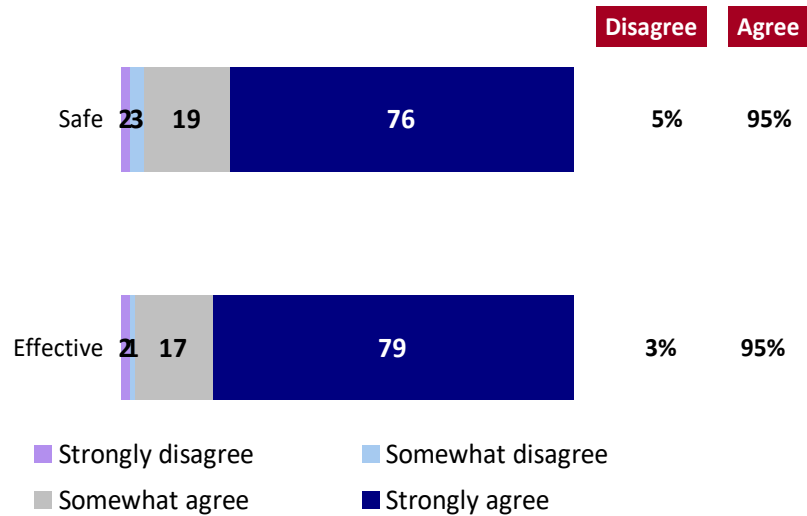
Base: Parents of child 6 months of age or older and parent is not hesitant to vaccinate against COVID-19, n=165

C. VIEWS ABOUT VACCINATION

Changes in Views about Safety and Effectiveness of Vaccines due to COVID-19 Pandemic

Prior to the COVID-19 pandemic, 95% of parents who are health care workers believed that vaccines were safe and effective for children. Only five percent believed vaccines were unsafe and three percent believed they were not effective.

Chart 13: Parents’ Pre-Pandemic Views about Vaccine Safety and Effectiveness of Vaccines



D2B. Before the COVID-19 pandemic, I believed that vaccines were safe for children

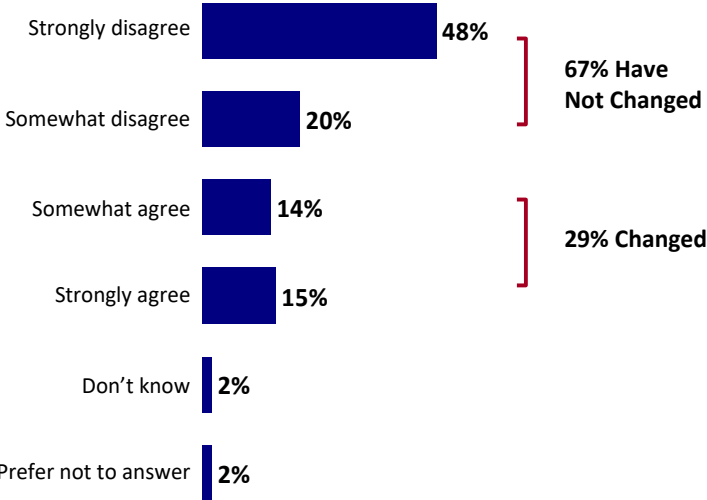
Base: All respondents, n=486

D2C. Before the COVID-19 pandemic, I believed that vaccines were effective for children

Base: All respondents, n=486

Three in 10 parents (29%) indicated that their views about vaccines have changed since the COVID-19 pandemic (15% strongly agreed with this statement), although two in three parents reported that their views about vaccines have not changed (67%; 48% strongly disagreed).

Chart 14: Proportion of Parents with Changing Vaccine Views Since COVID-19



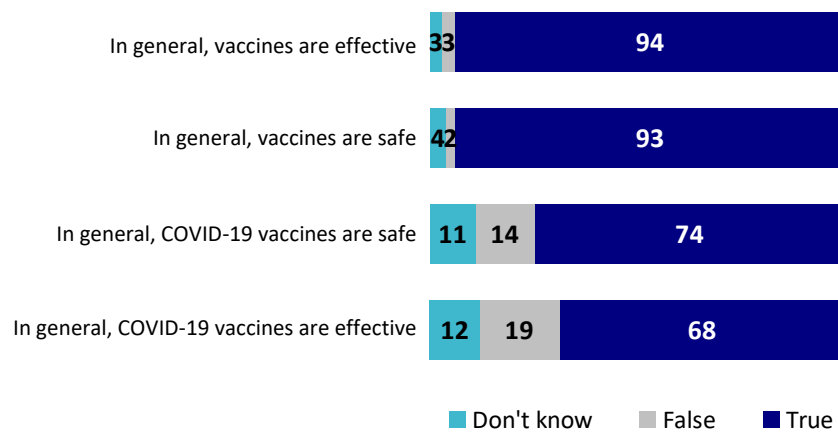
D2A. In general, my views about vaccines have changed since the COVID-19 pandemic.

Base: All respondents, n=486

Current Views about Safety and Effectiveness of Vaccines

Unlike views about COVID-19 vaccines, health care worker parents do not seem to have changed their views about vaccines in general; 94% said it is true that vaccines are effective and 93% said vaccines are safe. The COVID-19 vaccines, however, are only considered to be safe among 74% of parents, with 14% believing them to be unsafe and another 11% saying they are unsure. Only two in three (68%) parents believe the COVID-19 vaccines to be effective, while 19% do not believe them to be effective and 12% are unsure.

Chart 15: Parents' Current Views about Vaccine Safety and Effectiveness



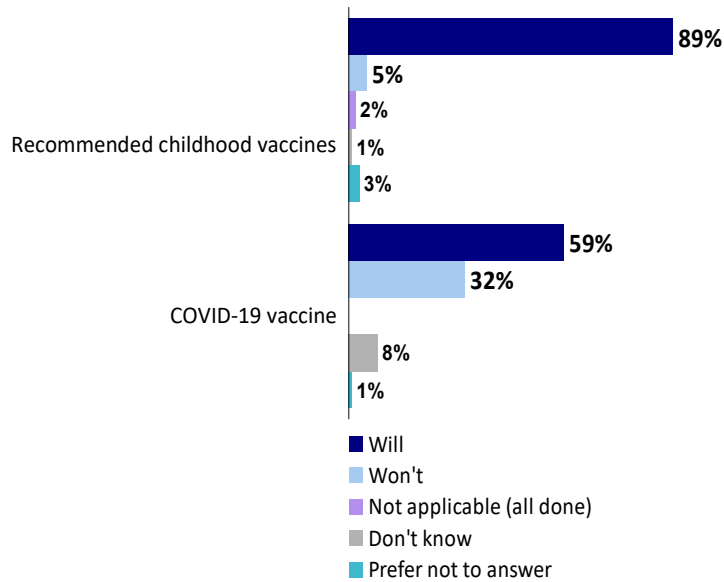
QD4a-d. To the best of your knowledge, please rate whether the following statements about childhood immunizations are true or false.

Base: All respondents, n=486

Intent to Vaccinate in Future

Excluding the COVID-19 vaccines, 89% of parents said they intend to have their child vaccinated with the recommended routine childhood vaccines in the future. Only 5% said they will not do so and 2% said that it is not applicable because their child has already received all recommended childhood vaccines. Regarding COVID-19 vaccines, only 59% of parents say they will vaccinate their child in the future. One in three (32%) said they will not and 8% are unsure.

Chart 16: Intent to Vaccinate Child in Future



D1A. Excluding the COVID-19 vaccines, how likely it is that you will get your child vaccinated with the recommended childhood vaccines in the future?

Base: All respondents, n=486

D1B. How likely it is that you will get your child vaccinated with a COVID-19 vaccine in the future?

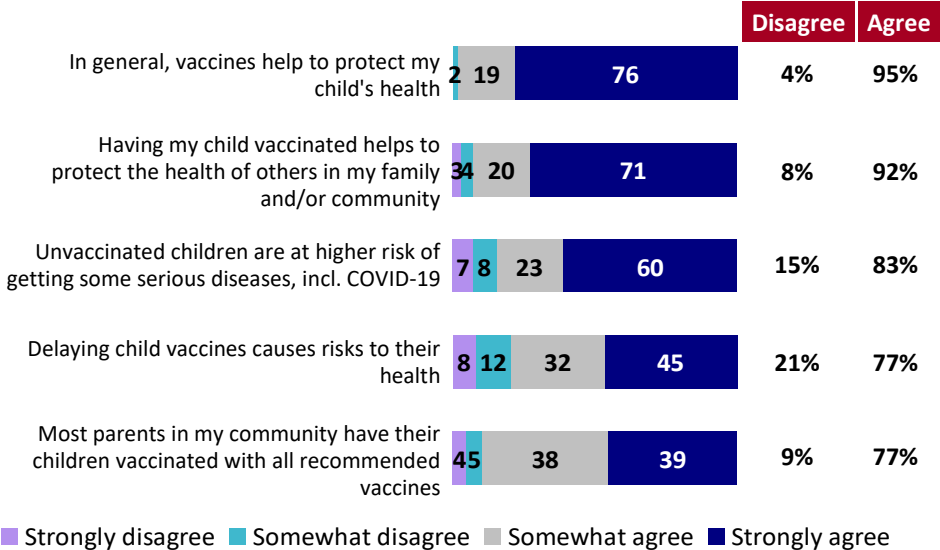
Base: Parents of a child 6 months of age or older, n=481

Views About Vaccines

Parents were asked to react to a number of statements about childhood immunizations. In terms of reactions to five of the 10 statements posed, 95% of parents agree that vaccines help protect their child’s health and only 4% disagree. Similarly, 92% of parents agree that having their child vaccinated protects others in the family and community, although 8% disagree. More than eight in 10 (83%) parents also agree that unvaccinated children are at higher risk of getting some serious diseases, including COVID-19 (60% strongly agreed).

