Health Canada Santé Canada

Vaccine Acceptability Factors for the General Public and Health Care Professionals in Canada

Final Report

Prepared for Health Canada/Public Health Agency of Canada

Supplier Name: Environics Research

Contract Number: 6D034-184641/001/CY

Contract Value: $185,489.50 (including HST)

Award Date: 2019-03-22

Delivery Date: 2019-10-02

Registration Number: POR 138-18

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

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Canada

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Final report

Prepared for Health Canada/Public Health Agency of Canada by Environics Research

October, 2019

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This public opinion research report presents the results of quantitative research conducted by Environics on behalf of Health Canada. The research was conducted with the general population from June 14 to July 4, 2019 and with health care professionals from June 17 to September 9, 2019.

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Catalogue Number: H14-339/2020E-PDF

International Standard Book Number (ISBN):978-0-660-32601-6

Cette publication est aussi disponible en français sous le titre *Facteurs d'acceptabilité des vaccins pour le grand public et les professionnels de la santé au Canada.*

Catalogue Number: H14-339/2020F-PDF (Final report, French)

International Standard Book Number (ISBN): 978-0-660-32602-3

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Executive summary

Background and objectives

The Public Health Agency of Canada identified the need to conduct quantitative research to understand the factors influencing vaccine acceptability among Canadians and health care professionals.

Use of the findings of this research. The research provides current data on the opinions and attitudes of the Canadian population regarding vaccination in general, and for specific vaccines and vaccine-preventable diseases. The results of this research will inform the development of evidence-based vaccine recommendations that include a consideration of acceptability of vaccines and vaccine programs. Results will be used to support the expansion of the mandate of the National Advisory Committee on Immunization (NACI) to include the systematic consideration of programmatic factors (economics, ethics, equity, feasibility, acceptability) in addition to burden of disease and vaccine characteristics.

Methodology

The research comprised two data collection phases:

1. An **online survey of the general public** conducted from June 14 to July 4, 2019, with 2,002 adult Canadians: 1,800 general population interviews, and oversamples of two key target groups: Indigenous peoples and New Canadians (immigrated in past 10 years). The sample was stratified by region, age and gender to ensure it was representative of the general adult Canadian population.

2. An **online survey of health care professionals** with responses collected from June 17 to September 9, 2019, with 591 Canadians of specific health care occupation types (recruited from an online panel and via an open link distributed by professional associations).

A more detailed methodology is presented in Appendix A of the full report.

Contract value

The contract value was $185,489.50 (HST included).

Key findings

General population

Overview

An almost nine-in-ten majority of Canadians say vaccinations are an accepted health care practice in their household, and vaccines are generally felt to be safe and effective. Relatively few report vaccine reluctance for any age group, and most demonstrate understanding of the value of herd immunity. Confidence in public health authorities for vaccine recommendations is high, and relatively few report barriers to getting vaccinated. However, there is a notable minority who are concerned about the potential for serious side effects, and about four in ten report having some kind of negative experience or reaction (though not usually serious). The

research reveals vaccine effectiveness has the most influence on the acceptability of a vaccine; there is also a high degree of acceptance for newly-approved vaccines if they are recommended by a health care provider.

Perceptions of vaccines

- Broadly speaking, most Canadians hold relatively positive perceptions of vaccines: close to nine in ten agree vaccines are effective, and eight in ten agree they are safe. It is notable, however, that a minority of one in ten agree they do not have to get vaccinated if everyone else does.
- Despite positive overall impressions of vaccine effectiveness and safety, one-quarter (26%) of adults have at least sometimes felt reluctant to personally get a vaccine recommended by a health care professional. Parents are slightly more likely to have experienced reluctance (38% at least sometimes) to have their child receive a recommended vaccine. This does not necessarily mean they would refuse the vaccine, but that they had reservations.
- Canadians are most inclined to express reluctance about receiving varicella (infants – 16%), human papillomavirus HPV (children/adolescents – 18%) and inactivated influenza (adults – 13%) vaccines. However, relatively few feel this way; majorities of nearly two-thirds or more indicate there is no vaccine they would be reluctant to receive, or to have their child receive.
- The main reason given for reluctance is concern about ingredient safety/potential side effects, mentioned by one in five (21%) who identified at least one vaccine they would be reluctant to receive. One in ten each say they don't need the vaccine because they are healthy (10%) or because they are concerned about efficacy (10%).
- Of a list of vaccination benefits provided in the survey, the most important reason for getting vaccinated is self-protection, chosen by four in ten (40%). Two in ten (21%) say it is to eliminate or decrease the rate of disease in society. Small proportions say there are no benefits to vaccination (3%) or are unsure of the most important reason to get vaccinated (4%).
- In addition to the benefits of vaccines, however, many Canadians also identify risks related to vaccination. From the list provided in the survey, four in ten (40%) indicate a concern about the risk of serious side effects of vaccines; around two in ten each are concerned about lack of efficacy (19%) or the ingredients being harmful or toxic (18%). One in seven (14%) worry about vaccines compromising the body's ability to defend itself against disease. A four in ten minority either say there are no risks from vaccination (25%) or are unsure (15%).

Perceptions of diseases

- There is reasonably widespread - but not complete - understanding of the role of vaccines in reducing the risk of disease for those around us. Around seven in ten each agree they (personally) need to be vaccinated to protect others from getting sick (71%) and that they get vaccinated to help protect people with weaker immune systems (68%).
- Infants/children (72%), immunocompromised people (69%) and seniors (65%) are felt to be the groups most in need of vaccination.

Vaccination process

- Almost four in ten (38%) report having had some kind of negative post-vaccination experience or reaction, the most common being soreness (28%), followed by fever (15%) or rash (9%). Half (51%) indicate they have had no post-vaccination difficulties.
- Almost four in ten Canadians (37%) identify at least one barrier that makes it difficult or inconvenient to receive vaccinations. These most commonly relate to challenges accessing health care, including long wait times (17%), scheduling issues (13%), limited office hours of their health care provider (11%), or not having a regular health care provider (10%). In addition, being too busy (12%) is a factor for some, and everyday stress is at least somewhat of a barrier to vaccination for one in ten adults without children and two in ten with children under the age of 18.
- By comparison to issues of access, relatively few Canadians (7%) express discomfort with the health care provider who would give them their vaccinations.
- In general, Canadians place a relatively high priority on protecting against vaccine-preventable diseases compared to other health care issues facing them and their families. Eight in ten rate such protection as at least a moderate priority; 14 percent say it is a low priority or not a priority at all when compared to other health issues they face.

Individual/personal factors

- Vaccination is an accepted health care practice for almost nine in ten households (86%). The most common reason given by the minority (7%) for whom it is not an accepted practice is that vaccines are unnecessary, namely because the person is healthy (22%). Smaller proportions say they do not believe in vaccinations, that their immune system is enough to keep them well (13%), or that vaccines include dangerous or unsafe ingredients (13%).
- The results of the survey indicate seven in ten adults (69%) and almost nine in ten (86%) parents of children believe they have needed vaccinations.
- Consistent with the relatively strong level of reported vaccine coverage, around three-quarters (77%) would be at least somewhat likely to get themselves (74%) or their child (83%) vaccinated with a newly approved vaccine when their health care provider recommends it.
- Most Canadians express support for vaccination, even when presented with statements expressing negative views about them. Two-thirds (65%) disagree with the statement that people should not be required to be vaccinated, and over half (55%) of parents disagree with the statement “I do not believe in vaccinating teenagers to protect against sexually transmitted infections.” Over eight in ten (83%) agree people should be vaccinated to prevent the spread of disease in the community (thereby ensuring herd immunity).
- Canadians hold modest perceptions of their efficacy in making vaccine-related decisions. Two-thirds agree (30% strongly agree) that when they think about getting vaccinated, they weigh the benefits and risks to make the best decision. Six in ten Canadians (62%) feel they know enough about vaccination; the remainder are divided between saying they do not know enough or they are not sure.
- Mainstream health care providers are the most trusted source for vaccine information (83% trusted overall, completely trusted by 49%), followed by government public health organizations (72% trusted overall, 31% completely trusted). The information providers least likely to be selected as a trusted source

are alternative health care providers (e.g. naturopaths, homeopaths, acupuncturists, chiropractors) (36% trusted overall, 9% completely trusted) and leaders of cultural or religious groups (15% trusted overall, 5% completely trusted). Three-quarters of Canadians agree overall they are confident public authorities make vaccine recommendations in the best interests of the community.

Conjoint analysis

- The survey included a conjoint analysis to identify on what factors the public relies on to determine vaccine acceptability. Respondents were asked to imagine they were in a doctor's office or clinic and were offered a vaccine that could be given immediately and would not cost them anything. They were then presented with information about two different vaccines and asked which option they would choose to receive for themselves (they could also select neither). The exercise was repeated several times with different vaccine options. The results indicate that, of the four factors tested, vaccine effectiveness (i.e., what proportion of people are protected) has the largest influence on the choice of vaccine between two provided options, followed closely by burden of disease (i.e., whether the vaccine protects against a severe or mild disease) and then susceptibility (i.e., is the disease rare or common). Notably, vaccine safety (i.e., mild side effects in a small or moderate proportion of the population) has the least influence.

Health care professional population

Overview

Strong majorities of health care professionals (HCP) see vaccinations as effective and safe health interventions for their patients. As with the general public, HCPs are most likely to consider effectiveness when deciding on a vaccine recommendation, and HCPs will also take into consideration expert committee recommendations and patient susceptibility. The survey results point to some problems with the vaccine delivery system that may result in Canadians not receiving needed vaccinations. Direct cost to patients may play a role in whether a vaccine is recommended, when that vaccine is not covered by public or private insurance. Majorities of HCPs who administer vaccinations identify at least one of four specific situations as being either a major or moderate barrier to delivery of vaccines in their practices, with the main issues being inadequate reimbursement and storage/handling requirements. The results also indicate HCPs in several professions would benefit if they had greater familiarity with NACI's vaccine guidance and more information about the extent of vaccine testing, which in turn could boost level of confidence in communicating with patients about vaccines, especially in dealing with vaccine reluctance.

Perceptions of vaccines

- Majorities of close to three-quarters or more in each HCP occupational group strongly agree that, in general, vaccines are effective in reducing disease, have benefits outweighing their risks, and are safe. HCPs largely believe the main benefits of vaccinations are protecting people from diseases/saving lives, eradicating or decreasing the rate of diseases, and protecting vulnerable people via herd immunity.

- Reluctance to recommend vaccines is currently low: majorities in all HCP occupations report they have rarely or never been reluctant to recommend a vaccination to a patient for whom it was indicated, and that there are no specific infant, child or adult vaccines they are reluctant to recommend.

- Still, specific vaccines can cause concern for some health care professionals. Among those indicating reluctance to recommend at least one specific age-related vaccine (ranging from 22% of nurses up to 57% of midwives), the ones causing the most concern are rotavirus and varicella (chickenpox) for

infants/children up to age 6, Human papillomavirus (HPV) and varicella (chickenpox) for children/adolescents age 7-17, and Shingles zoster vaccine live (Zostavax), Live attenuated influenza (LAIV) and Shingles recombinant zoster vaccine (Shingrix) for adults.

- The main factors causing vaccine recommendation reluctance are perceived lack of effectiveness, availability of alternative treatments, lack of public funding and concerns about safety/side effects. Lack of familiarity with the vaccine also plays a role.
- Many HCPs (from 18% of midwives to 67% of pediatricians) see no drawbacks to vaccines, but lack of efficacy, potential for side effects, toxicity and expense to patients concern some.
- Only small proportions are concerned about multiple vaccinations at a single visit, either for the possibility of overwhelming the immune system (ranging from 1% to 28% of HCPs) or a reduction in efficacy (0% to 10%).

Perceptions of diseases

- The most important disease-focused factors in HCP vaccine recommendation are disease severity (84% to 95% very important), ease of contracting the disease (75% to 88% very important), and likelihood of the disease returning or spreading (66% to 91% very important).
- Majorities in all occupations (from 54% of pharmacists to 65% of nurses and pediatricians) think vaccine-preventable diseases are becoming more common in Canada.
- Strong majorities of HCPs believe it is very important for people in all vulnerable groups to be vaccinated, but there is less consensus when it comes to the vaccination of healthy adults age 18 to 64 (from 26% of midwives to 64% of obstetrician-gynecologists - OB-GYN).

Vaccination process

- Half or more of HCPs in most occupational groups (except for OB-GYN) both discuss and administer vaccinations; majorities of family physicians and pharmacists deliver vaccination-related care to both children and adults, as do half of midwives. Eight in ten pediatricians only deal with children's vaccinations. Just over half of nurses, and eight in ten OB-GYN, only deliver vaccination services to adults.
- Majorities of family physicians (84%), nurses (64%), OB-GYN (80%), midwives (51%) and pediatricians (84%) have six or more years of vaccination-related experience; four in ten pharmacists (41%) have six or more years of experience.
- Majorities of HCPs (62% to 85%) would recommend a newly approved vaccines to at least some eligible patients; six in ten (59%) pediatricians would recommend to all.
- HCPs are most likely to consider vaccine effectiveness in making a decision about recommending a newly approved vaccine (52% to 74%). Whether or not an expert committee has recommended it (28% to 68%) and patient susceptibility to the disease (28% to 46%) are also notable factors when deciding whether to recommend a new vaccine.
- Lack of efficacy (14% to 36%), negative side effects (27% to 38%) and cost to patients (11% to 36%) are considerations that could potentially prevent vaccine recommendation.

Individual/personal factors

- Majorities of HCPs who administer vaccinations identify at least one of four specific situations as being either a major or moderate barrier to delivery of vaccines in their practices (56% to 72%, with the sole exception being pediatricians – 38%). Inadequate reimbursement is at least a moderate barrier to administering vaccinations for close to half (46%) of family physicians, two-thirds (64%) of pharmacists and approximately one-third of midwives (37%) and nurses (33%). For half of midwives (49%), storage and handling is also a notable barrier.
- Majorities of nine in ten or more in all occupations agree vaccination is well-accepted by Canadians and that people should be vaccinated to ensure community protection. Only small minorities of two in ten or less in all occupations agree to some extent administering STI vaccines could increase the likelihood adolescents would engage in unprotected sexual activity, and very few (10% to 18%) in most occupations (other than just over half of midwives) agree people should not be required to get vaccinated.
- At least eight in ten in all HCP occupations indicate they received a flu shot in the 2018/2019 influenza season, with the exception of midwives (six in ten).
- Strong majorities in all occupations (78% to 94%) think it is a very important role to give patients advice and information about vaccination. However, level of self-assessed familiarity with the current National Advisory Committee on Immunization (NACI) vaccine guidance for vaccination in Canada varies by occupation (at least somewhat familiar: 64% of midwives, 65% if nurses. 77% OB-GYN, 85% pharmacists, 93% family physicians, 96% pediatricians).
- Confidence in ability to communicate with patients about vaccinations tends to outstrip familiarity with NACI vaccine guidance. Two-thirds or more majorities in all professions are at least somewhat confident in their ability to undertake vaccine-related communications, such as recommending vaccines to patients (90% to 100%), effectively providing information on benefits and risks (84% to 98%), answering patient questions (81% to 100%) and address the concerns of vaccine-hesitant patients (67% to 93%). However, it is notable that fewer than half of family physicians (37%), pharmacists (38%), nurses (33%) and OB-GYN (37%) are *very* confident they could address the concerns of vaccine-hesitant patients, and only six percent of midwives are very confident they could do this.
- In general, HCPs trust authoritative science-based vaccine information sources. NACI, government public health organizations and peer-reviewed journals are the most trusted vaccination information sources; pharmaceutical companies are the least likely to be completely trusted across all professions.

Political neutrality statement and contact information

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

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Supplier name: Environics Research Group
PSPC contract number: 6D034-184641/001/CY
Original contract date: 2019-03-22
For more information, contact Health Canada at hc.cpab.por-rop.dgcap.sc@canada.ca

Introduction

1. Background

Vaccines are considered the greatest public health intervention of the 20th century, but in the 21st century there has been increasingly vocal resistance to routine immunizations among certain members of the population. In a Public Health Agency of Canada (PHAC) survey of health professionals conducted by Environics in 2017-18[1], over six in ten health care professionals indicated patients express reluctance to receive immunizations some of the time, and at least eight in ten felt patient vaccine reluctance is at least somewhat of an issue facing public health.

The National Advisory Committee on Immunization (NACI) provides guidance on vaccination in Canada, and its recently expanded mandate now includes consideration of factors influencing the acceptability of vaccines. International research has established several factors related to vaccination acceptability. It is in the public interest to further research these acceptability factors in the Canadian context, with a special focus on those with the potential to impact marginalized or high-risk populations. In order to provide evidence-informed vaccine recommendations that consider acceptability, NACI required comprehensive data to address the lack of in-depth research in Canada in this area.

2. Objectives

The PHAC is the main Government of Canada Agency responsible for public health in Canada. PHAC commissioned public opinion research to inform the mandate of the National Advisory Committee on Immunization (NACI) to provide vaccine guidance that meets the needs of the general public and health care professionals. The findings of this research will also have implications for the Immunization Promotions and Partnership Unit in the Centre for Immunization and Respiratory Infectious Diseases (CIRID), and provincial and territorial immunization programs.

The specific research objectives of this requirement are as follows:

- Examine factors influencing vaccine acceptability in the general public, as well as groups and guardians for those at high risk for certain vaccine-preventable diseases, including:
    - perceptions of the vaccine
    - perceptions of the vaccine preventable disease
    - the process to get vaccinated
    - other individual factors.
- Examine factors influencing professional behaviours (e.g. providing vaccine recommendations or administering vaccines) related to vaccine acceptability for health care professionals.

[1] Environics Research Group. *Survey of healthcare providers' views and experiences with vaccine hesitancy: final report.* Public Health Agency of Canada, 2018, POR 118-16. http://epe.lac-bac.gc.ca/100/200/301/pwgsc-tpsgc/por-ef/public_health_agency_canada/2018/118-16-e/index.html

- Examine group differences (i.e., general public demographic and identity factors and health care occupation groups) across the influence of each acceptability factor.
- Examine differences in vaccine acceptability for different vaccines and vaccine preventable diseases.

3. About this report

This report begins with an executive summary outlining key findings and conclusions, followed by a detailed analysis of the quantitative survey data for the general population and for health care professionals. A detailed methodology section is provided in Appendix A. Provided under a separate cover are detailed sets of "banner tables" presenting the results of the two surveys for all questions by population segments as defined by region and demographics. These tables are referenced by the survey question in the detailed analysis.

In this report, quantitative results are expressed as percentages unless otherwise noted. Results may not add to 100% due to rounding or multiple responses. Net results cited in the text may not exactly match individual results shown in the tables due to rounding. Results are for the total samples unless otherwise indicated.

I. Detailed findings – General Population

Environics conducted an online survey with adult members of the general public. Information on the demographic distribution of the sample is available in the methodology section of this report.

A. Perceptions of vaccines

Close to nine in ten agree vaccines are effective; eight in ten agree they are safe. Strong majorities are not reluctant to get vaccinated. The main reason for reluctance is concern about safety or side effects (in four in ten respondents). The vaccines most linked to reluctance are varicella (infants/young children), HPV (older children/adolescents) and inactivated influenza (adults). The main reason for getting vaccinated is self-protection.

1. Agreement with statements about vaccines

When asked to indicate level of agreement with three statements regarding vaccines, close to nine in ten Canadians agree to some extent that vaccines are an effective way to reduce the risk of disease (86%), and eight in ten agree they are safe (80%). However, a notable minority of one in ten (11%) agree they don't have to get vaccinated if everyone else does.

