



Evergreen rapid review on COVID-19 vaccine attitudes and uptake in Canada: update 11

October 2021

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Introduction

What is the evidence on COVID-19 vaccine attitudes and uptake in Canada?

The purpose of this evergreen rapid review is to identify and summarize literature on COVID-19 vaccination uptake and attitudes to better understand the factors associated with vaccine uptake in Canada. This report focuses on Canadian evidence published on uptake and attitudes up to October 1, 2021. All studies included in this review were conducted in Canada or were multinational studies with Canadian specific data. Previous versions of this report included evidence published up to September 1, 2021 on vaccine uptake and attitudes in Canada (Updates 1-10). Updates 1-8 also included global evidence on vaccine uptake, and vaccine attitudes in pre-defined priority populations from Australia, New Zealand, US, and UK to complement areas where there was little Canadian research. Previous versions can be requested at ocsoevidence-bcscdonneesprobantes@phac-apsc.gc.ca. The "What's New" section below focuses on highlighting important findings from the most recently conducted studies (within the last four months) and the Key Points summarize the entire body of literature.

What's new

This update identified 14 new studies or updates to existing cross-sectional or longitudinal studies on COVID-19 vaccination uptake and attitudes in Canada. New studies are indicated throughout the tables as **new** and all tables are located in the appendices to assist readers in navigating the document. Highlights from studies conducted from June to September 2021 include:

Studies on intentions to vaccinate children include:

- A longitudinal study in Quebec reported in September that 86% of parents intended to vaccinate their children, up 3% from August^{1 2}
- A Toronto study conducted in July-August found that 69% of parents have had their children >11 years old vaccinated (at least one dose), 8% were intending to vaccinate their children, 19% were unsure, and 7% had no intentions to have them vaccinated. In parents of children <12 years old, 64% were likely to get their children vaccinated when available, 26% were unlikely, and 10% were unsure³.

Studies on incentives to vaccinate include:

- When Canadians were asked how their provincial government should approach getting the unvaccinated vaccinated in September, approximately half of respondents supported using regulations/making vaccines mandatory (51%, up from 46% in August) compared to using incentives like lotteries (7%, down from 8% in August). Disapproval of either approach (16%, down from 18% in August) was higher among Manitoba and Saskatchewan residents compared to the rest of Canada^{4 5}.
- In a study of Toronto residents conducted in August, those who were unvaccinated reported they would be more likely to get vaccinated if it was required to travel (37%) or

go to work (34%), if they were paid \$100 (30%), or if the vaccine was tested among a large number of people (32%)³.

Studies on attitudes towards vaccine mandates include:

- In a study of parents across Canada in August, support for mandatory vaccination was high for all school staff (74% of parents of children aged 12-17 and 81% of parents of children aged 5-11) and students (65% of those with children aged 12-17 and 71% with children aged 5-11). Those living in Ontario and British Columbia had higher levels of support for mandatory vaccination in school staff and students compared to Quebec and the Prairies. At the time of this study the vaccine was not available for children <12⁶.

Studies on attitudes towards unvaccinated include:

- Across Canada, a September study revealed that 54% of respondents believed that all Canadians should receive the same priority of medical treatment regardless of their vaccination status⁵.

Studies on post vaccination behaviors include:

- 41% of Canadians from an August study planned to resume activities they did before the pandemic without masks or distancing once they were fully vaccinated³.

Key points

There have now been 72 studies on COVID-19 vaccine uptake and attitudes conducted in Canada set out in the [evidence tables](#). The majority of studies have been conducted on the general population and focused on intention to vaccinate. There is a severe lack of studies on high-risk and underserved populations in Canada such as Indigenous, youth, those with substance abuse disorders, LGBTQ+, and the homeless. Since vaccine rollout began in December 2020, only one study has evaluated vaccine uptake in healthcare workers (HCWs).

Highlights from studies on vaccine uptake include:

- The one study on vaccine uptake and factors associated with uptake in HCWs from Montreal was conducted in December 2020 ([Table 1](#)). Of the HCWs offered a vaccine, 80.9% accepted and 19.1% refused. The most common reasons for refusal were the newness of the vaccine, a preference for others to get vaccinated first, lack of information, and not having enough time to make a decision.
- Increasing age and male gender were positively associated with vaccine uptake. These trends are similar to those reported in the global literature and mirror the trends seen in intention to vaccinate.