More than three in four (77%) parents agree that delaying childhood vaccines causes risks to their child’s health, although 21% disagree. The same proportion of parents (77%) believe that most parents in their community have their child vaccinated, although 9% disagree.

Chart 17: Parents’ Views About Vaccines



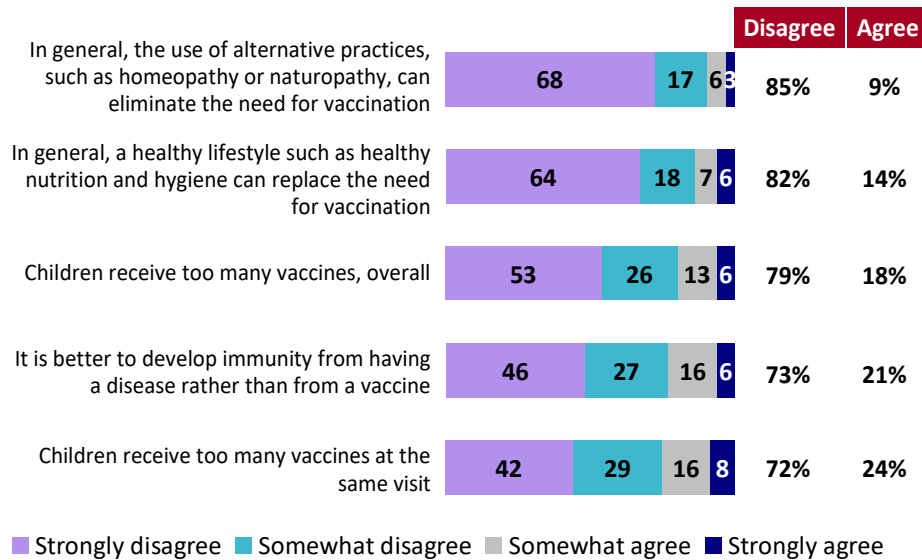
D5-a,e,f,j,k. To the best of your knowledge, please rate the extent to which you agree or disagree with the following statements about childhood immunizations.

Base: All respondents, n=486

With regard to the other five statements posed about childhood immunizations, 85% of parents disagree that the use of alternative practices such as homeopathy or naturopathy can eliminate the need for vaccination, although 9% agree. About the same proportion (82%) also disagree that a healthy lifestyle can replace the need for vaccination, although 14% agree. While eight in 10 parents (79%) also disagree that children receive too many vaccinations overall, in this case one

in five (18%) agree with this view. Just over seven in 10 (73%) parents disagree with the view that it is better to develop immunity from having a disease rather than from a vaccine; however, close to one in four (21%) agree. About the same proportion of parents agree that children receive too many vaccines at the same visit (24%), even though 72% disagree.

Chart 18: Parents' Views about Vaccines (II)



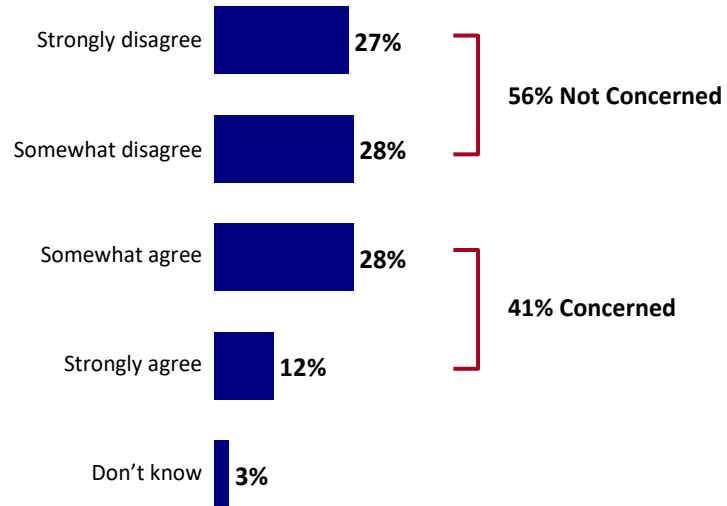
D5-c,d,g,h,i. To the best of your knowledge, please rate the extent to which you agree or disagree with the following statements about childhood immunizations.

Base: All respondents, n=486

Concern About Side Effects of Vaccines

There is a split among parents regarding concerns for potential side effects from vaccines. While just over half (56%) of parents disagree that they are concerned (27% strongly disagree), 41% of parents said they are concerned (12% strongly agree).

Chart 19: Parent Concern about Side Effects of Vaccines



D5B. In general, I am concerned about the potential side effects from vaccines

Base: All respondents, n=486

Sources of Information

Over seven in 10 parents said they would be most likely to consult the Public Health Agency of Canada or Health Canada (72%) or health care providers (71%) in order to find information about childhood immunization. Half or more would consult their local public health unit or clinic (59%), scientific publications and journals (58%), the Ministry of Health within their province or territory (54%), or international organizations such as the World Health Organization (WHO) (50%). The National Advisory Committee on Immunization (NACI) was mentioned by 42%. More than one in three (39%) parents would consult with community nursing stations or clinics. Other sources include the news or media (16%), family and friends (16%) or social media (6%).

Table 2: Source of Information Likely to be Consulted

<i>D3. Which of the following sources of information would you be most likely to consult in order to find information about childhood immunization? (multiple responses)</i>	<i>All respondents (n=486)</i>
Public Health Agency of Canada or Health Canada	72%
Health care providers	71%
My local public health unit/clinic	59%
Scientific publications, journals	58%
Ministry of Health within my province or territory	54%
International organizations	50%
National Advisory Committee on Immunization (NACI)	42%
Community nursing stations or clinics	39%
News/media	16%
Family/friends	16%
Social media	6%

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

A. SUMMARY

Recommended Vaccines

One in eight parents said they are or have been hesitant about at least one of the recommended routine childhood vaccines for their child (excluding COVID-19 vaccines). Reasons include concerns for side effects (68%), a mistrust of the available vaccine-related information or not knowing where to get reliable info (35%), and a lack of faith in the effectiveness of vaccines (33%).

Nine in ten parents said that they will obtain recommended vaccines (excluding COVID-19 vaccines) for their child in the future, although 5% will not and 4% are unsure or did not provide a response.

In spite of this, one in three parents reported that their child has received only “some” but not “all” recommended childhood vaccines for their age. The vaccines most often not received are influenza (offered annually), and HPV, followed by meningococcal, pneumococcal and MMRV.

- One in four parents reported one or more obstacles to obtaining recommended childhood vaccines. Among parents reporting obstacles, one in three cited difficulty finding time (10% of all parents), and one in five or one in six noted a child’s fear of needles, opposition of a parent, or access to appointments as an obstacle.
- The most often noted reasons for the child not receiving one or more recommended routine childhood vaccines are that they are not “all” necessary (37%), that some are not offered, or their child is not eligible (20%), and concerns about the risk of side effects of vaccines (14%).
- Parents’ most often noted motivations for providing “all” recommended vaccines to their child include the protection of the child (76%), that the benefits outweigh the risks (56%), and advice from a health care professional(s) (54%).

COVID-19 vaccine

A much higher proportion of parents (37%) are or have been hesitant about the COVID-19 vaccine compared with the extent of hesitance about routine childhood recommended vaccines (13%). Across all parents, eight percent are or have been hesitant about both the recommended vaccines and the COVID-19 vaccine. Eleven per cent are or have been hesitant about recommended vaccines, but not the COVID-19 vaccine. One in four parents (26%), however, are or have been hesitant about the COVID-19 vaccine, even though they are not or have not been hesitant about recommended vaccines. Only half of parents (55%) are not or have not been hesitant about recommended or COVID-19 vaccines.

- The most often cited reasons for hesitance about the COVID-19 vaccine for their child are insufficient research (69%), concern regarding safety and possible side effects (56%) and concerns about the effectiveness of the vaccine (43%). A further 32% believe it was unnecessary.

Three in ten parents reported that their child did not receive any doses of the COVID-19 vaccine. More than nine in 10 children aged 12 to 17 received at least one dose.