Table 1: Level of agreement with statements about vaccines

Q10-12	Strongly agree	Somewhat agree	Neither	Somewhat disagree	Strongly disagree	Not sure
In general, vaccines are an effective way to reduce the risk of disease	58%	29%	8%	3%	3%	1%
In general, vaccines are safe	46%	35%	12%	4%	2%	1%
When everyone is vaccinated, I don't have to get vaccinated too	4%	7%	11%	17%	60%	2%

Q10-12 Please indicate how much you disagree or agree with the following statements:
Base: Total sample (n=2,002)

While overall agreement is consistent by region, strong agreement that vaccines are an effective way to reduce the risk of disease ranges from a low of 49 percent in Quebec up to 72 percent in the Atlantic. Quebecers are less likely to strongly agree that, in general, vaccines are safe (36%, vs. 45% to 58% elsewhere, but their agreement overall is in line with other jurisdictions (Atlantic Canadians are the most likely to agree, both overall and strongly). Agreement that one doesn't have to get vaccinated if others are is quite consistently low across the country.

Overall agreement with the two vaccine-positive statements is generally similar by age, but highest among those age 65 and over. Net agreement that one does not have to get vaccinated if others do is a minority, but higher among, younger Canadians and decreases as age increases (15% age 18 to 29, down to 5% age 65+). A similar pattern is seen for parents of younger children (20% with children up to age 6 and 21% with children age 7 to 12, vs. 14% with children age 13-17 and 8% with no children under 18). Net agreement with the vaccine-positive statements are higher among newcomers to Canada (93% effective, 88% safe) but similar for Indigenous peoples and other Canadians. Agreement that "when everyone is vaccinated, I don't have to get vaccinated too" is higher among Indigenous peoples (29%).

Agreement with the two positive vaccine statements is generally similar by household income (ranging from 76% of those with under $40,000 to 84% for safe, 84% to 89% effective) but both are noted to be highest among those with incomes of $100,000 or more – 85% safe, 89% effective). Agreement with both statements is highest among retired persons (91% effective, 86% safe), those who took the survey in English (87% effective, 83% safe), and those who later in the survey indicate they get vaccinated (88% effective, 82% safe) or that vaccination is accepted in their household (92% effective, 87% safe). Among those who indicate they do not get vaccinated, around three in ten each agree to some extent vaccinations are effective (33%) and safe (29%), and one-quarter (25%) agree they do not have to get vaccinated if all others do.

2. Incidence of vaccine reluctance

Those without children under age 18 were asked how often they have been reluctant to receive a recommended vaccination in their lifetime; those with children were asked how often they have felt reluctant to have their child vaccinated. In total, three in ten (29%) have felt reluctance at least sometimes regarding a recommended vaccination.

Seven in ten (71%) adults without children under 18 have rarely or never felt reluctant to personally get a vaccine recommended by a health care professional. Parents express slightly more reluctance, but still, six in ten (61%) have rarely or never felt reluctant to have their child receive a recommended vaccine. One in ten parents say they are always reluctant, but it should be noted this does not necessarily mean they would always refuse a vaccine, just that they experience some concern each time.

Table 2: How often have felt vaccine reluctance for self/child

Q13	Total (n=2,002)	No children (n=1,481)	Have children (n=521)
Net: at least somewhat reluctant	29%	26%	38%
Always	7%	5%	12%
Often	7%	7%	8%
Sometimes	15%	14%	18%
Net: not reluctant	69%	71%	61%
Rarely	22%	23%	18%
Never	47%	48%	43%

*Q13 NO CHILDREN UNDER 18: In your lifetime, how often have you been **reluctant to receive** a vaccine recommended by a healthcare professional? WITH CHILDREN UNDER 18: In their lifetime, how often have you been **reluctant for your child/children to receive** a vaccine recommended by a healthcare professional?*

Among adults without children, being reluctant to personally receive a vaccine at least sometimes is lowest in BC (19%) and highest in Alberta (29%). Among those with children under age 18, reluctance to have children vaccinated ranges from a low of 22 percent in the Atlantic, up to 42 percent in Ontario.

Vaccine reluctance, both for self or a child, is linked to being younger, and decreases as age increases. Personal vaccine reluctance among adults is similar for Indigenous peoples, newcomers to Canada and others, but among those responding on behalf of children, reluctance is notably higher among Indigenous parents (62%) vs. newcomers (42%) or others (33%). Parental vaccine reluctance does not significantly differ by the age of the children.

Among adults without children under 18, having experienced vaccine reluctance decreases as household income increases (from 29% with less than $40,000 down to 19% with $100,000 or more); it is higher among those with high school or less education (29%) than those with post-graduate education (20%). It is somewhat higher among those who took the survey in French (34% v. 25% of those who took the survey in English). Socioeconomic factors are not as important for reluctance to have children vaccinated. Being reluctant to vaccinate is highest among those who later in the survey say vaccination is not an accepted household health care practice, and among those who indicate they do not get vaccinated themselves.

3. Vaccines linked to reluctance

Adults without children under age 18 were shown a list of adult vaccinations available in Canada and asked to indicate which, if any, they would be reluctant to receive. Those with infants and young children (to age 6), or older children or adolescents (age 7 to 17) were asked if there are any vaccines for those age groups they would be reluctant for their child to receive. Note that, to reduce respondent burden, those with children were not also asked about adult vaccine reluctance.

Majorities of nearly two-thirds or more indicate there is no vaccine they would be reluctant to receive, or to have their child receive. The vaccines causing the most reluctance (each for no more than one in five) are varicella (infants/young children–16%), HPV (older children/adolescents–18%) and inactivated influenza (adults–13%).

The vaccines causing reluctance for each age group of recipients are indicated in the tables below.

Table 3: Vaccines linked to reluctance: infants/young children

Q14a	Have children 0-6 (n=225)
No reluctance	70%
Varicella	16%
DTaP-IPV-Hib	14%
DTaP-HB-IPV-Hib	14%
HA	14%
MMR	13%
HB	13%
HAHB	10%
Meningococcal	10%
Rotavirus	9%
Pneumococcal	8%
MMRV	8%

Q14 Please indicate below if there are any vaccines you are reluctant [for your child/children] to receive, for any reason.

Table 4: Vaccines linked to reluctance: older children/adolescents

Q14b	Have children 7-17 (n=521)
No reluctance	65%
HPV	18%
Varicella	14%
MMR	13%
HA	13%
HB	13%
MMRV	13%
DTaP-IPV / Tdap-IPV	13%
HAHB	13%
Tdap	12%
Meningococcal	10%

Q14 Please indicate below if there are any vaccines you are reluctant [for your child/children] to receive, for any reason.

Table 5: Vaccines linked to reluctance: adults

Q14c	Adults without children (n=1,481)
No reluctance	72%
Inactivated influenza	13%
LAIV	12%
HPV	10%
Zostavax	9%
Shingrix	9%
HAHB	7%
HB	7%
Td	7%
HA	6%
Pneumococcal	6%
Tdap	6%
Meningococcal	6%

Q14 Please indicate below if there are any vaccines you are reluctant [for your child/children] to receive, for any reason.

Having specific vaccine reluctance for any age of child or for an adult tends to be lowest in Atlantic Canada. While responses are fairly similar by most subgroups, Indigenous parents express somewhat greater concern about vaccines for infants and children that cover more than one disease than do other Canadians.

4. Reasons for vaccine reluctance

Those who indicated reluctance for at least one vaccine (n=593) were asked to indicate the main reason behind their concern. To facilitate this, they were shown a list of possible responses and could also specify other reasons not listed. The main reason provided is concern about ingredient safety/potential side effects, mentioned by one in five (21%). One in ten (10%) say they do not think the vaccine is needed, and a similar proportion (10%) express concern about efficacy. Fewer than one in ten cite other individual reasons for being reluctant to receive specific vaccines; these include it not being recommended by a health care provider (7%); preference for natural remedies or prevention (7%); the number of vaccines given at a time (6%); and bad personal experiences (6%).

Table 6: Main reasons for being reluctant to vaccinate

Q15	Reluctant to receive any vaccine (n=593)
Concerned about ingredient safety/potential side effects	21%
Don't need it/healthy	10%
Concerned vaccine doesn't work/won't prevent disease	10%
Wasn't recommended by a health care provider	7%
Prefer natural remedies/prevention	7%
Too many vaccines given all at once	6%
Bad past experience with vaccines	6%
Dislike/scared of needles	5%
Too expensive/have to pay out of pocket/not covered	5%
The disease it prevents no longer exists or is very rare	4%
Too many doses required for full protection	4%
Prefer oral/inhaled vaccine	3%
Can't easily get vaccinated/no access	2%
Other	2%
Not sure	8%

Q15 What is the main reason why you are reluctant [for your children] to receive certain vaccines?
Base: Those reluctant to receive any vaccine

Responses are similar by region, although BC residents are among the most likely to be concerned the vaccine won't work to prevent disease. Concern about ingredient safety or potential side effects is higher among those who are neither Indigenous nor newcomers to Canada. Those in the lowest household income bracket (under $40,000) are the most likely to indicate they dislike needles (10%), but they are not more likely than others to say vaccinations are too expensive.

5. Most important reason to vaccinate

All respondents, regardless of whether they expressed any vaccination reluctance, were asked what they would say is the most important reason why they would get vaccinated. To facilitate this, they were shown a list of possible responses; they could specify something else if their reason was not listed. The most important reasons are: to protect themselves and stay healthy (40%); eliminating or decreasing the rate of disease in society (21%); or protecting their family (17%). Fewer than one in ten give other individual reasons for getting vaccinated. Three percent indicate there are no benefits to vaccinations, or they do not get vaccinated.

Table 7: Most important reasons to vaccinate

Q16	Total
Protecting myself/staying healthy	40%
Eliminating or decreasing the rate of disease in society	21%
Protecting my family from disease	17%
Protecting others (e.g. weak immune system)	8%
Illness is less severe if you do get sick	6%
Multiple/all reasons shown**	<1%
Required/recommended	<1%
There are no benefits to vaccinations/I don't get vaccinated	3%
Not sure	4%

Q16 What would you say is the most important reason why you get vaccinated?
Base: Total sample (n=2,002)
** Answer volunteered, not provided to respondents*

Staying healthy is the top reason for receiving vaccinations (40%), across the country and in almost all subgroups; it is especially high among those without children under 18 (47%), those age 65 and over (53%), men (45%), and those in the highest household income (43% $100K+) and education (44% with a university degree) cohorts, and lower among Indigenous peoples (22%). Protecting family from disease is higher among those with children (41%, vs. 8% without) and those with household incomes of $100,000 or more (22%). Protecting people with weaker immune systems is chosen more by residents of Saskatchewan/Manitoba (15%), and those age 18 to 29 (17%).

6. Risks and concerns about vaccination

All respondents were asked if there are any risks they are concerned about related to vaccinations. They were permitted to select from a provided list, or to specify something else; up to three options in total. Four in ten (40%) are concerned about the risk of serious side effects, and around two in ten each are concerned about lack of efficacy (19%) or the ingredients being harmful or toxic (18%). One in seven (14%) worry about vaccines compromising the body's ability to defend itself. Almost no one cites any other specific risks. One-quarter say there are no risks from vaccines that concern them, and one in seven are not sure.

Table 8: Risks and concerns related to vaccination

Q17	Total
Risk of serious side effects	40%
Doesn't work/doesn't help protect against disease	19%
Contain harmful/toxic chemicals	18%
They compromise the ability of the body to defend itself against disease	14%
I am immunosuppressed/can't have live vaccines*	<1%
Other	<1%
There are no risks from vaccination	25%
Not sure	15%

Q17 Are there any risks you are concerned about related to vaccination?
Base: Total sample (n=2,002)
** Answer volunteered, not provided to respondents*

Risk of serious side effects is the top response across the country and across population subgroups. It is highest in Ontario (43%) and lowest in the Atlantic (31%), is higher among those under age 55 (43%, vs. 34% of older Canadians), and increases as household income increases (from 35% under $40,000, up to 45% with $100,000 or more). It is also higher among those who do not accept vaccination as a household health care practice (48%, vs. 39% who do).

Being concerned the vaccination won't work is higher in Quebec (23%) than in other regions (15% to 19%), and higher among young people (23% age 18 to 29). That it may contain harmful chemicals is higher among Indigenous peoples (40%), and those with children at home (25%).

Citing any risk is generally higher among those who either have had a negative reaction to a vaccination or who do not get vaccinated; those who have not had a bad reaction are the most likely to say there are no risks from vaccination that concern them (31%).

B. Perceptions of diseases

Majorities of seven in ten or more Canadians are confident public authorities make vaccination recommendations in the best interests of the community, and that people need to get vaccinated to protect others (especially those with compromised immune systems). Infants/children, immunocompromised people and seniors are felt to be the groups most in need of vaccination, by about seven in ten Canadians each.

1. Agreement with statements about vaccine-preventable diseases

Respondents were shown a randomized series of statements about vaccine-preventable diseases and asked to indicate their level of agreement with each. Three-quarters (77%) agree overall that they are confident public authorities make vaccine recommendations in the best interests of the community. Around seven in ten each agree they need to be vaccinated to protect others from getting sick (72%), or that they get vaccinated because they can help protect people with weaker immune systems (68%).

A minority of one in ten (11%) agrees with the idea that vaccination is unnecessary because vaccine-preventable diseases are not common anymore. Conversely, a strong three-quarters (74%) majority disagrees with this statement (six in ten strongly so).

Table 9: Level of agreement with statements about vaccine-preventable diseases

Q18-21	Strongly agree	Somewhat agree	Neither	Somewhat disagree	Strongly disagree	Not sure
I am confident public authorities make vaccine recommendations that are in the best interests of the community	43%	34%	13%	5%	3%	2%
I need to get vaccinated to protect others at home or in my workplace from getting sick	41%	32%	16%	6%	5%	2%
I get vaccinated because I can help protect people with weaker immune systems	36%	32%	18%	7%	5%	2%
Vaccination is unnecessary because vaccine-preventable diseases are not common anymore	5%	7%	12%	16%	58%	3%

Q18-21 Please indicate how much you disagree or agree with the following statements:
Base: Total sample (n=2,002)

Overall agreement with these statements is quite similar by region, although Atlantic Canadians are the most likely to agree with the vaccine-positive statements (89% are confident public health authorities make best-interest vaccine recommendations, 84% say they need to get vaccinated to protect others, 79% get vaccinated to protect those with weaker immune systems), and Quebecers are less likely than others to agree they need to get vaccinated to protect others from getting sick (65% net agreement, vs. 73% to 84% elsewhere).

Agreement is generally similar for subgroups of the population, with a few exceptions. Those age 65 and over are the most likely to agree they are confident public authorities make vaccine recommendations in the best interests of the community (86%, vs. 71% to 78% of younger age cohorts), and women are slightly more likely

than men to agree they get vaccinated to help people with weaker immune systems (71% vs. 65%). Agreement with vaccine-positive statements are somewhat higher among those who report a chronic illness in the home, those with higher levels of household income and education, those who took the survey in English, and those who accept vaccines as a household health practice. Agreement that vaccination is unnecessary because those diseases are no longer common is a minority, but higher among, Indigenous peoples (26%) and those with children in the home (18%, vs. 9% without children), those who do not accept vaccination as a household health care practice (18%), and those who do not get vaccinated (25%)

2. Groups associated with increased need for vaccination

Respondents were provided with a list of eight groups of people and asked to indicate for which they believe vaccination against disease is most important. They could select any that applied, and could also write in an answer not shown. Two-thirds or more of Canadians identify infants and children (72%), immunocompromised people (69%) and seniors (66%) as being the groups for whom it is most important to receive vaccinations. Around six in ten also identify health care workers (63%) and those with pre-existing health problems (57%) as being most in need, and just over half (54%) indicate it is important to vaccinate new immigrant and refugees. Four in ten see it as important for pregnant women (40%) or healthy adults (39%) to receive vaccinations.

When given an opportunity to indicate other groups not listed, only a handful did so. Mentions were made of everyone (1%), no one (<1%), and travellers to other countries (<1%). Seven percent were not sure for whom it is most important to receive vaccinations.

Table 10: Groups for whom it is most important to receive vaccinations

Q22	Total
Infants/children/young people	72%
People with low/weak immune systems	69%
Seniors age 65+	66%
Health care workers	63%
People with pre-existing health problems	57%
New immigrants and refugees	54%
Women during pregnancy	40%
Healthy adults age 18-64	39%
All/everyone*	1%
No one*	<1%
Travellers to other countries*	<1%
Other	<1%
Not sure	7%

Q22 For which types of people do you believe vaccination against disease is most important?
Base: Total sample (n=2,002)
** Answer volunteered, not provided to respondents*

Impressions of which people most require vaccines are quite consistent across the country and most population subgroups. Indicating multiple groups is more common among seniors and those with a chronic illness in the household; women are more likely than men to mention infants (76% vs 69%) or women during pregnancy (46% vs. 35%). Newcomers to Canada are not more likely to indicate newcomers should be vaccinated than are other Canadians. Not being sure which groups need vaccination the most is highest among those who do not get vaccinated (41%) and those who later in the survey do not confirm vaccination as an accepted household health practice (29%).

C. Vaccination process

Soreness is the most commonly reported negative experience following a vaccination. One in ten adults and two in ten parents agree everyday stress is a vaccination barrier. A majority of close to six in ten have not experienced any of six specific potential barriers to vaccination; the most common barriers are wait times and scheduling. Lack of comfort with health care professionals or lack of priority are not notable barriers for the majority.

1. Incidence of negative experience/reaction following vaccination

Canadians were asked if they have ever had a negative experience or reaction after a vaccination. Three options were shown (soreness, fever, rash), with an opportunity to specify another difficulty not listed. They could select any that apply and could also specify another response not shown.

Half (51%) say they have not had any negative post-vaccination experiences, and an additional one in ten either don't know (8%) or say they do not get vaccinated (3%). The most commonly reported negative reactions are: soreness (28%), followed by fever (15%) or rash (9%). Only small percentages cite other negative reactions, including one percent each mentioning feeling unwell/having flu-like symptoms, or dizziness/fainting.

Table 11: Negative experiences or reactions after a vaccination

Q23	Total
Soreness	28%
Fever	15%
Rash	9%
Feeling sick/unwell/had flu-like symptoms*	1%
Dizziness/fainting*	1%
Nausea/vomiting*	<1%
Swelling*	<1%
Other	1%
No difficulties after a vaccination	51%
I don't get vaccinated	3%
Not sure	8%

Q23 Personally, have you ever had a negative experience or reaction after a vaccination?
Base: Total sample (n=2,002)
** Answer volunteered, not provided to respondents*

The proportion indicating no difficulties after a vaccination is around half in all jurisdictions; other mentions are generally similar, although citing soreness is lowest in Quebec (21%, vs. 26% to 33% elsewhere). Soreness is also reported more by women (32%) than men (24%), and by those with chronic illness in the home (33% vs. 24%). Mentions of soreness increase as household income or education increases. Citing soreness (43%), fever (30%) or rash (25%) is higher among Indigenous peoples than others. Ontarians are the most likely to indicate they had a rash (11%).

2. Everyday stress as a barrier

Overall, nearly two-thirds (64%) disagree at least somewhat that everyday stress might prevent them from getting a vaccination. Everyday stress is at least somewhat of a barrier to vaccination for one in ten adults without children and two in ten with children under age 18.