Highlights from studies on vaccine intention include:

- The most recent studies from August to September 2021 report those who have been vaccinated or intend to vaccinate is increasing and currently varies between 86-91% in the general public. Intention to vaccinate is lowest in Alberta, Manitoba, and

Saskatchewan. As noted above, parents intention to vaccinate children <12 years old when they are eligible is also increasing across the country.

Highlights from studies on facilitators and barriers to vaccine intention include:

- The most common factors positively associated with intention to vaccinate were male gender, older age, higher education, adequate knowledge or health literacy, trust in experts and government, history of a prior influenza vaccine, higher socioeconomic status, and heightened worry or concern about COVID-19.
- Three studies demonstrated that LGBTQ2+ were 5-11% more willing to accept a vaccine compared to non-LGBTQ2+.
- Partisanship was associated with intention to vaccinate. Those who voted liberal/democrat expressed intention to vaccinate at higher rates than those who voted for other parties.
- A recommendation to get the vaccine by a healthcare provider (e.g., doctor) had a positive impact on vaccine intention.
- Intention to vaccinate varied widely by race/ethnicity, with White ethnic groups more likely to vaccinate compared to other ethnic groups such as Black and Hispanic.
- Parents had lower intentions to vaccinate their children compared to themselves. Parental and child vaccine intentions were highly correlated with each other, with parents who were intending to take a vaccine being more likely to intend to vaccinate their children.
- Religion and belief in conspiracy theories were associated with vaccine hesitancy.
- Concerns about vaccine safety and effectiveness were the two most cited reasons for vaccine hesitancy. Other commonly cited reasons include newness of the vaccine, and the belief that a COVID-19 vaccine is unnecessary.
- Rural participants were slightly less likely to accept a vaccine compared to urban and suburban participants.
- Facilitators and barriers in Canada are similar to those reported in the global literature.

Highlights from studies on incentives to vaccinate include:

- Studies on incentives to vaccinate support mandates or restrictions for unvaccinated people (e.g. vaccine passport programs) rather than monetary incentives.

Highlights from studies on post vaccination behavior include:

- A few studies on post vaccination behaviors indicate <50% of people intend to stop all other protective public health measures once vaccinated.

Overview of the evidence

Seventy-two studies pertaining to COVID-19 vaccine uptake and attitudes were identified and included in this review. Of these, 13 are preprints and 36 are reports which have not completed

the peer-review process. This report focuses on evidence on COVID-19 vaccine uptake and attitudes in Canada.

The publications reporting on COVID-19 vaccine uptake and attitudes are mainly observational studies (e.g., cross-sectional study using an online survey) with a few quasi-experimental studies exploring factors associated with intention to vaccinate and the impact of messaging on these intentions. The outcomes in the experimental studies did not assess prevalence, but rather were designed to inform what may be most effective across a range of options.

A formal risk of bias evaluation was not conducted. Across observational studies the reliability of the outcome is based on obtaining a representative sample of the target population that is sufficiently large to obtain a representative spectrum of results. Studies frequently did not demonstrate the representativeness of their samples to the target population in both grey literature or government reports published online (not indexed), preprints (scientific publications that have not undergone peer-review) and published journal articles. Longitudinal studies where a target population was sampled more than one time to monitor changes in vaccine attitudes and uptake over time were the strongest observational study design identified. Most observational studies were cross-sectional online surveys of a target population at a single point in time. These study designs are at moderate/high risk of bias and thus, are considered medium-low quality depending on the sample size and whether the sample represents the target population as well as how well the survey tool can measure the outcome(s) of interest (e.g., was it informed by formative research, validated and pretested prior to implementation). For most of the included studies the outcomes are self-reported, which can be biased by response and social desirability biases. Other biases considered in these studies include response rate and missing data. Most studies (~87%) captured in this rapid review did not report and/or account for one or more of the criteria listed above either due to conduct or reporting of the study. While there are many studies that show similar trends, the conclusions could change with additional research, larger sample size, different sampling strategies, data collection tools, and progression through the pandemic.