- Most commonly cited reasons for COVID-19 vaccination are the protection of the child, family or community against COVID-19 infection and/or severe outcomes (72%), along with about half noting public health recommendations (59%), prevention of the spread of COVID-19 (57%), or to protect themselves against long COVID (50%), and a restoration to normalcy (47%).

Only six in ten parents said that they will obtain (further) COVID-19 vaccines for their child in the future.

Views about Vaccines

Three in ten parents have changed their view about vaccines since the pandemic, although there is little difference reported in the current versus pre-pandemic views about the safety and effectiveness of recommended vaccines. There is considerably greater concern expressed about the safety and effectiveness of the COVID-19 vaccine than there is about recommended vaccines, with only 74% saying that the COVID-19 vaccines are safe and 68% saying they are effective (compared with 93% and 94% saying the same about recommended childhood vaccines).

The most prevalent arguments for vaccinating children, agreed upon by most parents, is the need to protect the health of the child (95%), to help protect others (92%), and to mitigate the risk of more serious illness (83%).

There is a sizable proportion of parents who are concerned about the potential for side effects from vaccines (41%).

Considerable proportions of parents have reported agreeing that there are too many vaccines in a single visit (24%), there are too many vaccines in general (18%) and that it is better to develop immunity from getting a disease (21%).

Preferred Sources of Information

The most preferred sources for information about vaccines for parents are the PHAC/HC (72%) and health care providers (71%). These top two sources are followed by local health units (59%), and provincial/territorial ministries of health (54%). Although scientific journals are in the middle of the second tier of sources at 58%, they are preferred by the largest concentration of hesitant parents (61%); preferred by slightly more hesitant parents than prefer health care providers, and considerably more than prefer the PHAC/HC as sources for information about child vaccines.

B. CONCLUSIONS

Although one in eight parents reported hesitance to vaccinate their child with recommended routine childhood vaccines, fewer said they would not obtain recommended vaccines in the future (5%), but significantly higher numbers of parents reported that their child had not been vaccinated with “all” recommended vaccines in the past.

Views regarding the COVID-19 vaccine are much more cautious than they are for recommended childhood vaccines. Reasons for hesitance against COVID-19 vaccines suggest that the newness of the vaccines, the speed at which it was developed and researched, as well as the mandatory nature of its roll out and messaging were obstacles to acceptance for some parents, magnifying their existing concerns about the risk of side effects of vaccines.

The impact of the COVID-19 vaccine seems to be contained to this vaccine itself and has not had a significant impact on views and intent regarding recommended routine childhood vaccines, which still remain positive with regard to safety and effectiveness, although some still consider “some” recommended vaccines to be “less necessary” than others.

C. LIMITATIONS OF THE RESEARCH

The sample size for the survey serves as a limitation to the level of precision and ability to detect differences between sub-groups (e.g., based on age of the selected child). Given the low incidence of the population defined in the study, consideration could be given to broadening the population of health care workers to capture a larger proportion of the population of parents or decision-makers for children 17 years or younger.

There was a lower-than-expected proportion of health care workers with less than a Bachelor’s degree captured in the sample, either because of a lower proportion found in the panel used or a lower propensity to respond among this segment. Similarly, there was a lower-than-expected number of parents selecting a child under the age of five years of age. This may be because of a lower proportion of health care workers with younger children in the panel, or a lower propensity of parents with younger children to participate in the survey.

APPENDICES

A. METHODOLOGICAL DETAILS

The summary section of this report (Sub-heading B – Methodology) described the *Probit* panel which was the primary source used for the sample¹². The survey is comprised of 486 completed cases of Canadians, working or volunteering in the area of health care, who is 18 years of age or older and a parent, guardian or person with decision-making authority for someone 17 years of age and younger.

As outlined in the Executive Summary, the survey was collected between March 30 and June 1, 2023, with a questionnaire length averaging 13 minutes online and 19 minutes by telephone. Respondents were informed in the invitation that all responses are completely confidential, and no responses will be linked to personal information. This randomly recruited probability sample carries with it a margin of error of +/-4.5% at a 95% confidence interval. The margin of error for each of the target groups is between 5% and 14%.

As shown in Table 3, the average response rate overall across the 486 cases is 24%. It is 22% among *Probit* sample members who completed the survey online. A total of 20,348 records were sampled to receive an email invitation to the survey, of which 93 were undeliverable, leaving a valid sample of 20,255. Of these records, 291 were completed and 4,217 were found to be out of scope (i.e., ineligible). These two combined (4,508) are divided by the valid sample of 20,255 to obtain the 22.3% response rate.

A slight majority of the sample (n=291) was collected through online self-administration, however, 40% was collected by trained, bilingual interviewers. The response rate is 30.3% across cases completed by telephone based on 195 completed and 1,061 found to be out of scope, out of the valid 4,131 records. Table 3 summarizes the outcomes for each of the online and telephone methods of administration.

¹² 16 of the 486 cases were completed by telephone using a RDD sample source, with pre-screening based on study criteria, using an interactive voice response (IVR) automated dialing system.

Table 3: Response Rates

Outcome	Online	Phone	Total
Total	20,348	5,242	25,590
Invalid	93	1,111	1,204
Valid Sample	20,255	4,131	24,386
Non-responding	15,523	2,325	17,848
Refusal	97	535	632
Partial complete	127	15	142
Total non-response	15,747	2,875	18,622
Ineligible/quota filled	4,217	1,061	5,278 ¹³
Complete	291	195	486
Response rate	22.3%	30.3%	23.6%

The database was reviewed following data collection for data quality, outliers, coding requirements, weighting and construction of independent variables, and was used to explore sub-group patterns (e.g., by age and gender of the selected child, education and region of the parent as well as key vaccine-related indicators provided by parents) in the analysis. Review and cleaning of the data involved a review of the branching logic, deleting any extraneous responses from respondents as a result of backtracking through the survey to correct their answers¹⁴. A second step involved variable creation to merge responses from several multi-select questions. These included two versions of question 11 (reasons for vaccine hesitancy) into a single harmonized set of responses; merging multiple variables related to age of the selected child to create a single age variable; removing programming language from the question and response category labels; recoding responses as needed to create combined or collapsed categories of responses (e.g., several points on a scale); and creating a regional variable based on the first three digits of the postal code reported by parents¹⁵.

A Random Iterative Method (RIM) weight was calculated using crosstabulation software to correct for response bias between the population distribution of the final sample of completed interviews. Weighting was based on age and sex at birth of the selected child using 2021 Census data for the general public¹⁶, as well as on parent education based on education level of HCWs

¹³ This includes 4,669 who did not classify themselves as health care workers, 491 who did not have children under 17 years of age and younger, and 118 who refused to respond regarding the number and age of their children and could therefore not be included in the survey.

¹⁴ This occurred in only five cases in the sample.

¹⁵ In 2% of cases, where no postal code information was provided, panel administration information was used to categorize respondents by region in the analysis.

¹⁶ <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=9810002301>

(Census 2021 data¹⁷) and region of HCWs in Canada (CIHI figures for 2021). To calculate a RIM weight, crosstabulation software reconciles the differences between the sample and the target distributions across a user-defined set of, typically demographic, variables through a series of random iterations, until it arrives at a weighting factor for each record that adjusts the population distribution of the data file to most closely match the target population. Only completed interviews used in the final data set were considered in the development of the weight. Eight records in the final sample had missing information for one or more of the four variables used in the weight, and were therefore assigned a weight of “1”. A total of 311 of the 486 completed cases in the data set have a weight value of less than 1, 22 have a value of 1, 75 have a value of between 1.01 and 1.49, and 48 have a value of between 1.5 and 2.0. Only 17 records have a value of between 2.01 and 3.0 and 11 have a value above 3.0. Table 4 provides the unweighted and weighted distributions of the variables used in the calculation of the weight.

Table 4: Sample Characteristics Used in Weight

<i>Education of Parent</i>	<i>Unweighted</i>	<i>Weighted</i>
High school or equivalent	2%	10%
Registered apprenticeship or other trade certificate or diploma, College/CEGEP or other non-university certificate or diploma	24%	43%
University – certificate or diploma, post-graduate degree above bachelor's level	74%	47%
<i>Region</i>	<i>Unweighted</i>	<i>Weighted</i>
British Columbia and territories	9%	12%
Alberta	10%	13%
Saskatchewan and Manitoba	7%	7%
Ontario	36%	37%
Quebec	30%	23%
Atlantic Canada	8%	8%

¹⁷ <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=9810058501>

<i>Age of Selected Child</i>	<i>Unweighted</i>	<i>Weighted</i>
Less than 6 months of age	6%	2%
6 months to less than 2 and a half years old	6%	9%
2 and a half years to less than 5 years old	11%	13%
5 years to less than 12 years old	38%	38%
12 years to less than 18 years old	44%	38%
<i>Sex of Selected Child at Birth</i>	<i>Unweighted</i>	<i>Weighted</i>
Male	53%	51%
Female	46%	49%

Table 5 presents a sample profile for the survey of other key dimensions using weighted percentages.