Table 12: Level of agreement that everyday stress prevents people from getting vaccinated

Q24	Strongly agree	Somewhat agree	Neither	Somewhat disagree	Strongly disagree	Not sure
Total (n=2,002)	4%	9%	17%	14%	50%	6%
Prevents adults from getting vaccinated (n=1,481)	2%	7%	17%	14%	52%	7%
Prevents children from getting vaccinated (n=521)	8%	14%	16%	13%	45%	5%

Q24 To what extent do you agree or disagree that everyday stress prevents you from getting [your child/children] vaccinated?
Base: Total sample (n=2,002)

Agreement that everyday stress is a barrier is highest at 17 percent in Ontario, compared to 8 to 12 percent elsewhere. It is highest among younger people (19% age 18 to 29) and decreases with age (down to 3% of those 65 and over). It is also notably higher among Indigenous Peoples (32%) and newcomers to Canada (24%) than others (11%). There are no clear patterns in overall agreement by household income or education, but higher income earners are more likely to disagree to some extent than are those with incomes under $40,000. Agreement is also higher among those who report having a negative vaccine reaction in the past (21%. vs. 8% of others).

3. Barriers to vaccination

Canadians were shown a list of six possible logistical barriers to vaccination and asked to indicate which, if any, make it difficult or inconvenient to receive vaccinations. They could select any that applied and could also specify another response not shown. Respondents were also able to specify additional applicable barriers. Close to six in ten (57%) say none of these are barriers to vaccination for them; six percent are not sure.

Of the barriers listed, the ones cited by at least one in ten are long wait times to get in to see a physician or other health care provider (17%), scheduling appointments for a vaccination (13%), having other priorities (12%), the office hours of physician/health care provider/clinic (11%), and not having a regular health care provider (10%). Eight percent also identify the distance to the location where they would get vaccinated as a barrier. Few indicate any other barriers, notably cost (1%). Close to six in ten (57%) indicate there are no barriers making vaccination difficult or inconvenient.

Table 13: Barriers to vaccination

Q25	Total
Long wait times to get in to see HCP	17%
Scheduling an appointment for a vaccination	13%
Having other priorities/too busy	12%
Office hours of physician/health care provider/clinic	11%
Not having a regular health care provider/family physician	10%
Distance/far from vaccination location	8%
Cost not covered by health care*	1%
I don't need/want to be vaccinated*	<1%
Other	1%
None of the above	57%
Not sure	6%

Q25 Do any of the following make it difficult or inconvenient for you to receive vaccinations?
Base: Total sample (n=2,002)
** Answer volunteered, not provided to respondents*

Long wait times to see a health care provider as a barrier to vaccinations is similar across most of the country, but somewhat higher in Quebec (22%), and among younger people (27% age 18 to 29), and Indigenous peoples (27%). Scheduling is an issue for marginally higher proportions of urban dwellers. Reporting each of these as barriers is more common among those who have had a negative reaction to vaccines in the past.

4. Level of comfort with health care professional providing vaccinations

Close to nine in ten (88%) Canadians express some level of comfort with the health care provider who would give them vaccinations. Six in ten are very comfortable. Seven percent are uncomfortable, and four percent are not sure.

Table 14: Comfort with health professional providing vaccinations

Q26	Total
Very comfortable	59%
Somewhat comfortable	29%
Not very comfortable	5%
Not at all comfortable	2%
Not applicable	2%
Not sure	4%

Q26 How comfortable are you with the healthcare professional (e.g., doctor, nurse, pharmacist) who would provide vaccinations for you and your family?
Base: Total sample (n=2,002)

Level of comfort with one's health care provider who would provide vaccinations is very consistent across the country, with Atlantic Canadians being the most likely to say they are very comfortable (69%) and Quebecers the least (54%). Overall comfort increases along with age, and is similar for parents and other adults, although those with children are somewhat less likely to be very comfortable (53% vs. 61% of those without children). Being very comfortable is higher among retired people, those who took the survey in English, those who (later in the survey) say vaccines are an accepted household health care practice, and those who say they have not had a negative reaction to vaccines.

5. Prioritization of vaccination compared to other health care issues

Eight in ten (80%) rate protection against vaccine-preventable diseases as at least a moderate priority when compared to other health issues they face; half of these (40%) say it is a high priority. It is a low health priority for one in ten (14%), and three percent say it is not a priority for them at all versus other health issues. Parents of children under 18 are more likely (85%) to say vaccination is a priority than are those without children (78%).

Table 15: Protection against vaccine-preventable disease as a priority compared to other health care issues

Q27	Total (n=2,002)	Child under 18 (n=521)	No child under 18 (n=1,481)
Net: Priority	80%	85%	78%
High priority	40%	44%	38%
Moderate priority	40%	41%	40%
Net: Not a priority	14%	9%	16%
Low priority	11%	8%	12%
Not a priority at all	3%	1%	4%
Not sure	6%	7%	6%

Q27 How much priority do you place on protecting against vaccine-preventable diseases compared to other health issues facing you and your family?

Regionally, protection against vaccine–preventable diseases being at least a moderate priority is similar across the country, but generally higher in the Atlantic (87%) than elsewhere. It is also high among parents (85%), seniors (88%), newcomers to Canada (91%), those with a chronic illness in the home (85%), and among those in the highest household income cohort (85%). It is a relatively lower priority for those with a high school education or less, even though three-quarters of this group (74%) see it as at least a moderate priority. It is still a priority for four in ten of those who later in the survey do not confirm vaccination is an accepted household practice (9% high, 30% moderate, 25% low, 12% not a priority), and for one-quarter who do not get vaccinated themselves; these two groups are the most likely to say it is not a priority or to not be sure.

D. Individual/personal factors

Seven in ten adults and almost nine in ten children have reportedly received all needed vaccinations. Vaccination is an accepted health care practice for almost nine in ten. Six in ten strongly agree people should get vaccinated to prevent disease spread; a similar proportion feels they know enough about vaccination. Mainstream health care providers are the most trusted source for vaccine information; three-quarters say they would likely receive a newly approved vaccine if recommended by a health care provider.

1. If have received all needed vaccinations

To the best of their knowledge, seven in ten (69%) Canadian adults have received all needed vaccinations, and close to nine in ten (86%) parents say their child has had all required vaccinations for their age. Fairly similar proportions of one in ten adults without children and six percent of those with children report not receiving all required vaccines for themselves/their children. The major difference is in the proportion not sure about their vaccination status: one in five adults are unsure if all needed vaccinations have been received, versus only one in ten parents.

Table 16: If self or child has received all required vaccinations

Q28	Self (n=1,481)	Child (n=521)
Yes	69%	86%
No	10%	6%
Not sure	20%	8%

Q28 To the best of your knowledge, have [you/your child/children] received all the vaccines required for someone your/their age?

Among adults, having received all required vaccinations does not vary notably by region, but is higher among older (76% age 65+) and younger (73% age 18 to 29) Canadians than those in the middle years, especially age 30 to 44 (62%). It does not notably vary by gender or being a member of a target group (Indigenous/ Newcomer), but it is higher among those reporting a chronic medical condition in the household (75%) than those without (66%). Reporting having received all required vaccinations increases as household income increases, from 66 percent under $60,000 up to 80 percent with $100,000 or more; it is also higher among those with a university degree (74%) than those with high school or less education (62%).

As reported by those with children under age 18, childhood vaccination is highest in the Atlantic region (95%) and similar elsewhere (81% to 90%). There are no notable differences by age of child or parent, or by existence of chronic illness in the home. There is no difference by household income, but university graduates (92%) are more likely than those with high school or less (80%) to indicate their children have received all required vaccinations.

In both cases, having received all required vaccinations is positively linked to vaccinations being an accepted household health care practice (asked later in the survey) and is similar whether or not there has been a negative personal reaction to a vaccine.

2. Likelihood of (adults/children) getting newly approved vaccine

Around three-quarters (77%) of Canadians would be at least somewhat likely to get themselves or their child vaccinated with a newly approved vaccine when their health care provider recommends it. Likelihood is somewhat higher when it comes to children (83% overall, 43% very likely) than adults (74% overall, 33% very likely).

Table 17: Likelihood of getting a newly-approved vaccine when recommended by a health care provider

Q29	Very likely	Somewhat likely	Not very likely	Not at all likely	Not sure
Total (n=2,002)	36%	41%	11%	4%	9%
Adults (n=1,481)	33%	41%	12%	4%	9%
Children (n=521)	43%	40%	10%	7%	3%

Q29 When a healthcare provider recommends that [you/your child/children] receive a vaccine that is newly approved for use in Canada, how likely are you to get [your child/children] vaccinated?
Base: Total sample (n=2,002)

For adults, overall likelihood of receiving a newly approved vaccine does not vary notably by region (70% to 75%), except in Atlantic Canada, where it is highest (84%). Likelihood is also higher among seniors (82%), men (78%, vs. 71% of women) and those with a chronic illness in the household (77%, vs. 72% without). It is higher among those in the highest socio-economic groups (82% with household incomes of $100,000 or more, 81% with a post-graduate degree).

As reported by those with children under age 18, overall likelihood of having a child receive a newly approved vaccine when recommended by a health care provider is quite similar by region, age, gender, incidence of chronic illness at home, age of children, and sociodemographic factors.

In both cases, willingness to receive a new vaccine is positively linked to vaccinations being an accepted household health care practice and is similar whether or not there has been a negative personal reaction to a vaccine.

3. If vaccination is an accepted health care practice in household

Respondents were asked to indicate if vaccination is an accepted health care practice in their household. Almost nine in ten (86%) say it is, seven percent say it is not, and seven percent are not sure. Parents are marginally more likely to say it is accepted (90%) than are adults without children under 18 (85%).

Table 18: Is vaccination an accepted health care practice in your household?

Q30	Total (n=2,002)	Adults (n=1,481)	Children (n=521)
Yes	86%	85%	90%
No	7%	8%	4%
Not sure	7%	7%	6%

Q30 Is vaccination an accepted healthcare practice in your household?

Vaccination being an accepted household health practice is the dominant response across the country and all population subgroups. It is particularly high in the Atlantic region (92%), among seniors (92%), and those with a chronic illness in the home (91%). It is fairly similar for members of the Indigenous community and newcomers to Canada. It increases along with household income (81% up to 92%) and education (from 79% up to 91%).

It should be noted that three-quarters (76%) of those who say vaccination is an accepted household practice report having received all required vaccines, compared to just one-third (33%) of those for whom vaccination is not accepted.

4. Reasons why vaccination is not an accepted household health care practice

The minority proportion (7%, n=135) who indicated vaccination is not an accepted health care practice in their household were asked to provide, verbatim, the main reasons why this is the case. No pre-coded responses were provided. The most common response, cited by two in ten (22%), is that vaccines are unnecessary, namely because the person is healthy. Just over one in ten each say either that they don't believe in vaccines/not a good idea/their immune system is enough to keep them well (13%), or that vaccines include dangerous or unsafe ingredients (13%). One in ten each (9%) say it is because they distrust the pharmaceutical industry, they get sick when they get vaccinated or it is because of their side effects. Fewer give other individual responses, including a lack of efficacy or that they live alone or do not have children, so do not have others to protect.

Table 19: Why vaccination is not an accepted household health care practice

Q31	Vaccination not accepted health care practice in household (n=135)
They are unnecessary/don't need/are healthy	22%
Don't believe in them/immune system is enough	13%
Dangerous chemicals/ingredients/not safe	13%
Don't trust pharma industry/in it for the money	9%
Get sick when vaccinated (ex. get the flu)	9%
Because of their side effects	9%
They don't work/not effective	6%
I live alone/don't have children	6%
Had them when I was a kid	4%
They cause more harm than good	2%
It is up to the individual's choice	2%
Other	12%
Nothing	3%
DK/NA	10%

Q31 What are the main reasons why vaccination is not an accepted healthcare practice in your household?
Base: Vaccination not an accepted healthcare practice in household (n=135)

Responses are generally similar across the country and subgroups; however, it should be noted subgroup base sizes are small and caution is advised in interpreting the results.

5. Agreement with statements about vaccination

Respondents were shown five statements giving opinions people might have about vaccination and asked to indicate their level of agreement with each. Agreement is highest for the two statements that can be seen to be positive regarding vaccination, and lowest for the three statements about vaccine uncertainty.

Over eight in ten (83%) people agree to some extent, six in ten strongly, that people should be vaccinated to prevent the spread of disease. Two-thirds agree (30% strongly) that when they think about getting vaccinated, they weigh the benefits and risks to make the best decision.

Thee in ten agree to some extent (one in ten strongly) that they find medical procedures or injections to be very stressful for themselves or, in the case of parents, for their children; this is notably higher among parents (42% agree overall, 13% strongly) than other adults (24% agree overall, 6% strongly). Fewer than two in ten agree (17%, with 7% agreeing strongly) people should not be required to get vaccinated.

A minority of one-quarter of Canadians with children under 18 at home agree (11% strongly) they do not believe in vaccinating teenagers to prevent against sexually transmitted infections.

Table 20: Level of agreement with statements about vaccination

Q32-36	Strongly agree	Somewhat agree	Neither	Somewhat disagree	Strongly disagree	Not sure
People should be vaccinated to prevent the spread of disease in the community	59%	24%	10%	2%	2%	2%
When I think about getting vaccinated, I weigh benefits and risks to make the best decision possible	30%	36%	20%	6%	6%	2%
I do not believe in vaccinating teenagers to protect against sexually transmitted infections (Base: have children under 18 n=521)	11%	12%	17%	16%	39%	5%
In general, I find medical procedures or injections [for my child/children] to be very stressful	8%	21%	22%	22%	26%	1%
People should not be required to get vaccinated	7%	10%	16%	19%	46%	2%

Q32-36 To what extent do you agree or disagree with the following statements:
Base: Total sample (n=2,002)

Net agreement with these statements is similar by region, with Atlantic Canadians being the most likely to agree strongly that people should be vaccinated to prevent the spread of disease in the community (72%, vs 51% to 66% elsewhere). Net agreement is also generally similar by age, with some exceptions. Older Canadians are

somewhat more likely to agree people should be vaccinated to prevent the spread of disease in the community, and the proportion agreeing they weigh vaccination benefits and risks increases as age increases. Agreement that medical procedures (for self or children) are stressful decreases as age increases, and is somewhat higher among, women (32%), Indigenous peoples (42%), and those with children under 18 (42%) than among the general population (29%).

6. If enough is known about vaccination

Six in ten Canadians agree they know enough about vaccination; the remainder are divided between saying they don't know enough and they aren't sure. Those who have a child under age 18 are marginally more likely to say they know enough than those with no children, the latter of whom are somewhat more likely to be unsure.

Table 21: If respondent feels they know enough about vaccination

Q37	Total (n=2,002)	Adults without children (n=1,481)	Have children under 18 (n=521)
Yes	62%	60%	67%
No	19%	20%	18%
Not sure	19%	20%	15%

Q37 Do you feel that you know enough about vaccination?

The proportion agreeing they know enough about vaccination is similar across the country, ranging from a low of 58 percent in Quebec to a high of 65 percent in Alberta. It is also generally similar by most subgroups, but Indigenous persons are more likely (71%) than other Canadians (61%) to say they know enough. Knowing enough is also higher among those with chronic illness in the home (65% vs. 59% without), and children under 18 (67%, vs. 60% without) and it increases along with increases in education level and household income. It is also higher among those who have experienced a negative vaccine reaction (66%, vs. 60% who have not had a reaction, and 45% who do not get vaccinated) and those who accept vaccination in their household (66%, vs. 34% who do not). In addition, one-third of those who do not have vaccination as an accepted household health practice, or who do not personally get vaccinated, feel they do not know enough about vaccinations.

7. Level of trust in vaccination information providers

Canadians were shown the names of six groups who might provide information about vaccinations and asked to indicate their level of trust with each. The group most likely to be trusted, and to be trusted completely, is mainstream health care providers (83% trust at least somewhat), followed by government public health organizations (72% overall trust). Half (53%) trust family and friends at least somewhat. Minorities of Canadians trust the vaccination information provided by pharmaceutical companies (47%), alternative health care providers (36%) and leaders of cultural or religious groups (15%).

Table 22: Level of trust in vaccination information providers

Q38-43	Trust completely	Trust somewhat	Neither	Distrust somewhat	Distrust completely	Not sure
Mainstream health care providers	49%	34%	9%	3%	2%	3%
Government public health organizations	31%	40%	17%	5%	3%	3%
My family and friends	17%	36%	34%	6%	2%	4%
Pharmaceutical companies	12%	35%	26%	15%	8%	4%
Alternative health care providers	9%	26%	29%	17%	12%	6%
Leaders of cultural or religious groups	5%	10%	27%	20%	32%	6%

Q38 How much do you trust the vaccination information provided by the following:
Base: Total sample (n=2,002)

Overall trust in these information providers is quite similar by region (notably, for government public health organizations, overall trust ranges from 69% in Quebec to 79% in the Atlantic). Atlantic Canadians are the most likely to completely trust mainstream health care providers (59%, vs. 45% to 53% elsewhere). Complete trust in leaders of cultural groups to provide vaccine-related information is a small minority, but slightly higher among, Ontarians (7%); complete trust in alternative health providers is somewhat higher among younger Canadians (14% age 18 to 29); complete trust in mainstream health providers is higher among those age 55 and over (58%), and highest among seniors (63%).

Having complete trust in vaccine information from alternative health care providers and cultural leaders is still a minority, but somewhat higher among, Indigenous peoples (23% alternative, 14% cultural). Having complete trust in government public health organizations is highest among seniors (38%), newcomers to Canada (42%), those with chronic illness in the home (35%), and those in the highest socioeconomic strata (38% of those with $100,000 and over household incomes, and 40% with post-graduate university education). Trust in mainstream health care providers and government public health organizations is positively linked to household vaccine acceptance. The majority of those who do not get vaccinated personally do not completely trust any of these sources.

E. Conjoint analysis

Conjoint analysis reveals vaccine effectiveness has a 33.2 percent share of impact on a decision between two vaccines.

Conjoint analysis is a technique used to simulate, in a controlled survey environment, the scenario Canadians face when deciding whether or not to get an offered vaccination. When faced with these types of decisions, people do not rate or rank each individual factor, but instead make a choice out of the panoply of (possibly imperfect) options available to them. The idea behind conjoint analysis is that by observing respondents' choices we have a better sense of what features they prioritize, rather than by asking them directly.

In this survey, respondents were asked to choose between one of two different vaccinations, then repeated this exercise ten times. Each vaccine differed in terms of four factors: the effectiveness of the vaccine (protects half or almost all vaccinated people); safety (mild side effects, in either 40% or 5% of recipients); burden of disease (vaccine protects against a severe disease or mild one); and level of susceptibility (vaccine protects a rare or common disease). The results indicate the average share of impact that each of those dimensions had on respondents' choices.

Vaccine effectiveness has the largest impact on choice of vaccination (at 33.2 share of impact). After effectiveness, the factors most impacting decision-making are burden of disease (30.07) and susceptibility to the disease (24.73). The factor with the lowest impact is vaccine safety (12.01).

Table 23: Share of impact of factors on decision to choose a vaccine

Q9	Total
Vaccine effectiveness	33.20
Burden of disease	30.07
Susceptibility	24.73
Vaccine safety	12.01

Q9 If you are offered a vaccine, and these are the only options available, which ONE would you choose for yourself?
Based on total sample (n=2,002)

There are hardly any regional variations on the impact the different factors have. Vaccine safety is the least important factor in all jurisdictions but has somewhat more of an impact in Saskatchewan/Manitoba (12.22) and Ontario (12.58) than elsewhere (from 10.83 in the Atlantic to 11.86 in Quebec). Vaccine safety is also more of a factor for those under age 55, especially those age 18 to 29 (12.93) than older Canadians (10.68 age 65 and over), and for men (12.39) than women (11.60); women are more likely than men to factor in burden of disease (31.22, vs. 28.73). There is no appreciable difference in Indigenous people or newcomers to Canada, or by socioeconomic factors (household income and education). However, vaccine safety does tend to be more of a factor for those living in larger communities (12.13 urban, 12.45 medium, vs. 10.85 small and 11.73 rural/reserve).