A key knowledge gap in this research are studies that address vaccine intentions and reasons for hesitancy and refusal rates in high-risk and underserved populations. The majority of studies used online surveys, and to a lesser extent telephone surveys, which may limit participation from segments of population due to lack of access to technology. Although the vaccine rollout has been underway for over half a year, there have been minimal studies released on vaccine refusal and the knowledge and attitudes associated with actually rejecting or accepting a vaccine (as opposed to intentions). This information is crucial to determine why people are accepting or refusing vaccinations to continue developing strategies to encourage vaccine uptake in those who are hesitant.

COVID-19 vaccine uptake

Vaccine uptake and factors associated with uptake in HCWs was evaluated in one study⁷. Only studies where it has been established or can be inferred that the entire group was offered a vaccine prior to measuring uptake were included. This includes studies from the beginning of

the vaccine rollout (December 2020 onwards). High level points are listed below and detailed outcomes for each study are located in the Appendix ([Table 1](#)).

- In a December survey conducted in Montreal, Canada, 80.9% of HCWs offered a vaccine accepted and 19.1% refused. 74.1% of those that declined a vaccine reported they will accept a vaccine in the future with 53.2% wanting to delay a few months and 31.9% wanting to wait a year⁷. The most common reasons for refusal were the newness of the vaccine (82%), preference that others get vaccinated first (77%), felt they lacked information about the vaccine (74%), and that they did not have enough time to make a decision (60%)⁷.
- Vaccine uptake was positively associated with increasing age and male gender⁷.
- These trends are similar to those reported in the global literature⁸ and mirror the trends seen in intention to vaccinate.

COVID-19 vaccine attitudes of the general public

The majority of research on COVID-19 vaccine attitudes has been conducted on the general public. Fifty studies were specific to the Canadian population, of which 32 were grey literature reports or government reports published online (not indexed) and four were preprints. High level points from January 2021 onwards are listed below and detailed outcomes for each study are located in the Appendix ([Table 2](#)).

Highlights from studies on intentions to vaccinate from the general population include:

- According to the most recent Canadian studies from August-September 2021, those who have received the vaccine or intend to vaccinate is between 86-91%^{1 2 9}. Alberta, Manitoba, and Saskatchewan populations have the lowest intentions to vaccinate^{1 4 9 10 11 12 13 14}.
- Three longitudinal studies demonstrate that intention to vaccinate continues to rise in Canada from 65-76% pre-vaccine rollout measured between September-December 2020 to 86-91% in July-September 2021^{12 15}.
- In June, 89% of Canadians who had one dose reported they intend to receive a second dose, 9% have already had their second dose, 1% probably will not, and 1% were unsure¹¹.
- Vaccine hesitancy dropped dramatically in Alberta from 45% in January to 25% in April to 17% in May and 13% in August^{4 16}.
- 71% of Canadian youth aged 12-17 intended to receive a vaccine in a survey conducted in January-February 2021¹⁷.
- In an Ontario study conducted in February-March 2021 on the general population, those who were vaccine hesitant or reluctant had significantly higher mean scores in anxiety, suicidal ideation, psychosis, and repetitive thoughts and behaviors compared to those who intended to vaccinate¹⁸. Vaccine hesitancy and reluctance was significantly associated with those who had a moderate/high risk of tobacco use disorder, cannabis

use disorder, and opioid use disorder when compared to those who intended to vaccinate¹⁸.