Table 5: Sample Characteristics – Parent, Household, and Selected Child

PARENT CHARACTERISTICS	Total
<i>Age</i>	<i>n=486</i>
30 to 34	14%
35 to 44	43%
45 to 54	33%
55 to 64	10%
<i>Sex at Birth</i>	<i>n=486</i>
Female	61%
Male	38%
<i>Gender</i>	<i>n=486</i>
Woman	61%
Man	37%
<i>Sexual Orientation</i>	<i>n=486</i>
Heterosexual ("straight")	90%
Other	7%
I prefer not to answer	3%

<i>Ethnicity (multiple responses possible)</i>	<i>n=486</i>
White	79%
Black	9%
South Asian	5%
East/Southeast Asian	4%
Middle Eastern and North African	4%
Indigenous	2%
Other	2%
I prefer not to answer	2%

HOUSEHOLD CHARACTERISTICS	Total
<i>Number of Children</i>	<i>n=486</i>
1	41%
2	43%
3	13%
4	3%
<i>Children's Ages</i>	<i>n=486</i>
Less than 6 months of age	8%
6 months to less than 2 and a half years	8%
2 and a half years to less than 5 years	10%
5 years to less than 12 years	43%
12 years to less than 18 years	36%
<i>Live in Household</i>	<i>n=486</i>
Yes	96%
No	4%
<i>Relationship to Child</i>	<i>n=486</i>
Birth parent	89%
Other relationships	11%
<i>Household Income</i>	<i>n=486</i>
Less than \$60,000	10%
\$60,000 or more	81%
Under \$20,000	1%
\$20,000 to just under \$40,000	5%
\$40,000 to just under \$60,000	4%
\$60,000 to just under \$80,000	9%
\$80,000 to just under \$100,000	13%
\$100,000 to just under \$150,000	27%
\$150,000 and above	31%
I prefer not to answer	9%
<i>Rural</i>	<i>n=486</i>
Yes	11%
No	87%

CHARACTERISTICS OF SELECTED CHILD	Total
<i>Ethnicity</i>	<i>n=486</i>
White	82%
Black	9%
East/Southeast Asian	6%
South Asian	5%
Latino/Latina	3%
Middle Eastern and North African	3%
Indigenous	2%
Other	2%

In terms of non-response bias, although it is difficult to assess the presence of non-response bias since information about why non-responders did not participate is usually unavailable, a comparison of the unweighted sample with 2016 Census figures from Statistics Canada for health care workers indicates an underrepresentation of those with less than a university level of education. There is a more educated sample in the survey than found in the population with 70% reporting university degrees, compared with 47% in the general population. There is also a modest overrepresentation in Quebec (30% compared with 23% in the population), and an underrepresentation in British Columbia (9% compared with 12% in the population and Alberta (10% compared with 13% in the population).

B. BANNER TABLES

Two banners were created for the purposes of sub-group analysis. The first features results for the complete set of parents responding to a question, along with comparisons of results for:

- three groups of parents based on the age of the randomly selected child (under five years of age; between 5 and 11 years of age and 12 to 17 years);
- two groups of parents based on the sex at birth of the randomly selected child;
- six groups of parents based on region of the household (British Columbia and territories; Alberta; Saskatchewan and Manitoba; Ontario; Quebec; the four Atlantic provinces);
- two groups of parents based on their highest level of education (less than Bachelor's degree; and Bachelor's degree or higher).

The second banner features results for the complete set of parents responding to a question, along with comparisons of results for:

- two groups of parents based on parents' report that some or all recommended vaccines were received by the selected child;
- two groups of parents based on parents' report of any obstacles that prevented all recommended vaccines from being received (parents reporting no obstacles and parents reporting at least one obstacle);
- two groups of parents based on parents' reported current or past hesitance to vaccinate the selected child with recommended vaccines;
- two groups of parents based on parents' reported current or past hesitance to vaccinate the selected child with COVID-19 vaccines;
- two groups of parents based on parents' report that the selected child received at least one dose of a COVID-19 vaccine or no doses of a COVID-19 vaccine.

In each of these sets of comparisons, parents indicating "Don't know" or "Prefer not to answer" are excluded from the comparison (i.e., not included in any of the sub-sets of parents), although results for these parents are included in the total for the question. All numbers of respondents are presented unweighted, while all percentages are shown as a weighted percentage, rounded to the nearest whole number (i.e., .4 or lower was rounded down and .5 or higher was rounded up) in the results displayed in the banner tables and presented in the report. Results were suppressed where sub-groups included fewer than 10 respondents, indicated with "X". In questions allowing for multiple responses, "Don't know" and "Prefer not to answer" were only allowable if no other responses were selected. All categories of responses indicated in CAPS were added as a result of post-collection coding; these response options were not present in lists at

the time of collection. Segments are tested against the pool of other segments shown in the specific table. Statistical testing used is Chi². Statistically significant cells are also noted with plus signs (significantly higher) and minuses (significantly lower) at the level of .05 or higher. Caution should be used in interpreting results based on fewer than 30 respondents given reduced precision of estimates.

C. SURVEY QUESTIONNAIRE

WINTRO

Si vous préférez répondre au sondage en français, veuillez cliquer sur français.

This public health survey is sponsored by the Public Health Agency of Canada and focuses on knowledge, attitudes and experiences about childhood immunization for key populations.

It will take approximately 10 minutes to complete and is voluntary and confidential. Your responses will not be linked to any personally identifiable information, in an effort to protect your anonymity.

For more information about this survey and how the data will be used, please see below.

If you agree to participate in this survey, please click on the "Next" button to continue:

Privacy Statement (Participation in this study is voluntary and you can withdraw at any time. There will be no consequences if you decide not to participate. You may skip questions that you do not feel comfortable answering by clicking "Prefer not to answer", where applicable. You may also complete the survey in several sessions and from different devices. If you are interrupted while doing the survey, you can click on the same link to pick up right where you left off. No personal identifying information will be linked to your survey responses nor shared with the survey sponsor. The results from partially completed or abandoned surveys will be deleted.)

What You Will Be Asked to Do (You will be asked some demographic questions and questions related to childhood vaccines. Please note that certain questions will be asked at the start of the survey to determine if you are eligible to participate. If you are not eligible to participate, your data will be removed and destroyed.)

What are the benefits of participating? (By participating, you are helping to generate data which will help to improve the health and well-being of children from key Canadian populations by providing public health authorities with the information they need to ensure health equity.)

Why are we collecting your information? (You will be asked questions, such as age, gender, sexual orientation and ethnicity in order to better understand knowledge, attitudes, and experiences across different key populations. We will not ask you to provide us with any information that could directly identify you, such as name(s), or date of birth and data will be stored on password-protected computers. However, in exceptional circumstances, individual responses in combination with other available information could lead to identifying you. The protection of your personal information is very important to us, and we will make every effort to safeguard it and reduce the risk that you are identified.)

It is possible that some questions may be triggering to some people. Risks to participants will be minimized by providing a note before these questions appear. You have the right to skip any questions you are not comfortable answering.)

What is the Authority to Collect the Information? (The information you provide to the Public Health Agency of Canada is collected by the Centre for Immunization Surveillance under the

authority of section 4 of the Department of Health Act and Section 3 of the Public Health Agency of Canada Act and handled in accordance with the Privacy Act.)

Will we use or share your personal information for any other reason? (The survey firm, EKOS Research Associates Inc., will be responsible for collecting survey data from all participants. Once data collection is complete, EKOS Research Associates Inc. will provide the Public Health Agency of Canada with a dataset that will not include any individual responses to reduce the risk that you or your child could be identified. All the responses received will be grouped for analysis and presented in grouped form. Your responses will remain anonymous. Any reports or publications produced based on this research will use grouped data and will not identify you or link you to these survey results.)

What are your rights? (You have a right to complain to the Privacy Commissioner of Canada if you feel your personal information has not been handled properly.)

For any questions or concerns about the survey or the information we are collecting, please e-mail: online@ekos.com

For technical support with the survey, accessibility requirements, or to request to complete the survey over the phone you can contact: online@ekos.com or 1-800-388-3873.

For more information about routine and catch-up immunization for infants and children in Canada: <https://www.canada.ca/en/public-health/services/provincial-territorial-immunization-information/provincial-territorial-routine-vaccination-programs-infants-children.html>

This project has been registered with the Canadian Research Insights Council (CRIC) (<https://canadianresearchinsightscouncil.ca/rvs/home/>) under number: 20230324-EK513.

CRIC Pledge (<https://www.canadianresearchinsightscouncil.ca/wp-content/uploads/2020/09/CRIC-Pledge-to-Canadians.pdf>)

PINTRO

Good morning/afternoon/evening, Bonjour, May I speak with _____?