Effectiveness of the vaccine has a relatively larger impact on those with children under 18 (34.97 vs. 32.58 without) but in both cases it is the top factor. Those without children place somewhat more reliance on burden of disease (30.61) than do parents (28.51). Susceptibility to the disease is more of a factor for those who have someone with a chronic health condition in the home (25.46, vs. 24.00 without).

Those for whom vaccines are an accepted household medical practice place more importance on vaccine effectiveness (33.51, vs. 31.21 for whom it is not accepted). Those who do not accept them are more likely to be concerned with vaccine safety (14.70 vs. 11.57). Those who do not get vaccinated are the least likely to factor in vaccine efficacy (29.40) and the most likely to factor in safety (15.28).

II. Detailed findings – Health Care Professionals

Environics conducted a separate online survey of health care professionals (HCPs) to determine their impressions of the issue of vaccine hesitancy in Canada. The survey was limited to HCPs who either administer or discuss vaccinations with their patients. Information on the demographic distribution of the sample is available in the methodology section of this report.

Due to disparities in how each type of HCP provides vaccines and the regulatory/professional frameworks for doing so in different regions of Canada, no regional comparisons are made and no attempt is made to provide an 'overall' measure for HCPs in Canada. Note that, at the time of the survey, pharmacists in Quebec were not authorized to administer vaccinations. However, several did qualify for the survey as they do provide vaccination advice.

A. Perceptions of vaccines

HCPs strongly agree vaccines are, in general, effective (72% to 99%), safe (68% to 95%), and have more benefits than risks (74% to 99%). Majorities of from 85 percent to 96 percent report they have rarely or never been reluctant to recommend a vaccination in their career. Majorities also indicate that there are no specific infant/young child (67% to 97%), older child/teen (89% to 96%) or adult (52% to 76%) vaccines they are reluctant to recommend; recommendation reluctance is mainly linked to lack of effectiveness or availability of alternatives. From 18 percent to 67 percent in the selected occupations see no drawbacks, but lack of efficacy and the potential for side effects concern some. Few (4 percent up to 28%) are concerned about multiple vaccinations at a single visit.

1. Agreement with statements about vaccines

Health care professionals were asked to indicate their level of agreement with four statements about vaccines. Majorities of close to three-quarters or more in each occupation strongly agree with each of three positive statements: that, in general, vaccines are effective in reducing disease, have benefits outweighing their risks, and are safe. In contrast, very few strongly agree Canadian children are receiving too many vaccines. Overall agreement (strongly/somewhat) with this negative statement ranges from a low of 1 percent of pediatricians to a high of 14 percent of midwives.

Because total agreement with vaccine-positive statements is so high, the table below shows the percentage strongly agreeing with each statement.

Table 24: Strong agreement with statements about vaccines

Q6-9	Family physicians (n=100)	Midwives (n=67)	Nurses (n=140)	Pharma-cists (n=129)	OB-GYN (n=59)	Pedia-tricians (n=96)
In general, vaccines are an effective way to reduce the risk of disease	94%	72%	93%	93%	98%	99%
In general, vaccines have benefits that outweigh their risks	94%	74%	90%	90%	99%	99%
In general, vaccines are safe	90%	68%	85%	82%	87%	95%
Canadian children are receiving too many vaccines	1%	-	4%	-	-	1%

Q6-9 Please indicate how much you disagree or agree with the following statements:

2. Frequency of reluctance to recommend a vaccination

HCPs were asked to indicate how frequently in their career they have been reluctant to recommend a vaccination to a patient for whom it was indicated. Strong majorities in each occupation say this has rarely or never happened (ranging from 85% to 96% by occupation). That it has happened at least sometimes ranges from a low of 4 percent of pediatricians and nurses, to a high of 15 percent of midwives.

Table 25: Frequency of reluctance in career to recommend a vaccination to a patient for whom it was indicated

Q10	Family physicians (n=100)	Midwives (n=67)	Nurses (n=140)	Pharma-cists (n=129)	OB-GYN (n=59)	Pedia-tricians (n=96)
NET: At least sometimes	9%	15%	4%	12%	11%	4%
Often	4%	-	-	2%	1%	-
Sometimes	4%	15%	4%	10%	10%	4%
NET: Rarely/never	91%	85%	96%	86%	89%	96%
Rarely	31%	48%	30%	47%	41%	27%
Never	60%	37%	65%	40%	48%	68%
Not sure	-	-	<1%%	2%	-	-

Q10 In your career, how often have you been reluctant to recommend a vaccine to a patient for whom it was indicated?

3. Infant/young child vaccines linked to reluctance

HCPs who administer or give advice regarding vaccines for infants and young children (age 0-6) were asked to indicate, from a list, if there are any vaccines they are reluctant to recommend, for any reason. Strong majorities in each profession (67% to 97%) indicate there are no vaccines for this age group they are reluctant to recommend. Midwives, nurses and pediatricians indicate more of these different types of vaccines causing reluctance than do family physicians. For the minorities of respondents with concerns, the vaccines for this age group most likely to cause reluctance are rotavirus (from 3 % to 11%) and varicella (from 3% to 31%).

The table below indicates the proportion of HCPs in each occupation reporting reluctance to recommend each vaccine. The bases of pharmacists and OB-GYNOB-GYNs in the sample who indicate they have patient interactions regarding infant vaccinations are extremely small and caution is required in interpreting those results.

Table 26: Infant/young child vaccines linked to reluctance

Q11-1 Professionals dealing with vaccines for age 0-6	Family physicians (n=74)	Midwives (n=40*)	Nurses (n=59)	Pharma-cists (n=13**)	OB-GYN (n=2**)	Pedia-tricians (n=91)
Rotavirus	4%	11%	3%	(1)	-	8%
Varicella (chickenpox)	3%	31%	3%	-	-	2%
Hepatitis B (HB)	1%	2%	3%	-	-	-
Measles, Mumps, Rubella (MMR)	1%	3%	-	(1)	(1)	2%
Measles, Mumps, Rubella, Varicella (MMRV)	1%	5%	3%	(1)	-	4%
Diphtheria, tetanus, pertussis, polio, haemophilus influenzae type B (DTaP-IPV-Hib)	-	3%	-	-	-	1%
Diphtheria, tetanus, pertussis, hepatitis B, polio, haemophilus influenzae type (DTaP-HB-IPV-Hib)	-	3%	3%	-	-	-
Hepatitis A (HA)	-	-	3%	-	-	2%
Hepatitis A & B (HAHB)	-	-	3%	-	-	2%
Meningococcal	-	2%	3%	-	-	-
Pneumococcal	-	2%	-	-	-	1%
There are no infant vaccines I am reluctant to recommend	*93%*	*67%*	*97%*	*(14)*	*(1)*	*90%*

Q11-1 Please indicate below if there are any vaccines you are reluctant to recommend to patients, for any reason.
BASE: Professionals dealing with vaccines for infants
**Note very small base size (<50) – exercise caution in interpreting results / **Note extremely small base size (<25) – actual (weighted) n's used (in brackets)*

4. Child/adolescent vaccines linked to reluctance

HCPs who indicated they administer or give advice regarding vaccinations for older children/adolescents (ages 7 to 17) were asked to indicate from a list if there are any vaccines they are reluctant to recommend, for any reason. Strong majorities in each profession indicate there are no vaccines for this age group they are reluctant to recommend (89% to 96%). Among the few who indicate reluctance, the most mentioned vaccines are for HPV and varicella.

The table below indicates the proportion in each occupation who report reluctance to recommend each vaccine. Pharmacists and paediatricians report reluctance over more kinds of vaccines for this age group than do family physicians.

The base of OB-GYN indicating they have patient interactions regarding child/adolescent vaccinations is extremely small and caution is required in interpreting those results. No midwives indicated they deal with vaccinations for this age group.

Table 27: Older child/adolescent vaccines linked to reluctance

Q11-2 Professionals dealing with vaccines for ages 7-17	Family physicians (n=77)	Midwives (n=0)	Nurses (n=69)	Pharma-cists (n=90)	OB-GYN (n=12**)	Pedia-tricians (n=89)
Human papillomavirus (HPV)	4%	-	4%	8%	-	2%
Varicella (chickenpox)	2%	-	<1%	5%	-	5%
Measles, Mumps, Rubella (MMR)	1%	-	-	3%	(1)	4%
Measles, Mumps, Rubella, Varicella (MMRV)	1%	-	-	3%	-	5%
Diphtheria, tetanus, pertussis, polio (DTaP-IPV) / Tetanus, diphtheria, pertussis, polio (Tdap-IPV)	-	-	-	2%	-	1%
Tetanus, diphtheria, pertussis (Tdap)	-	-	-	2%	-	1%
Hepatitis A (HA)	-	-	-	1%	-	1%
Hepatitis B (HB)	-	-	-	1%	-	-
Hepatitis A & B (HAHB)	-	-	-	-	-	1%
Meningococcal	-	-	-	1%	-	1%
There are no child/adolescent vaccines I am reluctant to recommend	*96%*	-	*96%*	*89%*	*(9)*	*92%*

Q11-2 Please indicate below if there are any vaccines you are reluctant to recommend to patients, for any reason.
BASE: Professionals dealing with vaccines for children/adolescents
***Note extremely small base size (<25) – actual (weighted) n's used (in brackets)*

5. Adult vaccines linked to reluctance

HCPs who administer or give advice regarding adult vaccinations were asked to indicate from a list if there are any vaccines they are reluctant to recommend, for any reason. The table below indicates the proportion in each occupation who report reluctance to recommend each vaccine. Majorities in each profession (from 52% to 76%) indicate there are no adult vaccines they are reluctant to recommend.

Zostavax (8% to 30%), live attenuated influenza (3% to 29%) and Shingrix (3% to 8%) are among the vaccines most likely to cause reluctance. Notable minorities of midwives indicate reluctance to recommend the HPV (23%), inactivated influenza (21%) and Tdap vaccines (17%) to their adult patients. One in ten nurses and just under one in ten OB-GYN are reluctant to recommend the HPV vaccine.

Table 28: Adult vaccines linked to reluctance

Q11-3 Professionals dealing with vaccines for adults	**Family physicians (n=99)**	**Midwives (n=60)**	**Nurses (n=138)**	**Pharma-cists (n=129)**	**OB-GYN (n=59)**	**Pedia-tricians (n=33*)**
Shingles zoster vaccine live (Zostavax)	19%	10%	8%	30%	11%	16%
Live attenuated influenza (LAIV)	8%	29%	7%	16%	3%	17%
Shingle recombinant zoster vaccine (Shingrix)	7%	7%	3%	8%	4%	7%
Human papillomavirus (HPV)	5%	23%	10%	5%	8%	3%
Inactivated influenza	4%	21%	5%	2%	1%	4%
Meningococcal	1%	-	1%	2%	2%	3%
Tetanus, diphtheria (Td)	1%	-	3%	2%	1%	3%
Tetanus, diphtheria, pertussis (Tdap)	1%	17%	1%	2%	1%	3%
Hepatitis A (HA)	1%	-	1%	2%	1%	3%
Hepatitis B (HB)	1%	-	4%	1%	-	3%
Hepatitis A & B (HAHB)	1%	-	1%	1%	1%	3%
Pneumococcal	1%	-	2%	2%	2%	5%
There are no adult vaccines I am reluctant to recommend	*76%*	*52%*	*78%*	*63%*	*77%*	*72%*

Q11-3 Please indicate below if there are any vaccines you are reluctant to recommend to patients, for any reason.
BASE: Professionals dealing with vaccines for adults
**Note very small base size (<50) – exercise caution in interpreting results*

6. Main reasons for being reluctant to recommend vaccines

HCPs who indicated they are reluctant to recommend any vaccine were asked to indicate which of a list of potential reasons are the main reasons for their reluctance. HCPs could also specify a reason not listed. Top reasons are concerns about effectiveness (32% to 52%), having available alternative treatments (7% to 42%), lack of public funding (15% to 26%) safety/side effects (19% to 48%) and lack of familiarity (5% to 19%).

Table 29: Main reasons for being reluctant to recommend certain vaccines

Q12 Those reluctant to recommend any vaccine	Family physicians (n=25*)	Midwives (n=30*)	Nurses (n=38*)	Pharma-cists (n=50)	OB-GYN (n=12**)	Pedia-tricians (n=19**)
Concerned about vaccine effectiveness	49%	52%	33%	32%	(1)	(7)
Alternative treatments available	42%	7%	8%	32%	(1)	(1)
Not publicly funded	26%	-	15%	16%	(4)	(2)
Concerned about safety/potential side effects	19%	46%	48%	20%	(2)	(1)
Not familiar with vaccine/ recommendations	18%	19%	14%	5%	(2)	-
Better/more effective vaccines available*	16%	-	4%	12%	(1)	(1)
Disease it prevents is not serious	14%	23%	11%	5%	(1)	(3)
Too expensive	10%	-	26%	14%	(4)	(1)
Don't know enough about effects/ long term harm*	6%	9%	-	2%	(4)	-
Low potential for herd immunity	3%	6%	9%	-	-	(1)
Not safe for pregnant women*	-	3%	-	-	(1)	-
Patients undergoing specific therapies/treatment*	-	8%	7%	4%	(4)	-
Disease no longer exists/is very rare	-	-	7%	2%	(3)	-
Too many doses required to complete schedule	-	-	<1%	-	-	(1)
Too invasive (injection vs. other)	-	-	-	5%	-	(1)
Complex to store/handle	-	-	11%	-	-	-
Concerns for immunocompromised patients*	-	-	<1%	5%	-	(5)
Other	-	6%	<1%	1%	-	(6)
Not sure	-	2%	7%	5%	(1)	(1)

*Q12 What are the main reasons why you are reluctant to recommend certain vaccines? / * Answer volunteered, not provided to respondents /Base: Those reluctant to recommend any vaccine *Note very small base size (<50) – exercise caution in interpreting results / **Note extremely small base size (<25) – actual (weighted) n's used (in brackets)*

7. Most important benefits of vaccinations

HCPs were asked to indicate, from a provided list, what they would say are the most important benefits of vaccinations; they could specify any benefits not listed. They could select up to three benefits in total. The top benefits across all occupations are protecting people from diseases/saving lives (66% to 85%), eradicating or decreasing rate of disease (57% to 74%), and protecting vulnerable people via herd immunity (62% to 77%). Half of OB-GYN also indicate that one of the most important benefits of immunizations is that it is a cost-effective health intervention (51%).

Table 30: Most important benefits of vaccinations

Q13	Family physicians (n=100)	Midwives (n=67)	Nurses (n=140)	Pharma-cists (n=129)	OB-GYN (n=59)	Pedia-tricians (n=96)
Protecting people from diseases/saving lives	80%	66%	78%	72%	87%	85%
Eradicating or decreasing the rate of diseases	63%	72%	74%	57%	60%	58%
Protecting immunocompromised/ vulnerable people via herd immunity	62%	72%	77%	69%	62%	70%
Cost-effective health intervention	44%	36%	28%	37%	51%	33%
Low risk compared to natural infection	24%	9%	12%	23%	13%	22%
Reducing disease severity	21%	16%	22%	26%	27%	26%
There are no benefits to vaccinations	-	-	1%	1%	-	-
Not sure	-	2%	-	-	-	-

Q13 What would you say are the most important benefits of vaccinations, if any?

8. Most notable drawbacks of vaccinations

HCPs were asked to indicate, from a provided list, what they would say are the most notable drawbacks of vaccinations; they could specify any not listed. They could select up to three drawbacks in total. Majorities of family physicians (55%), nurses (60%) and pediatricians (67%) indicate there are no notable drawbacks to vaccination. The drawbacks indicated are similar to the list of reasons for reluctance to recommend: lack of effectiveness (8% to 18%) and risk of side effects (16% to 35%) are top mentions across occupations. Lack of cost effectiveness is an issue for 13 percent of pharmacists, while lack of public funding is a drawback for 12 percent of OB-GYN. Four in ten midwives indicate vaccines contain harmful or toxic chemicals; 18 percent of midwives say there are no drawbacks to vaccinations.

Table 31: Most notable drawbacks of vaccinations

Q14	Family physicians (n=100)	Midwives (n=67)	Nurses (n=140)	Pharma-cists (n=129)	OB-GYN (n=59)	Pedia-tricians (n=96)
Lack of effectiveness against disease	18%	27%	8%	16%	14%	9%
Risk of serious side effects	16%	35%	17%	19%	25%	16%
Contain harmful/toxic chemicals	7%	42%	10%	2%	11%	2%
Not publicly funded/covered by government/too expensive for patients not covered*	7%	4%	1%	7%	12%	-
Not cost effective	4%	-	6%	13%	-	-
Reactions (e.g. allergies, fever)*	2%	-	1%	-	5%	2%
Unnecessary/unneeded frequency of delivery*	2%	1%	-	-	-	-
Time taken away from work to get vaccinated*	2%	2%	-	-	-	1%
They compromise the ability of the body to defend itself against disease	1%	8%	1%	-	5%	1%
Pain associated with needle/sore injection site*	1%	5%	1%	1%	2%	4%
Flu strains often do not match vaccine*	-	-	1%	1%	-	-
Public perception/misconception*	-	-	<1%	1%	2%	1%
Too many vaccines at once for infants*	-	3%	1%	-	-	-
Other	-	6%	-	1%	2%	-
There are no drawbacks to vaccinations	55%	18%	60%	48%	42%	67%
Not sure	3%	8%	6%	5%	-	3%

Q14 What would you say are the most notable drawbacks of vaccinations, if any?
** Answer volunteered, not provided to respondents*

9. Agreement with statements about multiple vaccinations at a single visit

Health care professionals were asked to indicate their level of agreement with two negative statements about vaccines (phrases linking the vaccines to children were randomly added to the statements shown to some respondents who work with children). Majorities of family physicians, nurses, pharmacists, OB-GYN and pediatricians disagree to some extent with both statements; pluralities of midwives disagree, but notable minorities neither agree nor disagree or are not sure.

Just over one-quarter of midwives and one in eight nurses agree to some extent that administering multiple vaccines at a single visit could overwhelm the immune system. One in ten or fewer of other occupations agree with this. One in ten or fewer of all occupations agree administering multiple vaccines at a single visit could reduce their efficacy.

Majorities of all professions except midwives disagreed with both statements, whether or not children were referenced. [2] In the case of nurses, disagreement with either statement was even higher when reference was made to children.

[2] Due to an issue in the randomization programming, most HCPs saw the version with reference to children.