- There have been two Canadian studies conducted in 2021 exploring the relationship between ethnicity/race and intention to vaccinate^{18 19}. In a study conducted in May-June, 21% of Canadians were vaccine hesitant with higher levels among Black (33%) and non-Black visible minorities (25%) compared to Whites (19%). Black Canadians aged 25-34 had the highest levels of vaccine hesitancy (54%). Drivers of vaccine hesitancy among Black Canadians were the ability to take paid time off, concern that vaccines cause autism, and vaccine safety concerns¹⁹. The second study from Ontario conducted in February-March found that vaccine hesitancy was higher in those with Black ethnicity compared to White ethnicity (OR 2.11, 95% CI: 1.19- 3.75, P<0.011)¹⁸.
- Five studies conducted in 2020 demonstrated that compared to White ethnicity, visible minorities are less likely to accept a vaccine^{20 21 22 23 24}.
- Intention to vaccinate among Indigenous respondents ranged between 68-71% in two studies conducted in March 2021^{25 26}. In one of the studies, 74.2% of First Nations living off reserve were willing to vaccinate compared to 67.8% of Métis and 72.5% of Inuit²⁵. Older Indigenous people (65+) were more likely to want a vaccine compared to younger individuals (74.9% vs 71.3%)²⁵.
- Those having Indigenous status in Saskatchewan were more vaccine hesitant compared to non-Indigenous status (RRR 1.65, 95% CI: 1.01-2.70)²⁷.
- In Canada, those who voted Liberal or NDP in the 2019 election were more likely to indicate the intention to vaccinate compared to those who voted for other parties^{28 29 30 31}.
- Rural participants were less likely to accept a vaccine compared to urban and suburban participants in four studies^{9 32 33 34}.
- Men were more likely to intend to vaccinate than women across 13 studies^{17 18 20 22 24 28 35 36 37 38 39 40 41}.
- The most common factors positively associated with intention to vaccinate were older age, higher education, adequate knowledge or health literacy, trust in experts and government, higher socioeconomic status, history of receiving an influenza vaccine, and heightened worry or concern about COVID-19.
- Concerns about vaccine safety and effectiveness were the two most cited reasons for vaccine refusal. Other commonly cited reasons include newness of the vaccine, and the belief that a COVID-19 vaccine is unnecessary.
- A recommendation to get the vaccine by a healthcare provider (e.g., doctor) had a positive impact on vaccine intention in six studies^{15 24 26 42 43 44}.
- Conspiracy beliefs were associated with decreased intentions to vaccinate^{29 37 45 46}.

Highlights from studies on vaccine preferences in the general population include:

- 48% of Canadians were uncomfortable about receiving a different brand of vaccine as their second dose, whereas 46% were comfortable and 6% were unsure. Of those who received AstraZeneca as their first dose, 50% preferred to receive AZ as their second dose, 32% preferred another brand as their second dose, and 18% were unsure¹¹.
- A study in May 2021 demonstrated that most felt comfortable with the Pfizer (93%) and Moderna (89%) vaccines while less were comfortable with Johnson & Johnson (49%) and AstraZeneca (35%) vaccines. Women and those aged 55+ were more uncomfortable with the AstraZeneca (AZ) and Johnson & Johnson (J&J) vaccines compared to men and those <55. Of those who were uncomfortable with the AZ and J&J vaccines, 40% of women and 31% of men reported they would still accept these vaccines if offered¹⁶.

Highlights from studies on the perception of incentives to vaccinate from the general population include:

- Financial incentives (monetary, vouchers, complimentary items, draws for prizes, discounts) were not reported to increase the likelihood of accepting a vaccine in a study conducted in Manitoba (between 7-84% of respondents stating the incentive would not make them more likely to vaccinate). However, 70% would be concerned if only vaccine hesitant individuals received large (\$50-100) incentives⁴⁷.
- In a study of Toronto residents conducted in August, those who were unvaccinated reported they would be more likely to get vaccinated if it was required to travel (37%) or go to work (34%), were paid \$100 (30%), or if the vaccine was tested among a large number of people (32%)³.
- A September study found that when Canadians were asked how their provincial government should approach getting the unvaccinated vaccinated, approximately half of respondents supported using regulations/making vaccines mandatory (51%, up from 46% in August) compared to using incentives like lotteries (7%, down from 8% in August). Disapproval of either approach (16%, down from 18% in August) was higher among Manitoba and Saskatchewan residents compared to the rest of Canada⁴⁵.
- A second survey conducted across Canada demonstrated that 50% of respondents supported vaccine incentives such as lotteries, 36% opposed incentives, and 14% were unsure. Support for incentives was highest in Quebec and among those aged 18-34 and lowest among those aged 55+ and rural residents⁴⁸.