My name is _____ and I am calling from EKOS Research Associates, a public opinion research company. We have been hired by the Public Health Agency of Canada to conduct a survey focused on knowledge, attitudes and experiences about childhood immunization for key populations.

Your participation is voluntary and your responses will be kept entirely confidential and anonymous. This survey is being conducted by EKOS Research, and is being administered according to the requirements of the Privacy Act.

Would you be willing to complete a few questions to see if you fit the profile of people we are looking for?

IF ASKED LENGTH: The survey will take about 10 minutes to complete.

IF ASKED: The survey is registered with the Research Verification Services operated by the Canadian Research Insights Council (CRIC).

Visit <https://canadianresearchinsightscouncil.ca/rvs/home/?lang=en> if you wish to verify its authenticity (project code 20230324-EK513).

Study notes:

Privacy Statement (Participation in this study is voluntary and you can withdraw at any time. There will be no consequences if you decide not to participate. You may skip questions that you do not feel comfortable answering by clicking “Prefer not to answer”, where applicable. You may also complete the survey in several sessions and from different devices. If you are interrupted while doing the survey, you can click on the same link to pick up right where you left off. No personal identifying information will be linked to your survey responses nor shared with the survey sponsor. The results from partially completed or abandoned surveys will be deleted.)

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or your child could be identified. All the responses received will be grouped for analysis and presented in grouped form. Your responses will remain anonymous. Any reports or publications produced based on this research will use grouped data and will not identify you or link you to these survey results.)

What are your rights? (You have a right to complain to the Privacy Commissioner of Canada if you feel your personal information has not been handled properly.)

Yes	1
No, or prefer to complete it online	2

PINTRORF

This interview is being offered as an online survey that you can complete at your own pace, or if you are not able to complete the survey online, we can also complete it with you on the phone, although it takes a little longer. Are you interested in receiving an email with the survey link and participating online?

INTERVIEWER – If respondent indicates that they cannot or prefer not to complete it online – then volunteer "That is no problem, we can complete the survey by telephone. Would you like to do that now? (If not, set appointment to call back)

Complete/continue by phone	5
EMAIL is not empty	
Yes, to email address EMAIL	3
<[EMAIL is not empty]Yes, to another email address[ELSE]Yes> (please provide email) :	1
No (Schedule appointment to call back)	4
Refused (THANK AND TERMINATE)	2

PINTRORFB

Thanks. You should expect an email from online@ekos.com in the next few minutes.

Continue (Return to Introduction)	1
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PRIV

This call may be recorded for quality control or training purposes.

S11

Do you work or volunteer (i.e., paid or unpaid capacity) in health care? This might include in a hospital, a health clinic, a long-term care or nursing home, or in another community setting.

Yes	1
No <[PHONE](thank and terminate)>	2
I prefer not to answer <[PHONE](thank and terminate)>	99

S13

What is your current role?

<[PHONE]INTERVIEWER: Read list if needed.>

Physician (MD/DO)	1
Nurse or nurse practitioner	2
Allied health (e.g., MAs, tech, CNAs)	3
Community health worker	4
Pharmacist	5
Laboratory worker	6
Other health care worker, please specify:	77
I prefer not to answer	99

S2

Are you a parent or legal guardian or person responsible (In order to better determine whether you are eligible for this survey, we would like to ask you some questions about your general background. We acknowledge that some of these questions may result in uncomfortable feelings.) for health decisions for a child **under the age of 18**? (This might include a step-parent, adoptive parent, foster parent, sister or brother, grandparent or other relative caring for a child(ren) under the age of 18.)

Yes	1
No <[PHONE](thank and terminate)>	2
I prefer not to answer <[PHONE](thank and terminate)>	99

S1

How old are you?

Please specify:	77
I prefer not to answer	99

S1A

For our analysis of the data, we need to know your age category. Can you tell us your age group?

Under 18 <[PHONE](thank and terminate)	
18 to 24	2
25 to 29	3
30 to 34	4
35 to 44	5
45 to 54	6
55 to 64	7
65 or older	8
I prefer not to answer	99

S1AA

Are you at least 18 years of age?

Yes	1
No <[PHONE](thank and terminate)>	2
I prefer not to answer <[PHONE](thank and terminate)>	99

S4A

So we can classify responses based on where people live, please enter the first three digits of your postal code.

<[PHONE](IF NEEDED :)> Note that we cannot identify your address from this information since the first three digits of your postal code are not residence-specific.

Please specify :	77
I prefer not to answer	99
I don't know	98

CALCS4AB

Calculation, middle character S4A

Rural	1
Urban	99

B3

In general, how would you describe your **physical health**?

<[PHONE]INTERVIEWER: Read list.>

Excellent	1
Very good	2
Good	3
Fair	4
Poor	5
I don't know	98
I prefer not to answer	99

B4

In general, how would you describe your **mental health**?

<[PHONE]INTERVIEWER: Read list.>

Excellent	1
Very good	2
Good	3
Fair	4
Poor	5
I don't know	98
I prefer not to answer	99

S3

You indicated previously that you are a parent or legal guardian or person most knowledgeable of a child(ren) **under the age of 18**.

How many children **under the age of 18** are you a parent/legal guardian/person most knowledgeable of?

None <[PHONE](thank and terminate)>	98
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10 or more	10
I prefer not to answer	99

S3B

For our analysis of the data, we need to know how many children under the age of 18 you are a parent/legal guardian/person most knowledgeable of.

Are you sure you don't want to give this information?

Yes, I'm sure <[PHONE](thank and terminate)>	1
No, I will answer	2

B2 [0,1]

We now have some questions about your child(ren) who is(are) **under 18 years of age**.

How old is each child, starting with the oldest child?

Age range

B2BOXA [0,1]

1st child

Please specify	98
Under 6 months	1
6 months to less than 2 and a half years	2
2 and a half years to less than 5 years	3
5 years to less than 12 years	4
12 years to less than 18 years	5
I prefer not to answer	99

B2BOXB [0,1]

2nd child

Please specify	98
Under 6 months	1
6 months to less than 2 and a half years	2
2 and a half years to less than 5 years	3
5 years to less than 12 years	4
12 years to less than 18 years	5
I prefer not to answer	99

B2BOXC [0,1]

3rd child

Please specify	98
Under 6 months	1
6 months to less than 2 and a half years	2
2 and a half years to less than 5 years	3
5 years to less than 12 years	4
12 years to less than 18 years	5
I prefer not to answer	99

B2BOXD [0,1]

4th child

Please specify	98
Under 6 months	1
6 months to less than 2 and a half years	2
2 and a half years to less than 5 years	3
5 years to less than 12 years	4
12 years to less than 18 years	5
I prefer not to answer	99

B2BOXE [0,1]

5th child

Please specify	98
Under 6 months	1
6 months to less than 2 and a half years	2
2 and a half years to less than 5 years	3
5 years to less than 12 years	4
12 years to less than 18 years	5
I prefer not to answer	99

B2BOXF [0,1]

6th child

Please specify	98
Under 6 months	1
6 months to less than 2 and a half years	2
2 and a half years to less than 5 years	3
5 years to less than 12 years	4

12 years to less than 18 years	5
I prefer not to answer	99

B2BOXG [0,1]

7th child

Please specify	98
Under 6 months	1
6 months to less than 2 and a half years	2
2 and a half years to less than 5 years	3
5 years to less than 12 years	4
12 years to less than 18 years	5
I prefer not to answer	99

B2BOXH [0,1]

8th child

Please specify	98
Under 6 months	1
6 months to less than 2 and a half years	2
2 and a half years to less than 5 years	3
5 years to less than 12 years	4
12 years to less than 18 years	5
I prefer not to answer	99

B2BOXI [0,1]

9th child

Please specify	98
Under 6 months	1
6 months to less than 2 and a half years	2
2 and a half years to less than 5 years	3
5 years to less than 12 years	4
12 years to less than 18 years	5
I prefer not to answer	99

B2BOXJ [0,1]

10th child

Please specify	98
Under 6 months	1
6 months to less than 2 and a half years	2
2 and a half years to less than 5 years	3
5 years to less than 12 years	4
12 years to less than 18 years	5
I prefer not to answer	99

CALCB2C

Calculation, random child selection

under 6 months old	1
6 months to less than 2 and a half years old	2
2 and a half years to less than 5 years old	3
5 years to less than 12 years old	4
12 years to less than 18 years old	5

CALCB2D

Calculation, number of children aged CALCB2C

1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10

CALCB2E

Calculation, half sample

youngest	1
oldest	2

CHILDI

<[CALCB2D = 1 and S3 = 1]During the survey we would like to ask you about your child.[CALCB2D = 1 and S3 >= 2]During the survey we would like to ask you about your child who is CALCB2C .[CALCB2D >= 2]During the survey we would like to ask you about your child who is CALCB2C . If you have more than one child in this age group please think of the CALCB2E .[ELSE]During the survey we would like to ask you about your CALCB2E child.>

Please provide their first name, nickname or an initial(s) which will be used to refer to this child throughout the survey. This name or initial will not be kept or associated with any of your responses. It will only be used for you as a reference as you are completing this survey.