Table 32: Agreement with statements about vaccines

Q15-16	Family physicians (n=100)	Midwives (n=67)	Nurses (n=140)	Pharma-cists (n=129)	OB-GYN (n=59)	Pedia-tricians (n=96)
Administering multiple vaccines at a single visit could overwhelm the immune system [of children]						
Net: agree	4%	28%	13%	5%	10%	1%
Strongly agree	-	1%	5%	1%	1%	-
Somewhat agree	4%	27%	8%	4%	9%	1%
Neither agree nor disagree	9%	16%	13%	7%	3%	-
Net: disagree	83%	32%	63%	84%	82%	98%
Somewhat disagree	16%	18%	17%	33%	19%	11%
Strongly disagree	67%	14%	46%	50%	63%	87%
Not sure	4%	24%	11%	4%	4%	1%
Base: Those shown “of children”	81	40	74	92	12**	95
Net agree	2%	27%	5%	4%	(1)	1%
Base: Those not shown “of children”	19**	27*	66	37*	47*	1**
Net agree	(2)	29%	19%	6%	11%	-
Administering multiple vaccines at a single visit could reduce their efficacy [in children]						
Net: agree	3%	8%	9%	5%	10%	-
Strongly agree	1%	2%	1%	2%	1%	-
Somewhat agree	2%	6%	7%	3%	9%	-
Neither agree nor disagree	12%	23%	13%	10%	12%	1%
Net: disagree	80%	38%	67%	81%	71%	98%
Somewhat disagree	24%	18%	24%	31%	13%	15%
Strongly disagree	56%	20%	43%	50%	58%	83%
Not sure	5%	30%	11%	4%	7%	1%
Base: Those shown “in children”	81	40	74	92	12**	95
Net agree	3%	7%	3%	3%	(1)	-
Base: Those not shown “in children”	19**	27*	66	37*	47*	1**
Net agree	-	9%	13%	9%	9%	-

Q15-16 To what extent do you agree or disagree with the following statements
**Note very small base size (<50) – exercise caution in interpreting results / **Note extremely small base size (<25) – actual (weighted) n’s used (in brackets)*

B. Perceptions of diseases

The most important factors in HCP vaccine recommendation are disease severity (85% to 95% across occupations), ease of contracting the disease (75% to 88%), and likelihood of the disease returning or spreading (66% to 91%). Majorities in all occupations (54% to 65%) think vaccine-preventable diseases are becoming more common, and strong majorities believe it is very important for people in vulnerable groups to be vaccinated (proportions vary by group across occupations, from 63% to 99%)

1. Importance of factors when deciding to recommend vaccinations

For all occupations, the most important factors when deciding to recommend a vaccination are if the disease it covers is serious (84% to 95%), very contagious (75% to 88%), or likely to return and spread without herd immunity (66% to 91%). Smaller majorities of family physicians (58%), nurses (63%), pharmacists (57%), OB-GYN (60%) and pediatricians (54%) also feel it is very important to their decision if the disease is very common. Minorities in all occupations think it is very important to their recommendation decision if treating the disease is safer than vaccination (22% to 37%), or if there are a better means of preventing the disease (19% to 28%).

Table 33: Factors that are *very important* when deciding to recommend vaccinations

Q17-22	Family physicians (n=100)	Midwives (n=67)	Nurses (n=140)	Pharma-cists (n=129)	OB-GYN (n=59)	Pedia-tricians (n=96)
If the disease is very serious (i.e., it is life-threatening and often requires hospitalization)	93%	91%	84%	84%	91%	95%
If the disease is very contagious/easy to contract	88%	75%	83%	75%	82%	83%
If the disease is likely to return or spread if people are not vaccinated against it	76%	66%	82%	72%	77%	91%
If the disease is very common (i.e., most unvaccinated persons will have it during their lifetime)	58%	30%	63%	57%	60%	54%
If treating the disease is safer than vaccinating against it	24%	37%	31%	22%	19%	23%
If there are better means of preventing the disease	23%	28%	31%	27%	19%	24%

Q17-22 How important are the following factors to you when deciding to recommend vaccinations?

2. If vaccine-preventable diseases are becoming more or less common in Canada

Majorities of health care professionals in all occupations feel vaccine-preventable diseases are becoming more common in Canada. This impression ranges from a low of 54 percent of pharmacists to a high of 65 percent of pediatricians and nurses. Around one-quarter each of pediatricians, family physicians and OB-GYN think these diseases are in fact becoming less common.

Table 34: If vaccine-preventable diseases are becoming more or less common in Canada

Q23	Family physicians (n=100)	Midwives (n=67)	Nurses (n=140)	Pharma-cists (n=129)	OB-GYN (n=59)	Pedia-tricians (n=96)
More common	58%	63%	65%	54%	56%	65%
About the same	10%	15%	13%	19%	11%	8%
Less common	26%	10%	19%	19%	28%	25%
Not sure	6%	13%	4%	8%	4%	2%

Q23 In your opinion are vaccine-preventable diseases becoming more or less common in Canada, or is the rate staying about the same?

3. People for whom getting vaccinated is *very important*

Health care professionals were shown a list of groups of people and given a chance to indicate how important it is for each group to be vaccinated against diseases. Majorities in all occupations feel vaccination is very important for all groups except for healthy adults age 18 to 64 (proportions vary by group across occupations, from 63% to 99%), but most important for people with compromised immune systems (77% to 97%) and infants/children (80% to 99%). For healthy adults, almost two-thirds of OB-GYN, close to six in ten pediatricians and about half of family physicians and nurses think it is very important they be immunized as well.

Table 35: People for whom getting vaccinated is *very important*

Q24-31	Family physicians (n=100)	Midwives (n=67)	Nurses (n=140)	Pharma-cists (n=129)	OB-GYN (n=59)	Pedia-tricians (n=96)
People with compromised immune systems	95%	77%	89%	95%	94%	97%
Infants and children	95%	80%	92%	92%	99%	99%
People with pre-existing health problems	89%	64%	83%	86%	89%	96%
Health care workers	88%	63%	82%	85%	86%	97%
Seniors age 65+	88%	70%	82%	84%	78%	88%
New immigrants and refugees	85%	67%	86%	78%	75%	88%
Pregnant women	84%	56%	82%	76%	86%	89%
Healthy adults age 18-64	50%	26%	48%	43%	64%	57%

Q24-31 For which types of people do you believe vaccination against disease is most important?

C. Vaccination process

Half or more of HCPs other than OB-GYN (49% to 73%, OB-GYN 28%) both discuss and administer vaccinations. Majorities of each occupation (51% to 84%) except pharmacists (42%) have six or more years of vaccination-related experience. Frequency of interacting with patients about vaccinations varies notably by occupation; daily vaccine intervention ranges from 6 percent of midwives to 44 percent of pediatricians. Majorities of 62 percent to 85 percent recommend newly approved vaccines to at least some eligible patients. Among those who would recommend a new vaccine to at least some patients. lack of efficacy (14% to 32%), side effects (27% to 38%) and cost to patients (11% to 36%) could prevent recommendation.

1. How HCPs are involved with vaccination

To better understand the involvement of health care professionals with vaccinations, they were asked a series of questions. The first was a screening question, as only HCPs who administer vaccines or discuss vaccinations with their patients qualified for the survey.

Majorities of the family physicians (73%), nurses (72%) and pharmacists (69%) both administer and discuss vaccines with their patients. Around half of midwives (49%) and pediatricians (49%) also do both activities while the other half (51%) discuss but do not administer vaccines. Almost three-quarters of OB-GYN discuss vaccines but do not deliver them. Nurses are the only occupation where a small minority only administer but do not discuss vaccinations (5%).

Table 36: Patient vaccination involvement

Q3	Family physicians (n=100)	Midwives (n=67)	Nurses (n=140)	Pharma-cists (n=129)	OB-GYN (n=59)	Pedia-tricians (n=96)
Both administer vaccines and discuss vaccines with patients	73%	49%	72%	69%	28%	49%
Discuss vaccines but do not administer	27%	51%	22%	31%	72%	51%
Administer vaccines but do not discuss vaccines with patients	-	-	5%	-	-	-

Q3 Do you administer vaccines to, or discuss vaccines with, your patients?

2. Types of patients regarding vaccinations

The types of patients for whom HCPs administer or discuss vaccinations vary by occupation. Majorities of family physicians report dealing with each of the six types of patients (79%); only one in five (20%) do not deal with children in their practice. Midwives are most likely to deal with pregnant women (76%) and infants (61%). Nurses are more likely to deal with adults (87%) than children (39%) or infants (35%). Pharmacists are most likely to deal with adults (96%) and seniors (93%), but around two thirds also deal with vaccinations for children (68%) and those in high risk groups (63%). Eight in ten (83%) OB-GYN only deal with adults when it comes to vaccinations, and the reverse is true of pediatricians, eight in ten (80%) of which only deal with infants and children.

Table 37: Patient types for vaccination interactions

Q4	Family physicians (n=100)	Midwives (n=67)	Nurses (n=140)	Pharma-cists (n=129)	OB-GYN (n=59)	Pedia-tricians (n=96)
Infants/young children (0-6yrs)	73%	61%	35%	11%	2%	94%
Children (7-17yrs)	75%	-	39%	68%	17%	92%
Adults (18-64yrs)	96%	45%	87%	96%	92%	18%
Seniors (65yrs+)	89%	-	70%	93%	25%	2%
Pregnant women	70%	76%	36%	52%	72%	7%
High-risk groups	72%	7%	52%	63%	37%	21%
Other	3%	1%	1%	1%	-	1%
NET: Children only	1%	12%	2%	-	-	80%
NET: Adults only	20%	39%	55%	29%	83%	1%
NET: Both	79%	50%	41%	70%	17%	18%

Q4 To whom do you administer/discuss vaccines?

3. Length of time administering or discussing vaccination with patients

Notable majorities of health care professionals in four occupations (family physicians – 84%, nurses – 64%, OB-GYN – 80% and pediatricians – 84%) have six or more years of vaccination-related experience. Half of midwives – 51% - have six or more years of vaccine-related experience, as do four in ten (42%) pharmacists. The results correspond with pharmacist-administered vaccines being a relatively recent professional function (Quebec pharmacists were not authorized to administer vaccines at the time of the survey).

Table 38: Years of experience administering/discussing vaccination

Q5	Family physicians (n=100)	Midwives (n=67)	Nurses (n=140)	Pharma-cists (n=129)	OB-GYN (n=59)	Pedia-tricians (n=96)
NET: Less than six	16%	49%	36%	58%	20%	16%
Less than 1 year	1%	5%	6%	2%	-	-
1 to 5 years	15%	44%	30%	56%	20%	16%
NET: 6+	84%	51%	64%	42%	80%	84%
6 to 15 years	19%	36%	36%	34%	47%	24%
More than 15 years	65%	15%	28%	8%	34%	59%

Q5 For approximately how many years have you been administering vaccines/discussing vaccines?

4. Frequency of administering or discussing vaccines with patients

The frequency of interacting with patients about vaccinations varies notably by occupation. Around four in ten family physicians (42%) and pediatricians (44%) administer or discuss vaccinations with patients daily. Around half of pharmacists (48%) and OB-GYN (50%), and three in ten (30%) midwives and one-quarter of nurses (27%), do so at least weekly.

Table 39: Frequency of administering or discussing vaccination with patients

Q32	Family physicians (n=100)	Midwives (n=67)	Nurses (n=140)	Pharma-cists (n=129)	OB-GYN (n=59)	Pedia-tricians (n=96)
Daily	42%	6%	19%	7%	33%	44%
NET: At least weekly	39%	30%	27%	48%	50%	30%
A few times a week	27%	21%	21%	31%	32%	23%
About once a week	12%	9%	6%	17%	17%	7%
Less often than once a week	4%	30%	13%	14%	9%	12%
It varies	15%	35%	41%	32%	9%	13%

Q32 How often do you [administer vaccines/discuss vaccines with your patients]?

5. Proportion of eligible patients for whom newly approved vaccines are recommended

Majorities of each occupation recommended newly approved vaccines to at least some eligible patients (85% family physicians, 66% midwives, 62% nurses, 65% pharmacists, 76% OB-GYN, 85% pediatricians). Recommending to all such patients happens in the case of around half of family physicians (46%), midwives (45%) and OB-GYN (51%), and six in ten (59%) pediatricians. Notable minorities of midwives (31%), nurses (25%) and OB-GYN (24%) are unable to say.

Table 40: Number of eligible patients for whom newly approved vaccines are recommended

Q33	Family physicians (n=100)	Midwives (n=67)	Nurses (n=140)	Pharma-cists (n=129)	OB-GYN (n=59)	Pedia-tricians (n=96)
NET: At least some	85%	66%	62%	65%	76%	85%
All	46%	45%	35%	22%	51%	59%
Some	40%	21%	27%	42%	24%	27%
A few	8%	3%	6%	20%	-	3%
None	-	-	7%	2%	-	1%
Not sure	7%	31%	25%	14%	24%	11%

Q33 When a new vaccine is approved for use in Canada, do you typically recommend it to all, some, a few or none of your eligible patients?

6. Most important factors in recommending a newly approved vaccine

HCPs were shown a list of possible considerations when recommending a newly approved vaccine, and asked to indicate up to three which are most important to them. HCPs are most likely to consider effectiveness (52% to 74%), with whether or not an expert committee has recommended it be used (28% to 68%) and patient susceptibility to the disease (28% to 46%) also being noteworthy factors. Notable proportions would also consider if the patients could afford it if it was not covered (13% to 30%), the side effects it has (16% to 35%), how extensively it was tested (18% to 44%), and how common the disease is (20% to 39%). One-quarter of midwives and one in six OB-GYN would also consider it if their colleagues were recommending the vaccine. Consideration of major side effects ranges from 16 percent of OB-GYN to 35 percent of midwives. How extensively the vaccine is tested ranges in importance from 18 to 44 percent. Nurses are not generally concerned with expert committee recommendation (28%), but just under half (46%) factor in patient susceptibility to the disease.

Table 41: Most important factors in recommending a newly approved vaccine

Q34 Those recommending new vaccines to at least a few eligible patients	Family physicians (n=100)	Midwives (n=67)	Nurses (n=134)	Pharma-cists (n=127)	OB-GYN (n=59)	Pedia-tricians (n=96)
How effective it is	74%	68%	60%	70%	52%	72%
If an immunization expert committee has recommended it	50%	37%	28%	50%	68%	66%
The patient's susceptibility to the disease	31%	28%	46%	39%	35%	28%
If cost not covered, if the patient can afford it	28%	13%	22%	30%	20%	24%
What major side effects it has	26%	35%	20%	26%	16%	27%
How extensively it was tested	24%	44%	26%	21%	29%	18%
How common the disease is	20%	23%	39%	25%	28%	28%
If cost is covered by health insurance	20%	18%	23%	19%	32%	17%
If other professionals in my field are recommending it to their patients	9%	25%	7%	5%	16%	14%
The route of administration (e.g. injection vs. intranasal/oral)	3%	-	6%	2%	1%	-
What minor side effects it has	2%	1%	6%	4%	-	3%
None of the above	1%	-	1%	1%	1%	-
Not sure	1%	-	2%	-	-	-

Q34 When a new vaccine is approved for use in Canada, what are the most important factors in whether you would recommend it to eligible patients?
BASE: Those recommending new vaccines to at least a few eligible patients

7. What would prevent recommendation of a new vaccine?

Health care professionals indicating they would recommend a newly approved vaccine to at least a few eligible patients were asked what, if anything, would prevent them from going through with such a recommendation. The different occupations offer differing responses, but a top reason for all is a concern about safety and potential side effects (27% to 38%). Other reasons given by notable proportions of HCPs include if the vaccine was too expensive (11% to 36%), or if they were concerned about effectiveness (14% to 32%). Two in ten midwives would also not recommend a vaccine they felt had not been sufficiently studied, or that was not sufficiently tested; also, 11% would not recommend a vaccine based on the patient's individual choice, and 28 percent would not recommend if they thought the vaccine was not safe for pregnant women. A concern for OB-GYN would be if insufficient data were available (16%), or if it was not being recommended by vaccine expert panels (16%).

Table 42: What would prevent a new vaccine from being recommended?

Q35 Those recommending new vaccines to at least a few eligible patients providing a response	Family physicians (n=81)	Midwives (n=51)	Nurses (n=104)	Pharma-cists (n=108)	OB-GYN (n=43*)	Pedia-tricians (n=73)
Concerned about safety/potential side effects	38%	27%	32%	27%	32%	36%
Too expensive	36%	11%	23%	28%	13%	25%
Concerned about effectiveness	28%	14%	20%	27%	16%	32%
Not publicly funded	8%	11%	6%	4%	6%	11%
How much data is available/unclear data/information	6%	5%	6%	13%	16%	4%
Disease it prevents is not serious	6%	1%	3%	4%	10%	10%
Lack of evidence to support it	6%	8%	4%	2%	11%	2%
If it hasn't been approved by Health Canada/NACI	5%	8%	5%	5%	13%	8%
If studies not strong/insufficient long-term research	4%	22%	15%	8%	1%	-
If not tested enough as of yet	4%	20%	2%	2%	1%	5%
Unclear benefits	4%	1%	2%	1%	-	4%
If not recommended by vaccine expert panels	2%	7%	2%	6%	16%	10%
Prefer to wait until it has been around a while	2%	3%	4%	1%	1%	2%
Alternative treatments available	2%	-	2%	-	-	1%
Bad/allergic reaction to the vaccine	2%	-	1%	5%	-	-
I respect individual choice for optional vaccine	1%	11%	1%	1%	-	1%
If it doesn't apply to patient/ possible interactions with patient's medical treatment/history	1%	-	1%	3%	-	3%
Better vaccine already available	1%	-	-	5%	-	2%
If not safe/recommended for pregnant women/newborn	1%	28%	-	1%	7%	-
Not familiar with the vaccine or its recommendations	-	1%	8%	2%	4%	-
Immunocompromised patients with live vaccine	-	-	<1%	6%	-	4%
Other	5%	9%	1%	5%	4%	3%

Q35 What, if anything, would prevent you from recommending a new vaccine?
BASE: Those recommending new vaccines to at least a few eligible patients providing a response
**NOTE: very small base size (<50) – exercise caution in interpreting results*

D. Individual/personal factors

Inadequate reimbursement can be a barrier to administering vaccinations (for 24% to 64% across occupations). Majorities of nine in ten or more in all occupations agree vaccination is well-accepted by Canadians and that people should be vaccinated to ensure community protection. All occupations (99%- 100%) think it is at least somewhat important for HCPs to give patients advice and information about vaccination, but not all are equally familiar with NACI recommendations (64% to 96%). NACI (35% to 92%), government public health organizations (30% to 77%) and peer-reviewed journals (42% to 67%) are the most trusted vaccination information sources.

1. Incidence of specific barriers to delivery of vaccination

HCPs who administer vaccinations were asked to indicate how much of a barrier each of five situations are to delivery of vaccination in their practice. Majorities in all occupations (56% to 72%) except pediatricians (28%) indicate at least one major or moderate barrier. Inadequate reimbursement is the most noted issue for family physicians (46% say it is a moderate or major barrier) and pharmacists (64%). For midwives, storage and handling is the most noted barrier (49%), and around four in ten midwives mention each of three other barriers: inadequate reimbursement, up-front inventory costs and not giving vaccines often enough. A majority of pediatricians (62%) and a plurality of nurses (44%) say none of these pose a moderate or major barrier.