Highlights from studies on attitudes towards vaccine passports and restrictions in the general population include:

- Vaccine passports had high support in Quebec increasing from 72% in May to 75-81% in August-September^{9 49 50 51 52}.
- 79% of respondents now agree that Canada should have a vaccine passport, an increase from 58% in July and 54% in April^{9 48 51 53}.

- Six studies conducted between May and September 2021 demonstrated high support for showing proof of vaccination when traveling by plane or train (70-82%), events with large crowds (67-80%), attending in-person university (71%) and lower support for showing proof of vaccination to stay in a hotel (68%), go to work (55-68%), or go to public places such as restaurants, bars, and movie theatres (35-70%)^{35 51 54 55 56}.
- Of those who were vaccine hesitant, 7-18% of respondents across two surveys reported they could be swayed by the ability to travel, attend sporting or cultural events, or visit loved ones (11%)^{54 57}.
- 66% of Canadians wanted full vaccination (two doses) as a requirement to allow people to cross the US-Canada border⁴⁸. Another survey indicated that 69% wanted to wait until at least 75% of Canadians were fully vaccinated before opening the Canada-US border⁵⁸.
- Support for mandatory vaccination was 53% for the general population and 81% for HCWs. The highest support was demonstrated among those aged 55+⁴⁸.

Highlights from studies on the perception of AstraZeneca vaccine in the general population include:

- In May 2021, of those who received an AstraZeneca vaccine, 2% fully regret getting it and 66% have serious second thoughts or doubts¹⁶.
- 58% agreed that if studies show that a third dose is required for those that initially received AstraZeneca they would get a third dose whereas 7% felt comfortable as they are now, and 35% did not receive AstraZeneca⁹.

Highlights from studies on the perception of vaccine roll-out in the general population include:

- A study conducted across Canada and one from Quebec showed that 51-55% of respondents believed that Canada has done a good job procuring vaccine doses^{10 32}.
- Early vaccine roll-out polls conducted in January 2021 showed low to moderate (48-71%) satisfaction with how vaccines were prioritized^{59 60}.

Highlights from studies on post-vaccine behaviors reported by the general population include:

- 41% of Canadians from an August study planned to resume activities they did before the pandemic without masks or distancing once they were fully vaccinated³.
- 53% of respondents agreed that people vaccinated against COVID-19 should be able to gather and no longer wear masks in public, 41% disagree, and 6% did not know⁵⁰.
- 64% of the vaccinated reported they always wear a mask. In contrast, 51% of unvaccinated reported they never wear a mask⁴.

COVID-19 vaccine attitudes of healthcare workers

Evidence on COVID-19 vaccine attitudes of HCWs was identified in eight studies. All studies targeted HCWs including nurses, doctors, and personal support workers. The most recent study was conducted in August 2021. The remainder were conducted earlier in the pandemic (January

2021 or before). High level points are listed below and detailed outcomes for each study are located in the Appendix ([Table 3](#)).

- In a sample of people working in the healthcare sector, 95% were vaccinated. Among the 5% unvaccinated, 60% did not intend to vaccinate, a decrease from the 87% who reported they had no intention to vaccinate in a July survey^{1 61}.
- Two studies conducted in January 2021 showed that intention to vaccinate in HCWs ranged between 80-82%^{62 63}.
- A participants' acceptance or rejection of a COVID-19 vaccine was not different between those employed within the healthcare sector compared to those not in the healthcare sector in one study conducted early in the pandemic (Apr-May 2020)³⁶.
- Three studies demonstrated that male HCWs are more likely to intend to vaccinate than female HCWs^{21 36 63}.
- The proportion of those likely to get the COVID-19 vaccine was directly related to older age^{21 36 62 63}, the likelihood of receiving an influenza vaccine^{21 63 64}, higher education⁶², and an individuals' perceived risk of COVID-19 infection⁶³.
- The main concerns about vaccination include safety, efficacy, insufficient knowledge about the vaccine, side effects, speed of vaccination development, and believing that vaccination was not necessary^{21 36 62 63 64}.
- A January-February 2021 study of social service employees supporting individuals with intellectual disabilities in Ontario found that Indigenous, First Nations, and Metis (aOR 1.73, 95% CI: 0.67- 4.43), Latin (aOR 1.22, 95% CI: 0.21-7.24), and mixed ethnicities (aOR 1.11, 95% CI: 0.27-4.55) were more likely to refuse a vaccine compared to European ethnicity⁶³.
- In a January 2021 study of 8634 non-physician HCWs in Ontario, 80.4% stated they intend to vaccinate. HCWs were more likely to intend to vaccinate if direct financial supports such as paid sick days were provided⁶². Those who identified as Filipino (OR 1.07, 95% CI: 0.41-2.76, P<0.001), Caribbean (OR 3.20, 95% CI: 1.52-6.75, P<0.001), or other (OR 1.44, 95% CI: 0.93-2.22, P<0.001) ethnicity were more likely to refuse a vaccine compared to those who identified as European⁶².