Please specify:

77

B1

What is your relationship to CHILDI ?

<[PHONE]INTERVIEWER: Read list if needed.>

Birth parent	1
Step-parent	2
Adoptive parent	3
Foster parent	4
Sister or brother	5
Grandparent	6
Other relative	7
Unrelated	8
I prefer not to answer	99

B5

Does CHILDI currently live in your household (primary or secondary residence)?

Yes	1
No	2
I prefer not to answer	99

B2A

What is the exact age of CHILDI ?

<[PHONE]INTERVIEWER: Read list if needed.>

1 month old	1
2 months old	2
3 months old	3
4 months old	4
5 months old	5
I prefer not to answer	99

B2B

What is the exact age of CHILDI ?

<[PHONE]INTERVIEWER: Read list if needed.>

6 months	1
7 months	2
8 months	3
9 months	4
10 months	5
11 months	6
1 year old	7
2 years old	8
I prefer not to answer	99

B2C

What is the exact age of CHILDI ?

<[PHONE]INTERVIEWER: Read list if needed.>

2 years old	1
3 years old	2
4 years old	3
I prefer not to answer	99

B2D

What is the exact age of CHILDI ?

<[PHONE]INTERVIEWER: Read list if needed.>

5 years old	1
6 years old	2
7 years old	3
8 years old	4
9 years old	5
10 years old	6
11 years old	7
I prefer not to answer	99

B2E

What is the exact age of CHILDI ?

<[PHONE]INTERVIEWER: Read list if needed.>

12 years old	1
13 years old	2
14 years old	3
15 years old	4
16 years old	5
17 years old	6
I prefer not to answer	99

C1

<[B1 = 1]The next set of questions are about public health topics relating to children. For these questions, please consider health experiences that apply to CHILDI .[ELSE]The next set of questions are about public health topics relating to children. For these questions, please only consider health experiences that apply to CHILDI .>

Has CHILDI **ever** been vaccinated?

Yes	1
No	2
I don't know	98
I prefer not to answer	99

C2

To the best of your knowledge, would you say that CHILDI has received all, some, or none of the recommended vaccines for their age?

<[PHONE]INTERVIEWER: Read list.>

<[CALCB2C = 1]The following immunizations are recommended in Canada for children under 6 months of age:

Diphtheria, Tetanus and Pertussis (DTaP, Tdap or Td)

Haemophilus influenzae Type b (Hib)

Hepatitis B (Hep B or HB)

Meningococcal (Men, Men-C-C)

Pneumococcal (Pneu-C-13 or Pneu-C-10)

Polio (IPV)

Rotavirus (Rota)

Bacille Calmette-Guérin (BCG) (*Only recommended in Northwest Territories and Nunavut)

[CALCB2C = 2]The following immunizations are recommended in Canada for children aged 6 months to less than 2 and a half years:

Diphtheria, Tetanus and Pertussis (DTaP, Tdap or Td)

Haemophilus influenzae Type b (Hib)

Hepatitis B (Hep B or HB)

Hepatitis A and B (HAHB) (*Only recommended in Quebec)

Meningococcal (Men, Men-C-C)

Pneumococcal (Pneu-C-13 or Pneu-C-10)

Polio (IPV)

Rotavirus (Rota)

Bacille Calmette-Guérin (BCG) (*Only recommended in Northwest Territories and Nunavut)

Measles, Mumps, Rubella (MMR)

Measles, Mumps, Rubella, Varicella (MMRV)

Varicella (Var)

Seasonal influenza (flu)

[CALCB2C = 3]The following immunizations are recommended in Canada for children aged 2 and a half years to less than 5 years:

Diphtheria, Tetanus and Pertussis (DTaP, Tdap or Td)

Haemophilus influenzae Type b (Hib)

Hepatitis B (Hep B or HB)

Hepatitis A and B (HAHB) (*Only recommended in Quebec)

Meningococcal (Men, Men-C-C)

Pneumococcal (Pneu-C-13 or Pneu-C-10 or Pneu-P-23)

Polio (IPV)

Rotavirus (Rota)

Bacille Calmette-Guérin (BCG) (*Only recommended in Northwest Territories and Nunavut)

Measles, Mumps, Rubella (MMR)

Measles, Mumps, Rubella, Varicella (MMRV)

Varicella (Var)

Seasonal influenza (flu)

[CALCB2C = 4]The following immunizations are recommended in Canada for children aged 5 years to less than 12 years:

Diphtheria, Tetanus and Pertussis (DTaP, Tdap or Td)

Haemophilus influenzae Type b (Hib)

Hepatitis B (Hep B or HB)

Hepatitis A and B (HAHB) (*Only recommended in Quebec)

Meningococcal (Men, Men-C-C or Men-C-ACYW-135)

Pneumococcal (Pneu-C-13 or Pneu-C-10 or Pneu-P-23)

Polio (IPV)

Rotavirus (Rota)

Bacille Calmette-Guérin (BCG) (*Only recommended in Northwest Territories and Nunavut)

Measles, Mumps, Rubella (MMR)

Measles, Mumps, Rubella, Varicella (MMRV)

Varicella (Var)

Human Papillomavirus (HPV)

Seasonal influenza (flu)

[CALCB2C = 5]The following immunizations are recommended in Canada for children aged 12 years to less than 18 years:

Diphtheria, Tetanus and Pertussis (DTaP, Tdap or Td)

Haemophilus influenzae Type b (Hib)

Hepatitis B (Hep B or HB)

Hepatitis A and B (HAHB) (*Only recommended in Quebec)

Meningococcal (Men, Men-C-C or Men-C-ACYW-135)

Pneumococcal (Pneu-C-13 or Pneu-C-10 or Pneu-P-23)

Polio (IPV)

Rotavirus (Rota)

Bacille Calmette-Guérin (BCG) (*Only recommended in Northwest Territories and Nunavut)

Measles, Mumps, Rubella (MMR)

Measles, Mumps, Rubella, Varicella (MMRV)

Varicella (Var)

Human Papillomavirus (HPV)

Seasonal influenza (flu)

[ELSE]The following immunizations are recommended in Canada for children :

Diphtheria, Tetanus and Pertussis (DTaP, Tdap or Td)

Haemophilus influenzae Type b (Hib)

Hepatitis B (Hep B or HB)

Hepatitis A and B (HAHB) (*Only recommended in Quebec)

Meningococcal (Men, Men-C-C or Men-C-ACYW-135)
 Pneumococcal (Pneu-C-13 or Pneu-C-10 or Pneu-P-23)
 Polio (IPV)
 Rotavirus (Rota)
 Bacille Calmette-Guérin (BCG) (*Only recommended in Northwest Territories and Nunavut)
 Measles, Mumps, Rubella (MMR)
 Measles, Mumps, Rubella, Varicella (MMRV)
 Varicella (Var)
 Human Papillomavirus (HPV)
 Seasonal influenza (flu)
 > <[PHONE](IF NEEDED :)> More information can be found here:
<https://www.canada.ca/en/public-health/services/provincial-territorial-immunization-information/provincial-territorial-routine-vaccination-programs-infants-children.html>
 All 1
 Some 2
 None 3
 I don't know 98
 I prefer not to answer 99

C2A [1,16]

Which of the following recommended vaccines has CHILDI **not** received?

<[PHONE]INTERVIEWER: Read list and accept yes/no for each one> Please select all that apply.

CALCB2C not = 1	
Chickenpox (Varicella or Var)	1
Diphtheria, Tetanus and Pertussis (DTaP, Tdap or Td)	2
Haemophilus influenzae Type b (Hib)	3
Hepatitis B (Hep B or HB)	4
CALCB2C not = 1	
Hepatitis A and B (combined vaccine)	5
CALCB2C not = 1,2,3	
HPV (Human Papillomavirus)	6
CALCB2C not = 1	
Influenza (flu)	7
CALCB2C = 1,2,3	
Meningococcal (Men, Men-C-C)	9
CALCB2C not = 1,2,3	
Meningococcal (Men, Men-C-C or Men-C-ACYW-135)	90
CALCB2C not = 1	
Measles, Mumps, Rubella (MMR)	10
CALCB2C not = 1	
Measles, Mumps, Rubella, Varicella (MMRV)	11
CALCB2C not = 1,2	
Pneumococcal (Pneu-C-13, Pneu-C-10, or Pneu-P-23)	13
CALCB2C = 1,2	
Pneumococcal (Pneu-C-13, Pneu-C-10)	130
Polio (IPV)	14
Rotavirus (Rota)	15

Rubella	16
I don't know	98
I prefer not to answer	99

C4 [1,12]

What obstacles, if any, have made it more difficult to get CHILDI vaccinated with **one or more** of the recommended childhood vaccines?

<[PHONE](Interviewer: Do not read list)> Please select all that apply.