Table 43: Incidence of specific barriers to delivery of vaccination (% major or moderate barrier)

Q36-39 Health care professionals who administer vaccines	Family physicians (n=76)	Midwives (n=34*)	Nurses (n=106)	Pharma-cists (n=93)	OB-GYN (n=18**)	Pedia-tricians (n=50)
At least one major/moderate barrier	65%	66%	56%	70%	72%	38%
Inadequate reimbursement	46%	37%	33%	64%	(8)	24%
Storing/handling requirements	37%	49%	8%	7%	(9)	17%
Up-front costs of ordering/maintaining inventory	36%	37%	23%	24%	(8)	24%
Not giving vaccines often enough/not part of usual practice	7%	41%	27%	20%	(2)	5%
None are moderate or major barriers	35%	34%	44%	30%	(5)	62%

Q36-39 To what extent are the following barriers to delivery of vaccination in your practice?
Base: health care professionals administering vaccines

**Note very small base size (<50) – exercise caution in interpreting results / **Note extremely small base size (<25) – actual (weighted) n's used (in brackets)*

2. Agreement with statements about acceptance of vaccinations

All HCPs were asked to indicate their level of agreement with four statements about vaccine acceptance. Majorities of nine in ten or more in all occupations agree to some extent people should be vaccinated to ensure community protection and that vaccination is well-accepted by Canadians. Minorities of two in ten or less agree administering vaccinations to adolescents to protect against STIs could increase likelihood of engaging in unprotected sexual activity, and this is especially low among OB-GYN and pediatricians. When it comes to agreement that people should not be required to get vaccinated, over half (55%) of midwives agree to some extent, compared to less than one in five in the other professions; this is consistent with previous research.

The table below shows strong agreement, which is a better differentiator of opinions on these statements. This table also indicates OB-GYN and pharmacists are the least likely to strongly agree vaccination is a well-accepted health practice by Canadians, even though they are about as likely as others to agree overall.

Table 44: Agreement with statements about vaccination

Q40-43	Family physicians (n=100)	Midwives (n=67)	Nurses (n=140)	Pharma-cists (n=129)	OB-GYN (n=59)	Pedia-tricians (n=96)
People should be vaccinated to ensure community protection (i.e. herd immunity)						
Strongly agree	76%	59%	83%	78%	77%	86%
Net agree (strongly and somewhat)	94%	90%	97%	96%	95%	98%
Vaccination is well-accepted as a health practice by Canadians						
Strongly agree	43%	35%	40%	26%	26%	42%
Net agree (strongly and somewhat)	96%	98%	95%	90%	92%	96%
Administering vaccines to protect adolescents against STIs could increase their likelihood of engaging in unprotected sexual activity						
Strongly agree	4%	4%	6%	6%	2%	2%
Net agree (strongly and somewhat)	13%	12%	18%	20%	2%	5%
People should not be required to get vaccinated						
Strongly agree	1%	28%	7%	2%	2%	1%
Net agree (strongly and somewhat)	10%	55%	17%	10%	18%	11%

Q40-43 To what extent do you agree or disagree with the following statements:

3. Incidence of influenza immunization among HCPs

As another indication of personal opinion about vaccine acceptability, HCPs were asked if they themselves received an influenza immunization in the 2018-2019 influenza season. Results ranged from a low of six in ten midwives up to almost all (99%) OB-GYN, indicating majority participation in the program.

Table 45: If personally received an influenza immunization during the 2018-2019 flu season

Q56	Family physicians (n=100)	Midwives (n=67)	Nurses (n=140)	Pharma-cists (n=129)	OB-GYN (n=59)	Pedia-tricians (n=96)
Yes	89%	59%	80%	83%	99%	89%
No	9%	36%	18%	16%	-	9%
Not sure	-	4%	-	1%	-	-
Prefer not to say	1%	1%	2%	1%	1%	1%

Q56 Did you personally receive an influenza immunization during the 2018-2019 flu season?

4. The importance for health care professionals of giving patients advice and information on vaccination

Virtually all (99% to 100%) HCPs feel it is at least a somewhat important role to give patients advice and information about vaccination, and strong majorities in all occupations think it is very important.

Table 46: Importance for health care professionals of giving patients advice and information on vaccination

Q44	Family physicians (n=100)	Midwives (n=67)	Nurses (n=140)	Pharma-cists (n=129)	OB-GYN (n=59)	Pedia-tricians (n=96)
NET: Important	100%	99%	100%	99%	100%	100%
Very important	89%	78%	92%	79%	87%	94%
Somewhat important	11%	20%	8%	20%	13%	6%
NET: Not important	-	1%	-	1%	-	-
Not very important	-	1%	-	1%	-	-
Not at all important	-	-	-	-	-	-

Q44 To what extent do you feel giving patients advice and information on vaccination is an important role for health care professionals like you to play?

5. Level of familiarity with current NACI recommendations for vaccination in Canada

Level of self-assessed familiarity with the current National Advisory Committee on Immunization (NACI) recommendations for vaccination in Canada varies by occupation, from a low of two-thirds of midwives and nurses up to almost all pediatricians. In all cases except pediatricians, which are evenly divided, HCPs are more likely to be somewhat than very familiar.

Table 47: Level of familiarity with the current NACI recommendations

Q45	Family physicians (n=100)	Midwives (n=67)	Nurses (n=140)	Pharma-cists (n=129)	OB-GYN (n=59)	Pedia-tricians (n=96)
NET: Familiar	93%	64%	65%	85%	77%	96%
Very familiar	37%	2%	24%	17%	24%	48%
Somewhat familiar	56%	61%	41%	67%	52%	48%
NET: Unfamiliar	7%	30%	34%	14%	21%	4%
Somewhat unfamiliar	4%	13%	20%	11%	17%	3%
Very unfamiliar	2%	17%	14%	3%	4%	1%
Not sure	-	7%	1%	1%	2%	-

Q45 How familiar do you feel you are with the current National Advisory Committee on Immunization (NACI) recommendations for vaccination in Canada?

6. Level of confidence in ability to communicate with patients about vaccinations

HCPs were asked to indicate how confident they are in their ability to undertake four types of patient communications about vaccinations. Two-thirds or more in all professions are at least somewhat confident in their ability to undertake each type of communication. The table below shows the proportions indicating strong confidence.

Majorities of pediatricians (86%), OB-GYN (79%) and family physicians (66%) are very confident in their ability to recommend vaccinations; similarly, majorities of pediatricians (73%), OB-GYN (60%) and family physicians (57%) are very confident in their ability to effectively provide information on benefits and risks. Seven in ten pediatricians and half of family physicians are also very confident they can answer questions about vaccinations. Half of pediatricians are very confident they can address the concerns of vaccine-hesitant patients; minorities of other occupations have this level of confidence. Smaller minorities of midwives indicate they are very confident to undertake each of the four vaccine-related communications (27% recommend vaccinations, 22% effectively provide information, 8% answer patient questions, and 6% address concerns).

Table 48: Very confident in ability to do vaccine-related communications activities

Q46-49	Family physicians (n=100)	Midwives (n=67)	Nurses (n=140)	Pharma-cists (n=129)	OB-GYN (n=59)	Pedia-tricians (n=96)
Recommend vaccinations to patients	66%	27%	47%	47%	70%	86%
Effectively provide information to patients about the benefits and risks of immunization	57%	22%	44%	48%	60%	73%
Answer patient questions about vaccination	50%	8%	39%	41%	46%	69%
Address the concerns of vaccine hesitant patients	37%	6%	33%	38%	37%	50%

Q46-49 How confident are you in your ability to do the following:

7. Level of trust in vaccination information providers

HCPs were shown a list of sources of vaccination information and asked to indicate their level of trust in each. Majorities at least somewhat trust all sources (54% to 100%), except only one-quarter of midwives and half of OB-GYN trust pharmaceutical companies.

As the overall level of trust for most sources among most professions is very high (from 81% to 100% net trust except for pharmaceutical companies), the table below shows the level of complete trust. These data show complete trust is highest for information provided by NACI for all occupations (63% to 92%) except midwives (35%), who are marginally more likely to completely trust scientific peer-reviewed journals (42%). Government public health organizations also enjoy a high level of complete trust among pediatricians (77%), family physicians (73%), pharmacists (66%) and OB-GYN (62%), as do peer-reviewed journals (52% to 67% of those occupations). Strong trust is somewhat lower for professional organizations (25% to 71%) and colleagues (11% to 43%), but still, close to six in ten or more pharmacists, OB-GYN and pediatricians express strong trust in their respective organizations. Only small minorities completely trust pharmaceutical firms (1% to 14%) as purveyors of vaccination information.

Table 49: Complete trust in vaccination information providers

Q50-55	Family physicians (n=100)	Midwives (n=67)	Nurses (n=140)	Pharma-cists (n=129)	OB-GYN (n=59)	Pedia-tricians (n=96)
The National Advisory Committee on Immunization (NACI)	81%	35%	63%	81%	79%	92%
Government public health organizations	73%	30%	53%	66%	62%	77%
Scientific peer-reviewed journals	65%	42%	53%	63%	52%	67%
Professional organizations representing health care professionals	48%	25%	41%	58%	63%	71%
My professional colleagues	41%	11%	41%	34%	28%	43%
Pharmaceutical companies	9%	1%	12%	14%	2%	11%

Q50-55 How much do you trust the vaccination information provided by the following:

Appendix A: Research methodology

General population survey methodology

Environics conducted an online survey with 2,002 adult residents of Canada from June 14 to July 4, 2019. This consisted of 1,800 general population interviews, and oversamples of 100 each of two key target groups: Indigenous peoples and new Canadians (immigrated in past 10 years). Survey respondents were selected from registered members of an online panel. Since the samples used in online panel surveys are based on self-selection and are not a random probability sample, no formal estimates of sampling error can be calculated. Although opt-in panels are not random probability samples, online surveys can be used for general population surveys provided they are well designed and employ a large, well-maintained panel. Respondents were informed about privacy and anonymity.

Sample design and weighting

The survey used the following sample design:

Table 50: General population survey sample design

Sample	Total	Atlantic	Quebec	Ontario	MB/SK	Alberta	BC	Territories
Population	100%	7%	23%	38%	7%	11%	14%	<1%
Unweighted n	1,800	200	395	475	200	250	275	5
18-29	20%	39	78	94	39	49	54	1
30-44	25%	50	99	118	50	62	69	1
45-54	18%	36	70	85	36	44	49	1
55+	38%	75	148	178	75	94	103	2
Men	49%	99	195	234	99	123	135	3
Women	51%	101	200	241	101	127	140	3

Weighting was used to ensure the final sample is representative of the general population.

Questionnaire design

The questionnaire was designed by Environics, with input from Health Canada and PHAC representatives and academic consultants to the project. The final study questionnaire is included in Appendix B.

Pre-test

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

Prior to finalizing the survey for field, a pre-test (soft launch) was conducted in English and French. The pre-test assessed the questionnaires in terms of question wording and sequencing, respondent sensitivity to specific questions and to the survey overall, and to determine the survey length; standard Government of Canada pre-

testing questions were also asked. As no changes were required following the pre-test, the n=170 responses (149 English, 21 French) have been included in the final data set.

Fieldwork

The survey was conducted by Environics using a secure, fully featured web-based survey environment. The interviews took place from June 14 (soft launch pre-test) to July 4, 2019. The average interview length was 14 minutes.

All respondents were offered the opportunity to complete the surveys in their official language of choice. All research work was conducted in accordance with the Standards for the Conduct of Government of Canada Public Opinion Research – Online Surveys and recognized industry standards, as well as applicable federal legislation (Personal Information Protection and Electronic Documents Act, or PIPEDA).

Completion results

The completion results are presented in the following table.

Table 51: General population survey contact disposition

Disposition		N
Total invitations	(c)	53,304
Total completes	(d)	2,002
Qualified break-offs	(e)	343
Disqualified	(f)	157
Not responded	(g)	47,188
Quota filled	(h)	3,614
Contact rate = (d+e+f+h)/c		12%
Participation rate = (d+f+h)/c		11%

Respondent profile

The following table presents the weighted distribution of participants by key demographic and other variables.

Table 52: General population survey respondent profile

Variable	Total sample
Age	
18-29	19%
30-44	26%
45-54	17%
55-64	18%
65+	21%
Gender	
Female	50%
Male	48%
Gender fluid/non-binary/prefer not to say	1%
Education	
High school or less	22%
Apprentice/college/some university	38%
University graduate/post-graduate	39%
Employment status	
Full time/self-employed	49%
Part time	9%
Not employed (student, unemployed, homemaker etc.)	14%
Retired	25%
Other/prefer not to say	3%
Total annual household income	
Under $40,000	22%
$40,000-<$60,000	17%
$60,000-<$80,000	14%
$80,000-<$100,000	13%
$100,000-<$150,000	16%
$150,000 or more	8%
Prefer not to say	10%
Children	
Any under 18	26%
Any under 6 years old	11%
Any 7 to 12 years old	11%
Any 13 to 17 years old	10%
No children under 18	74%
Community size (self-reported)	
Rural or small (population below 30,000)	21%
Medium-sized (over 30,000 but under 100,000)	23%
Large urban centre (population over>100,000)	56%

Health care provider survey methodology

Environics conducted an online survey with 591 Canadian health care professionals (HCPs), with responses collected from June 17 to September 9, 2019. The survey utilized both an online panel survey using targeted e-mail invitations and an open link, which PHAC provided to professional associations for the purpose of inviting their members to take part. This dual-frame approach was required because the online panel was known to contain insufficient numbers of specialist physicians and midwives to get the desired number of completions.

The majority of completed interviews were obtained using mdBriefCase, a large and diverse online opt-in panel of health care professionals. The sample was randomly drawn from this panel; however, because it is not a random probability sample, the results cannot be extrapolated to the actual HCP population and no margin of sampling error can be calculated. From this portion of the sample, we obtained 483 completed interviews. Midwives were invited to take part in the survey through the Canadian Association of Midwives (CAM), and pediatricians and OB-GYN were also invited via their respective professional associations. These professions used an open link to access the survey. The open links yielded 108 completed interviews by close of field.

Respondents were informed about privacy and anonymity. Those completing the full survey were each paid a $30 incentive for their participation.

Due to disparities in how each type of HCP provides vaccines and the regulatory/professional frameworks for doing so for different types of HCPs in different regions in Canada, no direct statistical comparisons are made between professions and no attempt is made to provide an ‘overall’ measure for HCPs in Canada.

Sample design and weighting

The original sample plan was to capture 600 completed responses, 100 each from each of six professions. For the professions surveyed using mdBriefCase, regional quotas were also set by profession. Regional quotas were initially set but subsequently removed for the professions using open link invitations, to attempt to achieve as many completions as possible. The following table shows the completions achieved by profession and sample source (mdBriefcase or open link invitation).

Table 53: Health care professional survey sample profile

Sample	Total	mdBriefcase	Open link
Unweighted n	**591**	**483**	**108**
Nurses (net)	*140*	*140*	-
- Registered nurses	63	63	-
- Nurse practitioners	56	56	-
- RPNs	21	21	-
GPs/family physicians	100	100	-
Specialists (net)	*155*	*112*	*43*
- Ob/gyn	59	38	21
- Pediatricians	96	74	22
Midwives	67	2	65
Pharmacists	129	129	-

Survey respondents were screened to ensure they practice in Canada and that they administer and/or provide advice about vaccines to patients. The eligibility rate among HCPs who started the survey was 90 percent or more for each HCP type.

Environics employed regional weighting to ensure the sample is as representative of these professions as possible. The table below shows the actual number of completed surveys by region within each health profession. In most cases, the regional distribution of respondents in each profession closely matches population statistics drawn from the 2016 CIHI Health Workforce Survey and the CAM website. As a result, minimal weighting factors were used to ensure the data matched the population distribution. Since no population estimates exist for HCPs who provide vaccines or vaccine advice, the weighting targets are based upon the overall universe of HCP types (regardless of whether they provide vaccines/advice).

Table 54: Unweighted and weighted HCP group counts by region

Region (Unweighted)	Family Physicians	Midwives	Nurses	Pharmacists	OB-GYN	Pediatricians
Total	100	67	140	129	59	96
Atlantic	7	0	18	14	1	7
Quebec	17	4	20	21	5	17
Ontario	45	46	54	41	34	41
Man/Sask	7	2	13	10	2	6
Alberta	13	4	18	20	7	15
BC/Territories	11	11	17	23	10	10
Region (Weighted)	**Family Physicians**	**Midwives**	**Nurses**	**Pharmacists**	**OB-GYN**	**Pediatricians**
Total	100	67	140	129	59	96
Atlantic	7	0	12	10	4	7
Quebec	23	9	33	28	13	23
Ontario	37	34	51	48	22	37
Man/Sask	7	4	10	10	4	6
Alberta	12	5	17	16	9	11
BC/Territories	14	15	17	17	7	12

Questionnaire design

The questionnaire was designed by Environics with input from Health Canada and PHAC representatives and academic consultants to the project. The final study questionnaire is included in Appendix C.

Pre-test

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

Prior to finalizing the survey for field, Environics conducted a pre-test (soft launch) in English and French. Due to the limited nature of the sample, PHAC accepted a smaller number of pretest completes than is normally the case. The pre-test assessed the questionnaires in terms of question wording and sequencing, respondent sensitivity to specific questions and to the survey overall, and to determine the survey length; standard Government of Canada pre-testing questions were also asked. As no changes were required following the pre-test, the n=12 responses (7 English, 5 French) have been included in the final data set.

Fieldwork

The survey was conducted by Environics using a secure, fully featured web-based survey environment. The interviews took place from June 17 (soft launch pre-test) to September 9, 2019. The survey was left over until the morning of September 11. The average interview length was 16 minutes.

To maintain respondent confidentiality, invitations to the survey were managed by mdBriefCase (including a unique URL survey link for each respondent) and the professional associations. All respondents were offered the opportunity to complete the surveys in their official language of choice. All research work was conducted in accordance with the Standards for the Conduct of Government of Canada Public Opinion Research – Online Surveys and recognized industry standards, as well as applicable federal legislation (Personal Information Protection and Electronic Documents Act, or PIPEDA).

Completion results

The completion results for the mdBriefcase portion of the survey are presented in the following table.

Table 55: Contact disposition of mdBriefcase sample

Disposition		N
Total invitations	(c)	86,565
Total completes	(d)	483
Qualified break-offs	(e)	259
Disqualified	(f)	97
Not responded	(g)	83,169
Quota filled	(h)	2,557
Contact rate = (d+e+f+h)/c		4%
Participation rate = (d+f+h)/c		4%

Reminder emails were sent to attempt to reach those not yet completing the survey who were sent an initial invite via mdBriefcase (MDBC), to maximize contact rate and minimize the effects of nonresponse bias. The professional associations handled reminders to their membership; Information on the number of invitations or reminders sent by the professional associations has not been provided.

The disposition of those clicking through to the survey is as follows.

Table 56: Health care professional survey sample disposition

Disposition by invitation type		Total	MDBC list	Open link: Pediatricians	Open link: OB/Gyn	Open link: Midwives
Click-through	A	**3,714**	3,396	115	65	138
- Partial completes	B	**398**	259	54	26	59
- Terminates	C	**110**	97	1	3	9
- Overquota	D	**2,615**	2,557	39	14	5
Qualified completes	E	**591**	483	21	22	65
Participation rate (C+D+E)/A		**89%**	92%	53%	60%	57%
Incidence (E+D)/(A-B)		**97%**	97%	98%	92%	89%

Limitations of the methodological approach

The mdBriefCase panel contains more than 100,000 HCPs. In most cases the panel also appears to be regionally representative of each health care profession. We believe this research provides a broad and solid understanding of the attitudes and opinions of HCPs. However, there are some limitations to be taken into consideration when interpreting the results.