COVID-19 vaccine attitudes of high-risk populations

It is important to develop evidence-based strategies to target high-risk populations for vaccination. This includes older individuals, those with substance use disorders, those who are pregnant or breastfeeding, people experiencing homelessness, and vulnerable communities. Only one Canadian study was identified on any high-risk population, this was conducted in older adults prior to vaccine rollout (May 2020) and as such may not represent the current attitudes of this population. High level points are listed below and detailed outcomes for the study are located in the Appendix ([Table 4](#)).

- There is a severe lack of evidence on high risk populations in Canada. Previous versions of this report included studies on high risk populations from the other Five Eye countries (Australia, New Zealand, UK, US) to complement the lack of Canadian studies⁸.
- Intention to vaccinate was high (79.5%) in one study conducted in May 2020 looking at older adults (65+)³⁹.
- Willingness to receive a COVID-19 vaccination was positively associated with male gender and having at least one chronic condition ($P < 0.05$)³⁹.

COVID-19 vaccine attitudes of LGBTQ+ individuals

Four studies were identified on COVID-19 vaccine attitudes in LGBTQ+ individuals. Three studies were conducted between August-December 2020, prior to vaccine rollout and one was conducted in April 2021. High level points are listed below and detailed outcomes for the studies are located in the Appendix ([Table 5](#)).

- Four studies demonstrated that LGBTQ2+ were more willing to accept a vaccine compared to non-LGBTQ2+^{22 24 41 65}.
- An April study demonstrated that LGBTQ2+ respondents had higher intentions to vaccinate than non-LGBTQ2+ (91.3% vs 86.1%), up from 83.3% in late 2020⁶⁵.
- LGBTQ2+ individuals were 5-11% more willing to accept a vaccine compared to non-LGBTQ2+^{22 65} among Canadians.
- The third study from British Columbia indicated that non-binary, pansexual, gender queer, agender, two-spirit or other were significantly more likely (OR 3.04, 95% CI: 1.08-8.55, $P < 0.04$) to receive a vaccine compared to heterosexual women²⁴.

COVID-19 vaccine attitudes of parents

Vaccine attitudes in parents were explored in ten studies. Six of the studies were conducted in the first half of 2021 and the remaining four in 2020. High level points from all studies are listed below and detailed outcomes for the studies are located in the Appendix ([Table 6](#)).

Studies on parent's or children's intentions to vaccinate <18 year olds include:

- Two studies reported parents were more willing to accept a COVID-19 vaccine for themselves than for their children^{66 67}.
- A longitudinal study in Quebec reported in September that 86% of parents intended to vaccinate their children, up 3% from August¹².
- A Toronto survey conducted in July-August found that 69% of parents have had their children >11 years old vaccinated (at least one dose), 8% were intending to vaccinate their children, 19% were unsure, and 7% had no intentions to have them vaccinated. In parents of children <12 years old, 47% were very likely to get their children vaccinated when available, 17% were somewhat likely, 9% were somewhat unlikely, 17% were very unlikely, and 10% were unsure³.