No obstacles.	1
Difficult to book time off work/ school for a vaccine appointment.	2
Live in a remote area (limited transportation).	3
Language barriers (e.g., lack of access to relevant information in my preferred language).	4
Concerns about racism or discrimination towards your child.	7
My child fears needles.	8
At least one parent opposed it.	9
Other, please specify:	77
I don't know	98
I prefer not to answer	99

C5 [1,16]

For what reason(s) has CHILDI **not** been immunized with **one or more** recommended childhood vaccines? Please **exclude** COVID-19 vaccines.

<[PHONE](Interviewer: Do not read list)> Please select all that apply.

I did not know that one or more of these vaccines was important for my child to get	1
I did not consider it necessary for my child	2
Concerns about the risk of side effects of vaccines	3
Not confident in the effectiveness of vaccines	4
Religious or philosophical reasons	5
My child has or had a pre-existing medical condition	6
Other, please specify:	77
I don't know	98
I prefer not to answer	99

C7 [1,10]

Why did CHILDI receive **one or more** recommended childhood immunizations? Please **exclude** COVID-19 vaccines. Was it :

<[PHONE]INTERVIEWER: Read list and accept yes/no for each one> Please select all that apply.

Advice from my doctor or health care professional	1
Advice from a friend or a family member	2
To protect my child, myself or others from disease	3
Benefits are more important than risks	4
I know or knew someone who got a vaccine-preventable disease	5
I fear I may regret it later if I don't	6
Need it for daycare or school entry	7
Other (specify the reason):	77
I don't know	98
I prefer not to answer	99

C9A

Are you or have you been hesitant to vaccinate (Vaccine hesitancy refers to a reluctance or delay in acceptance or refusal of vaccines despite availability.) CHILDI with **one or more** recommended childhood immunizations? Please **exclude** COVID-19 vaccines.

Yes	1
No	2
I don't know	98
I prefer not to answer	99

C10 [0,13]

For what reasons were/are you hesitant and/or decided not to get CHILDI immunized for **one or more** recommended childhood immunizations? Please **exclude** COVID-19 vaccines.

<[PHONE](Interviewer: Do not read list)> Please select all that apply.

My child is not at risk for infection.	1
I wanted to discuss the vaccine(s) with my child's health care practitioner.	2
Concerns about the effectiveness of the vaccine(s).	3
Concerns about the safety of the vaccine(s) and/or side effects.	4
My child had a bad experience with previous vaccines.	5
Do/did not know where to get reliable information.	6
Religions or philosophical reasons.	7
My child had a bad experience with health care providers.	8
Concerns about racism or discrimination.	9
Mistrust in vaccine-related information.	10
Other (specify the reason):	77
I don't know	98
I prefer not to answer	99

C3

We now have a few questions about COVID-19 vaccines.

How many doses of the Health Canada approved COVID-19 vaccines (In Canada, Moderna Spikevax and Pfizer-BioNTech Comirnaty are approved vaccines for use in children aged 6 months and older; and Novavax Nuvaxovid is an approved vaccine for use in children aged 12 years and older.) has CHILDI received?

None	1
1 dose	2
2 doses	3
3 doses or more	4
I don't know	98
I prefer not to answer	99

C8 [1,9]

Why did CHILDI receive a COVID-19 vaccine?

<[PHONE](Interviewer: Do not read list)> Please select all that apply.

To protect themselves and/or household members against COVID-19 infection and/or severe outcomes (e.g., hospitalization)	1
To protect themselves against long COVID (also known as "post-acute COVID-19"; refers to either lingering or new physical and mental health symptoms experienced 4 or more weeks after COVID-19 infections)	2
Based on public health recommendations	3
To prevent the spread of COVID-19 in my community	4
The COVID-19 vaccine was recommended by a health care professional	5
To help restore a more normal life (e.g., to lift public health measures, participate in extra-curricular activities, travel)	6
Other, please specify:	77
I don't know	98
I prefer not to answer	99

C9B

Are you or have you been hesitant to vaccinate (Vaccine hesitancy refers to a reluctance or delay in acceptance or refusal of vaccines despite availability.) CHILDI against **COVID-19**?

Yes	1
No	2
I don't know	98
I prefer not to answer	99

C11 [1,16]

For what reasons were/are you hesitant and/or decided not to get a COVID-19 vaccine for CHILDI?

<[PHONE](Interviewer: Do not read list)> Please select all that apply.

My child fears needles.	1
Do/did not consider it is/was necessary.	3
My child is not at risk of getting COVID-19 or at risk of severe infection.	2
I want(ed) to first discuss COVID-19 vaccines with my child's health care practitioner.	4
Concerns that not enough research on the vaccine has been done in children.	5
Concerns about the effectiveness of COVID-19 vaccines.	6
Concerns about the safety of COVID-19 vaccines and/or side effects.	7
My child had a bad experience with previous vaccinations.	8
Religious or philosophical reasons.	9
My child had a bad experience with health care providers.	10
Concerns about racism or discrimination.	11
Mistrust in COVID-19 vaccine-related information.	12
Other, please specify:	77
I don't know	98
I prefer not to answer	99

D1A

We are interested in understanding how the COVID-19 pandemic has influenced your perspective on recommended childhood vaccines.

Excluding the COVID-19 vaccines, how likely it is that you will get CHILDI vaccinated with the recommended childhood vaccines **in the future**?

<[PHONE]INTERVIEWER: Read list.>

Definitely will	1
Probably will	2
Probably won't	3
Definitely won't	4
I don't know	98
I prefer not to answer	99
CALCB2C = 5	
Not applicable, my child has received all recommended childhood vaccines	97

D1B

How likely it is that you will get CHILDI vaccinated with a COVID-19 vaccine (Currently, Moderna Spikevax and Pfizer-BioNTech Comirnaty are approved vaccines for use in children aged 6 months and older; and Novavax Nuvaxovid is an approved vaccine for use in children aged 12 years and older in Canada.) **in the future**?

<[PHONE]INTERVIEWER: Read list.>

Definitely will	1
Probably will	2
Probably won't	3
Definitely won't	4
I don't know	98
I prefer not to answer	99

D1C

How likely it is that you will get CHILDI vaccinated with a COVID-19 vaccine **in the future** if it becomes available?

<[PHONE]INTERVIEWER: Read list.>

Definitely will	1
Probably will	2
Probably won't	3
Definitely won't	4
I don't know	98
I prefer not to answer	99

D2A

Please rate your level of agreement with the statements below: <[PHONE](INTERVIEWER: Read list.)>

In general, my views about vaccines have changed since the COVID-19 pandemic.

Strongly agree	1
Somewhat agree	2
Somewhat disagree	3
Strongly disagree	4
I don't know	98
I prefer not to answer	99

D2B

Please rate your level of agreement with the statements below: <[PHONE](INTERVIEWER: Read list.)>

Before the COVID-19 pandemic, I believed that vaccines were safe for children.

Strongly agree	1
Somewhat agree	2
Somewhat disagree	3
Strongly disagree	4
I don't know	98
I prefer not to answer	99

D2C

Please rate your level of agreement with the statements below: <[PHONE](INTERVIEWER: Read list.)>

Before the COVID-19 pandemic, I believed that vaccines were **effective** for children.

Strongly agree	1
Somewhat agree	2
Somewhat disagree	3
Strongly disagree	4
I don't know	98
I prefer not to answer	99

D3 [1,15]

Which of the following sources of information would you be most likely to consult in order to find information about childhood immunization?

<[PHONE]INTERVIEWER: Read list and accept yes/no for each one> Please select all that apply.

Health care providers	1
Family/friends	2
Social media (e.g., Twitter, Facebook)	3
My local public health unit/clinic	4
Ministry of Health within my province or territory	5
Public Health Agency of Canada or Health Canada	6
Community nursing stations or clinics	7
News/media	8

Scientific publications, journals	9
National Advisory Committee on Immunization (NACI)	10
International organizations (e.g., World Health Organization (WHO))	11
Other, please specify:	77
I don't know	98
I prefer not to answer	99

D4A

To the best of your knowledge, please rate whether the following statements about childhood immunizations are true or false:

In general, vaccines are safe.

True	1
False	2
I don't know	98
I prefer not to answer	99

D4B

To the best of your knowledge, please rate whether the following statements about childhood immunizations are true or false:

In general, vaccines are effective.

True	1
False	2
I don't know	98
I prefer not to answer	99

D4C

To the best of your knowledge, please rate whether the following statements about childhood immunizations are true or false:

In general, COVID-19 vaccines are safe.

True	1
False	2
I don't know	98
I prefer not to answer	99

D4D

To the best of your knowledge, please rate whether the following statements about childhood immunizations are true or false:

In general, COVID-19 vaccines are effective.

True	1
False	2
I don't know	98
I prefer not to answer	99

D5A

To the best of your knowledge, please rate the extent to which you agree or disagree with the following statements about childhood immunizations: <[PHONE](INTERVIEWER: Read list.)>

In general, vaccines help to protect my child's health.