- The mdBriefCase sample was randomly drawn from an opt-in panel and thus is not a probability sample. For this reason, the results cannot be extrapolated to the total population of these health care professions and no margin of sampling error can be calculated.
- Every attempt was made to include specialists and midwives, however, the interviews completed fell short of 100 for midwives and OB-GYN and, in some locations (notably the Atlantic region), there were no completed interviews achieved within these groups. However, there is a sufficient number in each profession to understand their responses as a whole.
- The contact rate among all HCPs contacted via mdBriefcase was four percent. This rate is typical for public opinion research studies conducted with an online panel of professional respondents. The mdBriefCase panel is typically used to provide Continuing Medical Education (CME) and not for custom surveys; this may have impacted the level of participation.
- Respondents were informed up front in the survey invitation about the topic of the survey and that the survey was being conducted on behalf of the Public Health Agency of Canada. This may introduce bias into the sample, since HCPs who hold less socially desirable opinions on vaccination may have chosen not to participate.
- Weighting was applied to the data to correct for regional imbalances within each profession to the extent possible. The weighting targets used are based on CIHI estimates and CAM statistics for each profession, but this survey was conducted with only the subgroup administering vaccines or providing vaccine advice. As the proportion of each HCP profession who do vaccinate/provide advice may vary from province to province (dependable estimates in this respect are not available), the weighting may have introduced a bias.

Respondent profile

This table presents the weighted distribution of survey participants by key demographic and other variables.

Table 57: Health care professional survey respondent profile

Variable	Family physicians (n=100)	Midwives (n=67)	Nurses (n=140)	Pharma-cists (n=129)	OB-GYN (n=59)	Pedia-tricians (n=96)
Primary place of practice - setting						
Paediatric hospital setting	-	1%	3%	1%	5%	28%
Other hospital setting	5%	8%	22%	12%	59%	12%
Family medicine clinic	88%	12%	13%	2%	14%	14%
Public Health clinic/setting	1%	9%	31%	-	3%	2%
Long term care residence	2%	-	10%	2%	-	-
Homecare setting	-	2%	4%	-	-	-
Pharmacy	-	1%	3%	83%	-	-
School setting	2%	-	4%	-	-	-
Other	1%	67%	10%	-	20%	43%
Primary place of practice - community size						
Large (>100k)	68%	74%	62%	64%	73%	77%
Medium (30k to 100)	15%	9%	23%	21%	23%	19%
Small (1k to <30k)	11%	15%	9%	14%	3%	5%
Rural (under 1k)	5%	1%	2%	1%	-	-
First Nations (on-reserve)	1%	-	4%	-	-	-
Age						
NET: <40	20%	50%	46%	54%	22%	16%
<30	4%	19%	19%	14%	2%	4%
30-39	15%	31%	28%	39%	20%	12%
NET: 40+	80%	50%	54%	46%	78%	84%
40-49	32%	33%	23%	20%	37%	29%
50-59	24%	11%	25%	17%	21%	24%
60+	24%	6%	5%	10%	20%	31%
Gender						
Female	51%	89%	95%	59%	68%	65%
Male	46%	5%	5%	37%	31%	35%
Gender fluid/diverse/non-binary	1%	4%	-	-	-	-
Prefer not to answer	1%	2%	0%	5%	1%	-

Appendix B: General population survey questionnaire

Environics Research Group
June 10th 2019

Public Health Agency of Canada / Agence de la santé publique du Canada
Vaccine Acceptability Survey – General population

Questionnaire

Online survey conducted with n=2,000 adult residents of Canada:

1800 gen pop plus oversample of 100 Indigenous peoples and 100 New Canadians;
15-minute average length

LANDING PAGE / PAGE D'ACCUEIL

Please select your preferred language for completing the survey / Veuillez choisissez votre langue préférée pour remplir le sondage
01 – English / Anglais
02 – Français / French

Welcome to this survey about vaccinations. The survey is being conducted by Environics Research, an independent research company, on behalf of the Public Health Agency of Canada. The survey will take about 15 minutes of your time.

About this survey

What about your personal information?

- The personal information you provide to the Public Health Agency of Canada is governed in accordance with the *Privacy Act* and is being collected under the authority of section 4 of the Department of Health Act in accordance with the *Treasury Board Directive on Privacy Practices*. We only collect the information we need to conduct the research project.
- **Purpose of collection:** We require your personal information such as demographics (e.g. age, gender) to better understand the topic of the research. However, your responses are always combined with the responses of others for analysis and reporting; you will never be identified.
- **For more information:** This personal information collection is described in the standard personal information bank Public Communications – PSU 914, in Info Source, available online at infosource.gc.ca.
- **Your rights under the *Privacy Act*:** In addition to protecting your personal information, the *Privacy Act* gives you the right to request access to and correction of your personal information. For more information about these rights, or about our privacy practices, please contact the Public Health Agency of Canada at phac.privacy-vieprivee.aspc@canada.ca. You also have the right to file a complaint with the Privacy Commissioner of Canada if you think your personal information has been handled improperly.
- Your personal information will be collected, used, retained and disclosed by Environics in accordance with the applicable provincial privacy legislation or the Personal Information Protection and Electronic Documents Act (PIPEDA). Please click here to review Environics' privacy policy.
- Your survey answers will remain anonymous and will not be attributed to you in any way.

What happens after the survey?

- The final report written by Environics will be available to the public from Library and Archives Canada (http://www.bac-lac.gc.ca/).

If you have any questions about the survey, please contact Environics at Brenda.sharpe@environics.ca.

< PROGRAMMING NOTE: All questions are mandatory unless otherwise indicated.>

Screening

1. In what year were you born?
   DROP DOWN LIST – SEE QUOTAS

   99-Prefer not to answer ASK Q2

IF UNDER 18 THANK AND TERMINATE

2. [IF Q1=99] Would you be willing to indicate in which of the following age categories you belong?
   Select one only
   SEE QUOTAS

   01-Under 18 THANK AND TERMINATE
   02-18 to 29
   03-30 to 44
   04-45 to 54
   05-55 to 64
   06-65 or older
   99-Prefer not to answer DO NOT TERMINATE, ALLOW TO MOVE FORWARD

3. In what province or territory do you live?
   Select one only
   DROP DOWN LIST – SEE QUOTAS

   01 British Columbia
   02 Alberta
   03 Saskatchewan
   04 Manitoba
   05 Ontario
   06 Quebec
   07 New Brunswick
   08 Nova Scotia
   09 Prince Edward Island
   10 Newfoundland and Labrador
   11 Yukon
   12 Northwest Territories
   13 Nunavut

4. How do you identify yourself?
Select one only – SEE QUOTAS

01-Female (~50%)
02-Male (~50%)
03-Gender fluid or diverse, or non-binary – NO QUOTA
04-Other cultural gender identity (e.g. Indigenous two-spirit) – NO QUOTA
99-Prefer not to answer

5. In what country were you born?

01-Canada SKIP TO Q.7
02-Another country

6. When did you come to Canada?

01-Before 2009
02-2009 or later NEWCOMER QUOTA (N=100)

7. [IF Q5=01] Are you an Indigenous person, that is, First Nations, Inuk or Métis?
Select one only

01 First Nations (status or non-status) INDIGENOUS QUOTA (N=100)
02 Inuk/Inuit INDIGENOUS QUOTA (N=100)
03 Métis INDIGENOUS QUOTA (N=100)
04 I am not an Indigenous person

8. Do you have children in any of the following age groups?
Select all that apply

01 0-6 years
02 7-12 years
03 13-17 years
04 None of the above [SINGLE PUNCH]

Conjoint exercise

INTRO PAGE

This survey is about vaccinations (sometimes referred to as “shots”) given to protect against disease.

In this next section, **please imagine that you are in a doctor’s office or clinic.** The doctor or nurse offers you a vaccine that can be given immediately and doesn’t cost you anything.

The next page will present information about two different vaccines and ask which option you **would choose to receive for yourself**.

These vaccines are like others available today. The name of the vaccine and the disease are not mentioned so that you can focus on other aspects of the vaccine when you make your choice.

If you wouldn't choose either of the vaccines, you can indicate that by choosing "Neither of these".

This exercise will be repeated several times with different vaccines.

It is important that you answer in the way you would if you were **actually choosing which vaccine to receive**. There are no right or wrong answers, so please answer according to how you feel.

Please click >> to continue

[insert page break]

9. If you are offered a vaccine, and these are the only options available, which ONE would you choose for yourself?
   [ADD SCREEN COUNTER: ‘# of 10’]

Factors in Matrix	Attributes	Levels
Vaccine (perceptions of)	Vaccine effectiveness	a) Protects **half** (50%) of vaccinated persons b) Protects **almost all** (90%) of vaccinated persons
Vaccine (perceptions of)	Vaccine safety	a) Mild side-effects **commonly** occur (in 40% of vaccinated persons) and severe side effects are highly unlikely b) Mild side-effects **rarely** occur (in 5% of vaccinated persons) and severe side effects are highly unlikely
Disease (perceptions of)	Burden of disease	a) The vaccine protects against a disease that is often **severe** (life-threatening and often requires hospitalization) b) The vaccine protects against a disease that is often **mild** (not life-threatening and rarely requires hospitalization)
Disease (perceptions of)	Susceptibility to the disease	a) The vaccine protects against a disease that is **rare** (5% of unvaccinated persons have the disease during their lifetime) b) The vaccine protects against a disease that is **common** (90% of unvaccinated persons will have the disease during their lifetime)

Perceptions of vaccines

(e.g. efficacy, number of injections, route of administration, safety concerns, perceived benefits)

Please indicate how much you disagree or agree with the following statements:
Randomize order 10-12

10. In general, vaccines are safe (5C)

11. In general, vaccines are an effective way to reduce the risk of disease (5C)

12. When everyone is vaccinated, I don't have to get vaccinated too (5C)

    01 Strongly agree
    02 Somewhat agree
    03 Neither agree nor disagree
    04 Somewhat disagree
    05 Strongly disagree
    99 Not sure

13. NO CHILDREN (Q8=04) In your lifetime, how often have you been **reluctant to receive** a vaccine recommended by a healthcare professional?

    HAVE CHILDREN (Q8=01-03) In their lifetime, how often have you been **reluctant for your child/children to receive** a vaccine recommended by a healthcare professional?

    01 Always
    02 Often
    03 Sometimes
    04 Rarely
    05 Never
    99 Not sure

14. Please indicate below if there are any vaccines [IF Q8=04: you are reluctant to receive] [IF Q8=01-03: you are reluctant for your child/children to receive], for any reason.
Select all that apply

	IF Q8= 01: **Vaccines for infants**
01	Diphtheria, tetanus, pertussis, polio, haemophilus influenzae type B (DTaP-IPV-Hib)
02	Diphtheria, tetanus, pertussis, hepatitis B, polio, haemophilus influenzae type B (DTaP-HB-IPV-Hib)
03	Hepatitis A (HA)
04	Hepatitis B (HB)
05	Hepatitis A & B (HAHB)
06	Measles, Mumps, Rubella (MMR)
07	Measles, Mumps, Rubella, Varicella (MMRV)
08	Varicella (chickenpox)
09	Meningococcal
10	Pneumococcal
11	Rotavirus
75	There are no infant vaccines I am reluctant for my child/children to receive
	IF Q8=01-03: **Vaccines for children and adolescents**
21	Diphtheria, tetanus, pertussis, polio (DTaP-IPV) / Tetanus, diphtheria, pertussis, polio (Tdap-IPV)
22	Tetanus, diphtheria, pertussis (Tdap)
23	Hepatitis A (HA)
24	Hepatitis B (HB)
25	Hepatitis A & B (HAHB)
26	Measles, Mumps, Rubella (MMR)
27	Measles, Mumps, Rubella, Varicella, (MMRV)
28	Varicella (chickenpox)
29	Meningococcal
30	Human papillomavirus (HPV)
76	There are no child/adolescent vaccines I am reluctant for my child/children to receive

IF Q8=04: **Vaccines for adults**	
31	Tetanus, diphtheria (Td)
32	Tetanus, diphtheria, pertussis (Tdap)
33	Hepatitis A (HA)
34	Hepatitis B (HB)
35	Hepatitis A & B (HAHB)
36	Shingles zoster vaccine live (Zostavax)
37	Shingle recombinant zoster vaccine (Shingrix)
38	Meningococcal
39	Pneumococcal
40	Human papillomavirus (HPV)
41	Inactivated influenza
42	Live attenuated influenza (LAIV)
77	There are no adult vaccines I am reluctant to receive

15. IF ANY VACCINE AT 14: What is the main reason why you are reluctant [IF Q8=01-03: for your children] to receive certain vaccines?
RANDOMIZE ORDER OF 01-13
Please select only one

01 Concerned about ingredient safety/potential side effects
02 Concerned that vaccine doesn't work/won't prevent disease
03 Don't need it/healthy
04 The disease it prevents no longer exists or is very rare
05 Too expensive/have to pay out of pocket/not covered
06 Too many vaccines given all at once
07 Too many doses required for full protection
08 Dislike/scared of needles
09 Prefer oral/inhaled vaccine
10 Can't easily get vaccinated/no access
11 Prefer natural remedies/prevention
12 Wasn't recommended by a health care provider
13 Bad past experience with vaccines
88 Other, please specify:
99 Not sure

16. What would you say is the most important reason why you get vaccinated?
RANDOMIZE ORDER OF 01-05
Select only one

01 Protecting myself/staying healthy
02 Protecting my family from disease
03 Illness is less severe if you do get sick
04 Eliminating or decreasing the rate of disease in society
05 Protecting people with weaker immune systems/those who cannot be vaccinated
96 There are no benefits to vaccinations/I don't get vaccinated
98 Other (SPECIFY)
99 Not sure

17. Are there any risks you are concerned about related to vaccination?
RANDOMIZE ORDER OF 01-04
Select up to three

01 Doesn't work/doesn't help protect against disease
02 Risk of serious side effects
03 They compromise the ability of the body to defend itself against disease
04 Contain harmful/toxic chemicals
96 There are no risks from vaccination [SINGLE PUNCH]
98 Other (SPECIFY)
99 Not sure [SINGLE PUNCH]

Perceptions of diseases

(e.g. burden of illness, groups at risk, personal risk, severity)

Please indicate how much you disagree or agree with the following statements:
Randomize order 18-21

18. Vaccination is unnecessary because vaccine-preventable diseases are not common anymore (5C)

19. I get vaccinated because I can help protect people with weaker immune systems

20. I need to get vaccinated to protect others at home or in my workplace from getting sick

21. I am confident public authorities make vaccine recommendations that are in the best interests of the community

    01 Strongly agree
    02 Somewhat agree
    03 Neither agree nor disagree
    04 Somewhat disagree
    05 Strongly disagree
    99 Not sure

22. For which types of people do you believe vaccination against disease is most important?
    RANDOMIZE 01-08
    Select all that apply

    01 People with pre-existing health problems
    02 Seniors age 65+
    03 Infants/children/young people
    04 Women during pregnancy
    05 People with low/weak immune systems
    06 Healthy adults age 18-64
    07 Health care workers
    08 New immigrants and refugees
    98 Other (PLEASE SPECIFY)
    99 Not sure [SINGLE PUNCH]

Vaccination process

(e.g. access to vaccine (opportunity), cost, past vaccine experience)

23. Personally, have you ever had a negative experience or reaction after a vaccination?
RANDOMIZE 01-03
Select all that apply

01 Rash
02 Soreness
03 Fever
98 Other (PLEASE SPECIFY)
97 No difficulties after a vaccination [SINGLE PUNCH]
98 I don't get vaccinated [SINGLE PUNCH]
99 Not sure [SINGLE PUNCH]

24. To what extent do you agree or disagree that everyday stress prevents you from getting [IF Q8=01-03: your child/children] vaccinated? (5C)

01 Strongly agree
02 Somewhat agree
03 Neither agree nor disagree
04 Somewhat disagree
05 Strongly disagree
99 Not sure [SINGLE PUNCH]

25. Do any of the following make it difficult or inconvenient for you to receive vaccinations?
RANDOMIZE 01-06
Select all that apply

01 Distance/far from location where vaccinations are provided
02 Scheduling an appointment for a vaccination
03 Long wait times to get in to see a physician/health care provider
04 Office hours of physician/healthcare provider/clinic
05 Not having a regular healthcare provider/family physician
06 Having other priorities/too busy
97 None of the above [SINGLE PUNCH]
98 Other (PLEASE SPECIFY)
99 Not sure [SINGLE PUNCH]

26. How comfortable are you with the healthcare professional (e.g., doctor, nurse, pharmacist) who would provide vaccinations for you and your family?

01 Very comfortable
02 Somewhat comfortable
03 Not very comfortable
04 Not at all comfortable
98 Not applicable
99 Not sure

27. How much priority do you place on protecting against vaccine-preventable diseases compared to other health issues facing you and your family?

    01 High priority
    02 Moderate priority
    03 Low priority
    04 Not a priority at all
    99 Not sure

Individual/personal factors

(e.g. belief system, self-efficacy (belief in ability to get vaccinated), past vaccination behaviours, (perceived) personal health, social norms and pressures, trust in/recommendation from health care providers/experts/ industry/system)

28. [Q8=04] To the best of your knowledge, have you received all the vaccines required for someone your age?

    [Q8=01-03] To the best of your knowledge, has your child/children received all the vaccines required for someone their age?

    01 Yes
    02 No
    99 Not sure

29. When a healthcare provider recommends that [IF Q8=04: you / Q8=01-03: your child/children] receive a vaccine that is newly approved for use in Canada, how likely are you to get [Q8=01-03: your child/children] vaccinated?

    01 Very likely
    02 Somewhat likely
    03 Not very likely
    04 Not at all likely
    99 Not sure

30. Is vaccination an accepted healthcare practice in your household?

    01 Yes
    02 No
    99 Not sure

31. [IF Q30=02] What are the main reasons why vaccination is not an accepted healthcare practice in your household?

    OPEN-ENDED

To what extent do you agree or disagree with the following statements:
RANDOMIZE 32-36

32. People should be vaccinated to prevent the spread of disease in the community

33. People should not be required to get vaccinated

34. [IF Q8=01-03] I do not believe in vaccinating teenagers to protect against sexually transmitted infections

35. When I think about getting vaccinated, I weigh benefits and risks to make the best decision possible. (5C)

36. In general, I find medical procedures or injections [Q8=01-03: for my child/children] to be very stressful

    01 Strongly agree
    02 Somewhat agree
    03 Neither agree nor disagree
    04 Somewhat disagree
    05 Strongly disagree
    99 Not sure

37. Do you feel that you know enough about vaccination?

    01 Yes
    02 No
    99 Not sure

How much do you trust the vaccination information provided by the following:
RANDOMIZE 38-43

SHOW AS GRID, NOT CAROUSEL

38. Mainstream health care providers (e.g., doctors, nurses, pharmacists)

39. Alternative health care providers (e.g. naturopaths, homeopaths, acupuncturists, chiropractors)

40. Government public health organizations

41. Pharmaceutical companies

42. My family and friends

43. Leaders of cultural or religious groups

    01 Trust completely
    02 Trust somewhat
    03 Neither trust nor distrust
    04 Distrust somewhat
    05 Distrust completely
    99 Not sure

Demographics

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

44. To the best of your knowledge, do you or does someone else living in your household, currently have or ever been diagnosed with any of the following conditions?
Select all that apply

01 Asthma or another chronic lung disease such as emphysema, chronic bronchitis or cystic fibrosis
02 A heart condition such as angina, high blood pressure, heart failure, heart attack
03 Cancer
04 Diabetes (Type 1, Type 2 or Juvenile)
05 Chronic liver disease, for example, liver cirrhosis
06 Chronic kidney disease/dialysis
07 Immune disorder or immune suppression such as chemotherapy, radiation, steroid use or an organ transplant.
08 Spleen problems or removal
09 Neurological disorders such as brain tumors, epilepsy or Parkinson's disease
10 Chronic inflammatory disease such as rheumatoid arthritis, Crohn's disease or lupus
11 A problem with hemoglobin in the blood, sickle cell anemia or thalassemia
97 None of the above [SINGLE PUNCH]
99 Prefer not to say

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

01 - Some high school or less
02 - High School diploma or equivalent
03 - Registered Apprenticeship or other trades certificate or diploma
04 - College, CEGEP or other non-university certificate or diploma
05 - University certificate or diploma below bachelor's level
06 - Bachelor's degree
07 - Post graduate degree above bachelor's level
99 – Prefer not to say

46. Which of the following categories best describes your current employment status?

01 - Working full-time, that is, 35 or more hours per week
02 - Working part-time, that is, less than 35 hours per week
03 - Self-employed
04 - Unemployed, but looking for work
05 - A student attending school full-time/part-time
06 - Retired
07 - Not in the workforce (full-time homemaker, unemployed and not looking for work)
97 - Other [DO NOT SPECIFY]
99 - Prefer not to say

47. Which of the following categories best describes your total household income? That is, the total income of all persons in your household combined, before taxes?