Strongly agree	1
Somewhat agree	2
Somewhat disagree	3
Strongly disagree	4
I don't know	98
I prefer not to answer	99

D5B

To the best of your knowledge, please rate the extent to which you agree or disagree with the following statements about childhood immunizations: <[PHONE](INTERVIEWER: Read list.)>

In general, I am concerned about the potential side effects from vaccines.

Strongly agree	1
Somewhat agree	2
Somewhat disagree	3
Strongly disagree	4
I don't know	98
I prefer not to answer	99

D5C

To the best of your knowledge, please rate the extent to which you agree or disagree with the following statements about childhood immunizations: <[PHONE](INTERVIEWER: Read list.)>

In general, the use of alternative practices, such as homeopathy or naturopathy, can eliminate the need for vaccination.

Strongly agree	1
Somewhat agree	2
Somewhat disagree	3
Strongly disagree	4
I don't know	98
I prefer not to answer	99

D5D

To the best of your knowledge, please rate the extent to which you agree or disagree with the following statements about childhood immunizations: <[PHONE](INTERVIEWER: Read list.)>

In general, a healthy lifestyle such as healthy nutrition and hygiene can replace the need for vaccination.

Strongly agree	1
Somewhat agree	2
Somewhat disagree	3
Strongly disagree	4
I don't know	98

D5E

To the best of your knowledge, please rate the extent to which you agree or disagree with the following statements about childhood immunizations: <[PHONE](INTERVIEWER: Read list.)>

Having my child vaccinated helps to protect the health of others in my family and/ or community.

Strongly agree	1
Somewhat agree	2
Somewhat disagree	3
Strongly disagree	4
I don't know	98
I prefer not to answer	99

D5F

To the best of your knowledge, please rate the extent to which you agree or disagree with the following statements about childhood immunizations: <[PHONE](INTERVIEWER: Read list.)>

Most parents in my community have their children vaccinated with all recommended vaccines.

Strongly agree	1
Somewhat agree	2
Somewhat disagree	3
Strongly disagree	4
I don't know	98
I prefer not to answer	99

D5G

To the best of your knowledge, please rate the extent to which you agree or disagree with the following statements about childhood immunizations: <[PHONE](INTERVIEWER: Read list.)>

Children receive too many vaccines at the same visit.

Strongly agree	1
Somewhat agree	2
Somewhat disagree	3
Strongly disagree	4
I don't know	98
I prefer not to answer	99

D5H

To the best of your knowledge, please rate the extent to which you agree or disagree with the following statements about childhood immunizations: <[PHONE](INTERVIEWER: Read list.)>

Children receive too many vaccines, overall.

Strongly agree	1
Somewhat agree	2
Somewhat disagree	3
Strongly disagree	4

I don't know	98
I prefer not to answer	99

D5I

To the best of your knowledge, please rate the extent to which you agree or disagree with the following statements about childhood immunizations: <[PHONE](INTERVIEWER: Read list.)>

It is better to develop immunity from having a disease rather than from a vaccine.

Strongly agree	1
Somewhat agree	2
Somewhat disagree	3
Strongly disagree	4
I don't know	98
I prefer not to answer	99

D5J

To the best of your knowledge, please rate the extent to which you agree or disagree with the following statements about childhood immunizations: <[PHONE](INTERVIEWER: Read list.)>

Delaying child vaccines causes risks to their health.

Strongly agree	1
Somewhat agree	2
Somewhat disagree	3
Strongly disagree	4
I don't know	98
I prefer not to answer	99

D5K

To the best of your knowledge, please rate the extent to which you agree or disagree with the following statements about childhood immunizations: <[PHONE](INTERVIEWER: Read list.)>

Unvaccinated children are at higher risk of getting some serious diseases, including COVID-19.

Strongly agree	1
Somewhat agree	2
Somewhat disagree	3
Strongly disagree	4
I don't know	98
I prefer not to answer	99

QA1

In order to better understand the diversity of the Canadian population, as well as to help achieve greater equity and diversity in public health, we would like to ask you a few questions about your child's general background. We acknowledge that some of these questions might result in uncomfortable feelings.

What was CHILDI's sex at birth?

Male	1
Female	2

I don't know	98
I prefer not to answer	99

QA2 [1,10]

Which of the following best describes the racial or ethnic community that CHILDI belongs to? We recognize this list of racial or ethnic identifiers may not exactly match how you would describe CHILDI .

<[PHONE]INTERVIEWER: Read list if needed.> Please select all that apply.

Black (African, Afro-Caribbean, African descent)	2
East/Southeast Asian (e.g. Chinese, Korean, Japanese, Taiwanese, Filipino, Vietnamese, Cambodian, Thai, Indonesian, other East/Southeast Asian descent)	3
Indigenous (First Nations, Métis and/or Inuit)	1
Latino/Latina (e.g. Latin American, Hispanic descent)	4
Middle Eastern and North African (e.g. Arab, Algerian, Egyptian, West Asian descent (e.g. Iranian, Israeli, Lebanese, Turkish, Kurdish))	5
South Asian (e.g., Afghan, Indian, Pakistani, Bangladeshi, Sri Lankan)	6
White (e.g., European, Caucasian)	7
Other, please specify:	77
I prefer not to answer	99

QA3

We would now like to ask you a few questions about your general background.

What was **your** sex at birth?

Female	2
Male	1
Other	77
I prefer not to answer	99

QA8

What is **your** gender? Gender refers to your current gender which may be different from sex assigned at birth and may be different from what is indicated on legal documents.

Woman	1
Man	2
Non-binary	3
Transgender woman	4
Transgender man	5
Two-spirit/bi-spirit	6
Another gender, please specify:	77
I prefer not to answer	99

QA9

What is **your** sexual orientation?

<[PHONE]INTERVIEWER: Read list if needed.>

Heterosexual ("straight")	1
Gay	2
Lesbian	3
Bisexual	4
Asexual	5
Pansexual	6
Other, please specify:	77
I prefer not to answer	99

QA10 [1,10]

Our racial and ethnic identities may shape how we are treated by different individuals and institutions.

Which of the following best describes the racial or ethnic community that you belong to? We recognize this list of racial or ethnic identifiers may not exactly match how you would describe yourself.

<[PHONE]INTERVIEWER: Read list if needed.> Please select all that apply.

Black (African, Afro-Caribbean, African descent)	2
East/Southeast Asian (e.g. Chinese, Korean, Japanese, Taiwanese, Filipino, Vietnamese, Cambodian, Thai, Indonesian, other East/Southeast Asian descent)	3
Indigenous (First Nations, Métis and/or Inuit)	1
Latino/Latina (e.g. Latin American, Hispanic descent)	4
Middle Eastern and North African (e.g. Arab, Algerian, Egyptian, West Asian descent (e.g. Iranian, Israeli, Lebanese, Turkish, Kurdish))	5
South Asian (e.g., Afghan, Indian, Pakistani, Bangladeshi, Sri Lankan)	6
White (e.g., European, Caucasian)	7
Other, please specify:	77
I prefer not to answer	99

QA5

What is the highest level of formal education that you have completed?

Less than a high school diploma or equivalent	1
High school diploma or equivalent	2
Registered apprenticeship or other trade certificate or diploma	3
College/CEGEP or other non-university certificate or diploma	4
University certificate or diploma below bachelor's level	5
University – bachelor's degree or equivalent	6
University – post-graduate degree above bachelor's level or equivalent	7
Other, please specify:	77
I prefer not to answer	99

QA6

Please indicate your **total household income**, before taxes and deductions, for the year ending December 31, 2022. Your total household income consists of the total amount of money earned by all household members.

<[PHONE]INTERVIEWER: Read list if needed.>

Under \$20,000	1
\$20,000 to just under \$40,000	2
\$40,000 to just under \$60,000	3
\$60,000 to just under \$80,000	4
\$80,000 to just under \$100,000	5
\$100,000 to just under \$150,000	6
\$150,000 and above	7
I don't know	98
I prefer not to answer	99

QA11

Do you live in a community with a population of fewer than 1,000 people?

Yes	1
No	2
I don't know	98
I prefer not to answer	99

THNK

This is the end of the survey. On behalf of the Public Health Agency of Canada, we would like to thank you for your participation. Your responses will provide invaluable and insightful childhood immunization information in healthcare workers across Canada.

Wellness Together Canada offers free live counselling through Homewood Health, 24 hours a day. To speak to someone, call 1-866-585-0445.

<[QA10 = 1]First Peoples Wellness Circle (FPWC) is a national not-for-profit corporation governed and managed by Indigenous Leaders and exists to improve the lives of Canada's First Peoples by addressing healing, wellness and other mental health challenges. Call 1-833-311-FPWC (3792)

> Hope for Wellness Helpline is available 24/7 to all Indigenous people across Canada. Telephone and online counselling are available in English and French. Additional languages can be requested.

Call the toll-free Help Line: 1-855-242-3310 or connect to the online chat at hopeforwellness.ca