    01 – Under $20,000
    02 - $20,000 to just under $40,000
    03 - $40,000 to just under $60,000
    04 - $60,000 to just under $80,000
    05 - $80,000 to just under $100,000
    06 - $100,000 to just under $150,000
    07 - $150,000 and above
    99 – Not sure/Prefer not to say

48. Which of the following best describes the area where you live?
    Select one only

    01 Large urban population centre (>100,000 individuals)
    02 Medium population centre (30,000 to 100,000 individuals)
    03 Small population centre (1000 to 29,999 individuals)
    04 Rural location (under 1000 individuals)
    05 First Nations community (on-reserve)

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

LANDING END PAGE LINK TO

ENGLISH: Canada.ca/vaccines
FRENCH: Canada.ca/vaccins

Appendix C: Health care provider survey questionnaire

Environics Research Group
June 6, 2019

Public Heath Agency of Canada / Agence de la santé publique du Canada
Vaccine Acceptability Survey – Heath Care Professionals

Questionnaire

Online survey conducted with n=600 health care providers:

100 each with GPs, pediatricians, OBGYNs, nurses, pharmacists and midwives;
15-minute average length

E-MAIL INVITATION

Subject line: The Public Health Agency of Canada wants to hear from you about vaccination.

Dear [CONTACT],

You are invited to participate in an online survey about vaccination, an important issue facing healthcare professionals. The survey is being conducted by Environics Research, an independent research company, on behalf of the Public Health Agency of Canada.

Participants who qualify and complete the survey will receive a $30 (CAD) Virtual Visa electronic Gift card!

The survey will take about 15 minutes to complete. You will be asked about your experiences with and opinions about vaccine practices. The survey is voluntary and your responses will be kept entirely confidential and anonymous. Your decision on whether or not to participate will not affect any dealings you may have with the Government of Canada. Please do NOT include personal information or information about specific cases in your answers to the survey questions.

If you don't have time to complete the survey in one sitting, you can return to it by clicking on the link below again. Once the survey period closes on [DATE], if you decide not to complete the entire survey, your answers will not be retained.

Please click on the following link to complete the survey:

INSERT LINK

If you have any questions about the survey, please contact Brenda Sharpe of Environics Research by phone (613-699-6886) or email (brenda.sharpe@environics.ca).

LANDING PAGE / PAGE D'ACCUEIL

Welcome and thank you for your interest in our survey / Bienvenue et merci de l'intérêt que vous portez à ce sondage.

Please select your preferred language for completing the survey / Veuillez choisissez votre langue préférée pour remplir le sondage

01–English / Anglais

02 – Français / French

PAGE BREAK

PUT IN BOX

About this survey

What about your personal information?

- The personal information you provide to the Public Health Agency of Canada is governed in accordance with the *Privacy Act* and is being collected under the authority of section 4 of the Department of Health Act in accordance with the *Treasury Board Directive on Privacy Practices*. We only collect the information we need to conduct the research project.
- **Purpose of collection:** We require your personal information such as demographics (e.g. age, gender) to better understand the topic of the research. However, your responses are always combined with the responses of others for analysis and reporting; you will never be identified.
- **For more information:** This personal information collection is described in the standard personal information bank Public Communications – PSU 914, in Info Source, available online at infosource.gc.ca.
- **Your rights under the *Privacy Act*:** In addition to protecting your personal information, the *Privacy Act* gives you the right to request access to and correction of your personal information. For more information about these rights, or about our privacy practices, please contact the Public Health Agency of Canada at phac.privacy-vieprivee.aspc@canada.ca. You also have the right to file a complaint with the Privacy Commissioner of Canada if you think your personal information has been handled improperly.
- Your personal information will be collected, used, retained and disclosed by Environics in accordance with the applicable provincial privacy legislation or the Personal Information Protection and Electronic Documents Act (PIPEDA). Please click here to review Environics' privacy policy.
- Your survey answers will remain anonymous and will not be attributed to you in any way.

What happens after the survey?

- The final report written by Environics will be available to the public from Library and Archives Canada (http://www.bac-lac.gc.ca/).

If you have any questions about the survey, please contact Environics at Brenda.sharpe@environics.ca

< PROGRAMMING NOTE: All questions are mandatory unless otherwise indicated.>

Screening

1. In what province or territory do you practice?
   Select one only
   DROP DOWN LIST – SEE QUOTAS

   01 British Columbia
   02 Alberta
   03 Saskatchewan
   04 Manitoba
   05 Ontario
   06 Quebec
   07 New Brunswick
   08 Nova Scotia
   09 Prince Edward Island
   10 Newfoundland and Labrador
   11 Yukon
   12 Northwest Territories
   13 Nunavut
   98 Practicing outside Canada THANK AND TERMINATE: "Thank you. We are only looking for professionals working in Canada at this time."

2. What is your **primary** profession?
   Select one only
   01 Registered Nurse (RN)
   02 Nurse Practitioner
   03 Family Physician/General Practitioner/Resident
   04 Obstetrician/Gynecologist/Resident
   05 Paediatrician/Neonatalist/Resident
   06 Midwife (RM or AM)
   07 Pharmacist
   08 Registered Practical Nurse/RPN or Licensed Practical Nurse/LPN
   88 Other THANK AND TERMINATE

   TERMINATE IF N=100 ACHIEVED IN PROFESSION
   01+-02 + 08 +09 – 100 MDCONNECT
   03 – 100 MDCONNECT
   04 EST 10 MDCONNECT, 90 OPEN LINK
   05 EST 50 MDCONNECT, 50 OPEN LINK
   06 – OPEN LINK ONLY, TAKE FIRST 100
   07 – 100 MDCONNECT

3. Do you **administer** vaccines to, or **discuss** vaccines with, your patients?
For the purposes of this survey, the term "patients" means your patients or clients. If a patient is a child, please think about their parents or caregivers.
Select one only

01 Both administer vaccines and discuss vaccines with patients
02 Discuss vaccines but do not administer
03 Administer vaccines but do not discuss vaccines with patients
04 Neither THANK AND TERMINATE: "Thank you. We are only looking for professionals who administer or discuss vaccines at this time."

4. To whom do you (IF 01 OR 03 AT Q3: administer/IF 02 AT Q3 discuss) vaccines?
Select all that apply

01 Infants/young children (0-6yrs)
02 Children (7-17yrs)
03 Adults (18-64yrs)
04 Seniors (65yrs+)
05 Pregnant women
06 High-risk groups (people at higher risk of disease or with low immunization rates, e.g. chronic conditions, long term care residents, low socio-economic status)
99 Other (DO NOT SPECIFY) IF ONLY 99 SELECTED, TERMINATE

5. For approximately how many years have you been (IF 01 OR 03 AT Q3: administering vaccines?/IF O2 AT Q3: discussing vaccines with your patients?)
Select one only

01 Less than 1 year
02 1 to 5 years
03 6 to 15 years
04 More than 15 years

Perceptions of vaccines

(e.g. efficacy, number of injections, route of administration, safety concerns, perceived benefits)

Please indicate how much you disagree or agree with the following statements:
Randomize order

6. In general, vaccines are safe

7. In general, vaccines are an effective way to reduce the risk of disease

8. In general, vaccines have benefits that outweigh their risks

9. Canadian children are receiving too many vaccines

   01 Strongly agree
   02 Somewhat agree
   03 Neither agree nor disagree
   04 Somewhat disagree
   05 Strongly disagree
   99 Not sure

10. In your career, how often have you been **reluctant to recommend** a vaccine to a patient for whom it was indicated?

    01 Often
    02 Sometimes
    03 Rarely
    04 Never
    99 Not sure

11. Please indicate below if there are any vaccines you are reluctant to recommend to patients, for any reason.
Select all that apply
RECORD RESPONSE FOR EACH AGE GROUP ASKED ABOUT

IF Q4= 01: **Vaccines for infants**	
01	Diphtheria, tetanus, pertussis, polio, haemophilus influenzae type B (DTaP-IPV-Hib)
02	Diphtheria, tetanus, pertussis, hepatitis B, polio, haemophilus influenzae type (DTaP-HB-IPV-Hib)
03	Hepatitis A (HA)
04	Hepatitis B (HB)
05	Hepatitis A & B (HAHB)
06	Measles, Mumps, Rubella (MMR)
07	Measles, Mumps, Rubella, Varicella (MMRV)
08	Varicella (chickenpox)
09	Meningococcal
10	Pneumococcal
11	Rotavirus
75	There are no infant vaccines I am reluctant to recommend [EXCLUSIVE]
IF Q4=02: Vaccines for children and adolescents	
21	Diphtheria, tetanus, pertussis, polio (DTaP-IPV) / Tetanus, diphtheria, pertussis, polio (Tdap-IPV)
22	Tetanus, diphtheria, pertussis (Tdap)
23	Hepatitis A (HA)
24	Hepatitis B (HB)
25	Hepatitis A & B (HAHB)
26	Measles, Mumps, Rubella (MMR)
27	Measles, Mumps, Rubella, Varicella, (MMRV)
28	Varicella (chickenpox)
29	Meningococcal
30	Human papillomavirus (HPV)
76	There are no child/adolescent vaccines I am reluctant to recommend [EXCLUSIVE]

IF Q4=03/04/05/06: Vaccines for adults
31 Tetanus, diphtheria (Td)
32 Tetanus, diphtheria, pertussis (Tdap)
33 Hepatitis A (HA)
34 Hepatitis B (HB)
35 Hepatitis A & B (HAHB)
36 Shingles zoster vaccine live (Zostavax)
37 Shingle recombinant zoster vaccine (Shingrix)
38 Meningococcal
39 Pneumococcal
40 Human papillomavirus (HPV)
41 Inactivated influenza
42 Live attenuated influenza (LAIV)
77 There are no adult vaccines I am reluctant to recommend [EXCLUSIVE]

12. IF ANY VACCINE AT Q11, ASK Q12 ONCE: What are the main reasons why you are reluctant to recommend certain vaccines?
RANDOMIZE ORDER OF 01-12
Select all that apply

01 Concerned about safety/potential side effects
02 Concerned about vaccine effectiveness
03 The disease it prevents is not serious
04 The disease it prevents no longer exists or is very rare
05 Not publicly funded
06 Too expensive
07 Too many doses required to complete the schedule
08 Too invasive (injection vs. oral/inhaled)
09 Complex to store/handle
10 Low potential for herd immunity
11 Alternative treatments available
12 Not familiar with the vaccine or its recommendations
88 Other, please specify:
99 Not sure [SINGLE PUNCH]

13. What would you say are the most important benefits of vaccinations, if any?
RANDOMIZE ORDER OF 01-06
Select up to three

06 Protecting people from diseases/saving lives
07 Reducing disease severity
08 Eradicating or decreasing the rate of diseases
09 Protecting immunocompromised/vulnerable people via herd immunity
10 Cost-effective health intervention
11 Low risk compared to natural infection
96 There are no benefits to vaccinations [EXCLUSIVE]
98 Other (SPECIFY)
99 Not sure [EXCLUSIVE]

14. What would you say are the most notable drawbacks of vaccinations, if any?
RANDOMIZE ORDER OF 01-05
Select up to three

05 Lack of effectiveness against disease
06 Not cost effective
07 Risk of serious side effects
08 They compromise the ability of the body to defend itself against disease
09 Contain harmful/toxic chemicals
96 There are no drawbacks to vaccinations EXCLUSIVE]
98 Other (SPECIFY)
99 Not sure [EXCLUSIVE]

To what extent do you agree or disagree with the following statements:
RANDOMIZE ORDER OF 15-16

15. Administering multiple vaccines at a single visit could reduce their efficacy (RANDOMLY ADD IF Q4=01 OR 02: in children)

16. Administering multiple vaccines at a single visit could overwhelm the immune system (RANDOMLY ADD IF Q4=01 OR 02: of children)
Select one for each

01 Strongly agree
02 Somewhat agree
03 Neither agree nor disagree
04 Somewhat disagree
05 Strongly disagree
99 Not sure

Perceptions of diseases

(e.g. burden of illness, groups at risk, personal risk, severity)

How important are the following factors to you when deciding to recommend vaccinations?
RANDOMIZE ORDER OF FACTORS

17. If the disease is very common (i.e., most unvaccinated persons will have it during their lifetime)

18. If the disease is very serious (i.e., it is life-threatening and often requires hospitalization)

19. If the disease is very contagious/easy to contract

20. If the disease is likely to return or spread if people are not vaccinated against it

21. If there are better means of preventing the disease

22. If treating the disease is safer than vaccinating against it
Select one for each

01 Very important
02 Somewhat important
03 Neither important nor unimportant
04 Not very important
05 Not at all important
99 Not sure

23. In your opinion are vaccine-preventable diseases becoming more or less common in Canada, or is the rate staying about the same?
Select one

01 More common
02 About the same
03 Less common
99 Not sure

For which types of people do you believe vaccination against disease is most important?
RANDOMIZE ORDER

24. People with pre-existing health problems

25. People with compromised immune systems

26. Seniors age 65+

27. Infants and children

28. Pregnant women

29. Health care workers

30. Healthy adults age 18-64

31. New immigrants and refugees

Select one for each

01 Very important
02 Somewhat important
03 Neither important nor unimportant
04 Not very important
05 Not at all important
99 Not sure

Vaccination process

(e.g. access to vaccine (opportunity), cost, past vaccine experience)

32. How often do you (IF Q3=01 OR 03: administer vaccines) (IF Q3=-02: discuss vaccines with your patients)?
Select one

01 Daily
02 A few times a week
03 About once a week
04 Less often than once a week
98 It varies

33. When a new vaccine is approved for use in Canada, do you typically recommend it to all, some, a few or none of your eligible patients?

    05 All
    06 Some
    07 A few
    08 None SKIP TO Q35
    99 Not sure

34. [IF Q31=01-03 OR 99] When a new vaccine is approved for use in Canada, what are the most important factors in whether you would recommend it to eligible patients?
    RANDOMIZE ORDER 01-11
    Select up to three

    07 How extensively it was tested
    08 What minor side effects it has
    09 What major side effects it has
    10 If other professionals in my field are recommending it to their patients
    11 How effective it is
    12 If cost is covered by health insurance
    13 If cost not covered, if the patient can afford it
    14 If an immunization expert committee has recommended it
    15 How common the disease is
    16 The patient's susceptibility to the disease
    17 The route of administration (e.g. injection vs. intranasal/oral)
    98 None of the above [SINGLE PUNCH]
    99 Not sure [SINGLE PUNCH]

35. What, if anything, would prevent you from recommending a new vaccine?

    OPEN TEXT BOX - NON MANDATORY

(ASK Q36-39 IF Q3=01 OR 03) To what extent are the following barriers to delivery of vaccination in your practice?
RANDOMIZE ORDER

36. Storing/handling requirements

37. Up-front costs of ordering/maintaining inventory

38. Inadequate reimbursement

39. Not giving vaccines often enough/not part of usual practice
    Select one for each

    01 A major barrier
    02 A moderate barrier
    03 A minor barrier
    04 Not a barrier
    99 Not sure

Individual/personal factors

(e.g. belief system, self-efficacy (belief in ability to get vaccinated), past vaccination behaviours, (perceived) personal health, social norms and pressures, trust in/recommendation from health care providers/experts/ industry/system)

To what extent do you agree or disagree with the following statements:
RANDOMIZE ORDER

40. Vaccination is well-accepted as a health practice by Canadians

41. People should be vaccinated to ensure community protection (i.e. herd immunity)

42. People should not be required to get vaccinated

43. Administering vaccines to protect adolescents against STIs could increase their likelihood of engaging in unprotected sexual activity

    01 Strongly agree
    02 Somewhat agree
    03 Neither agree nor disagree
    04 Somewhat disagree
    05 Strongly disagree
    99 Not sure

44. To what extent do you feel giving patients advice and information on vaccination is an important role for health care professionals like you to play?

    01 Very important
    02 Somewhat important
    03 Not very important
    04 Not at all important
    99 Not sure

45. How familiar do you feel you are with the current National Advisory Committee on Immunization (NACI) recommendations for vaccination in Canada?

    01 Very familiar
    02 Somewhat familiar
    03 Somewhat unfamiliar
    04 Very unfamiliar
    99 Not sure

How confident are you in your ability to do the following:
RANDOMIZE ORDER

46. Effectively provide information to patients about the benefits and risks of immunization
47. Answer patient questions about vaccination
48. Address the concerns of vaccine hesitant patients
49. Recommend vaccinations to patients

01 Very confident
02 Somewhat confident
03 Not very confident
04 Not at all confident
99 Not sure

How much do you trust the vaccination information provided by the following:
RANDOMIZE ORDER

50. The National Advisory Committee on Immunization (NACI)
51. Government public health organizations
52. Professional organizations representing health care professionals
53. Pharmaceutical companies
54. Scientific peer-reviewed journals
55. My professional colleagues

01 Trust completely
02 Trust somewhat
03 Neither trust nor distrust
04 Distrust somewhat
05 Distrust completely
99 Not sure

56. Did you personally receive an influenza immunization during the 2018-2019 flu season?

01 Yes
02 No
98 Not sure
99 Prefer not to say

Demographics

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

57. What type of setting best describes your primary place of practice?
Select one only

01 Paediatric hospital setting
02 Other hospital setting
03 Family medicine clinic
04 Public Health clinic/setting
06 Long term care residence
07 Homecare setting
08 Pharmacy
09 School setting
88 Other (DO NOT SPECIFY)

58. Which of the following best describes the area where your primary place of practice is located?
Select one only

01 Large urban population centre (>100,000 individuals)
02 Medium population centre (30,000 to 100,000 individuals)
03 Small population centre (1000 to 29,999 individuals)
04 Rural location (under 1000 individuals)
05 First Nations community (on-reserve)

59. In what year were you born?
DROP DOWN LIST – 18 YEARS TO 100 YEARS AS OF 2018

60. How do you identify yourself?
Select one only

01-Female
02-Male
03-Gender fluid or diverse, or non-binary
04-Other cultural gender identity (e.g. Indigenous two-spirit)
99-Prefer not to answer

61. What are the first three digits of the postal code of your primary place of practice?

___ ___ ___

999 999 – Prefer not to answer

IF OPEN LINK COMPLETION (NON-MDBRIEFCASE):

To receive your $30 thank-you gift, please provide your name and mailing address. ***This information will only be used to provide you with your incentive and will not be linked to your survey responses.*** *If you do not wish to receive a cheque, please indicate that below.*

First name:

Last name:

Address Line 1:

Address Line 2:

City:

Province/territory:

Postal Code: [6 DIGITS]
X – do not want to receive an incentive

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

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