- A global study in June 2021 reported parents' willingness to vaccinate children was 66.9% in Canada. In other countries highest intentions were reported in China (95%), Brazil (91.3%), and Ecuador (85.9%) and lowest intentions in Russia (35.5%), Poland (46.3%) and France (48.5%). In all countries, willingness to vaccinate one's children was significantly higher among parents who accepted the vaccine for themselves ($P < 0.001$)⁶⁸.
- In a survey conducted in Manitoba in May 2021 of 70 parents or guardians of children aged 12-17, 15% were not sure if they would vaccinate their children, and 13% would not vaccinate their children⁴⁷.
- A study of 380 parents in January-April 2021 with children aged 2-17 in Montreal revealed that parents were 61% very likely, 25% somewhat likely, 9.2% somewhat unlikely, and 4.5% very unlikely to have their child vaccinated. Visible minority parents were more likely to reject a vaccine for their children compared to non-visible minority parents (32.9% vs. 9.5%)⁶⁹.
- Parental and child vaccine intentions are highly correlated with each other, with parents who were intending to take a vaccine more likely to intend to vaccinate their children^{47 66 68}. Similar to the general population, parents from lower-income households^{47 70}, who are younger⁷¹, less educated⁷⁰, and have a history of not accepting other vaccines^{70 71} were less likely to intend to vaccinate their children.

Studies on parent's or children's attitudes towards vaccination for <18 year olds include:

- In a study of parents across Canada in August 2021, support for mandatory vaccination was high for all school staff (74% of parents of children aged 12-17 and 81% of parents of children aged 5-11) and students (65% of those with children aged 12-17 and 71% with children aged 5-11). Those living in Ontario and British Columbia had higher levels of support for mandatory vaccination in school staff and students compared to Quebec and the Prairies. At the time of this study the vaccine was not available for children <12⁶.
- Concerns over vaccine side effects, long-term effects, and a rushed vaccination process were reported in three studies^{3 69 70}.

COVID-19 vaccine attitudes of immigrants

Evidence on COVID-19 vaccine attitudes of immigrants was identified in six studies. Two were conducted in 2020 and four in 2021. High level points from the 2021 studies are listed below and detailed outcomes for this study are located in the Appendix ([Table 7](#)).

- A Quebec survey published August 2021 found there was no difference in level of vaccine hesitancy between unvaccinated immigrant and non-immigrant populations although among the hesitant 68% of non-immigrants compared to 45% of immigrants had no intention to vaccinate¹.
- In a Canada-wide survey from April 2021, non-immigrants (87.1%) were the most likely to vaccinate followed by immigrants that have spent more than 10 years in Canada (86.4%), then immigrants living in Canada for under 10 years (78.9%). Intention among all the groups has increased since Sept-Dec 2020⁶⁵.

- Vaccine hesitancy was higher among Black and non-Black Canadians born in Canada compared to those born outside of Canada¹⁹.
- Non-permanent residents were more unlikely to vaccinate (11%) compared to non-immigrants (5%), immigrants living in Canada for more than 10 years (4%), and among immigrants living in Canada for less than 10 years (3%)¹⁴.
- A study conducted in Saskatchewan revealed those who were born outside of Canada and living in Canada less than 20 years were more vaccine hesitant compared to those born in Canada (RRR 3.14, 95% CI: 1.56-6.34)²⁷.

COVID-19 vaccine attitudes of individuals with comorbidities

Two studies with evidence on COVID-19 vaccine attitudes in individuals with comorbidities in Canada were identified. High level points from this study with evidence from October 2020 are listed below and detailed outcomes for this study are located in the Appendix ([Table 8](#)).

- There is a severe lack of evidence on individuals with comorbidities in Canada. There was a range of comorbidities found in literature from the other Five Eye countries (Australia, New Zealand, UK, US) including obesity, hypertension, chronic respiratory or autoimmune diseases, HIV, and intellectual and developmental disabilities. Previous versions of this report can be accessed for more information on these populations to complement the lack of Canadian studies⁸.
- In a study conducted between Aug 2020 – Mar 2021 in British Columbia, intention to vaccinate was significantly lower among participants living with HIV (LWH) compared with those not LWH (OR 0.49, 95% CI: 0.30-0.83, P = 0.009). In a multivariable model, this was no longer significant. Intention to vaccinate in people LWH was positively associated with older age, having one or more chronic health conditions, vaccine confidence, positive attitudes towards the vaccine, and a greater influence of direct and indirect social norms⁷².
- In October 2020, 64.6% of those who are overweight or obese were comfortable receiving a vaccine and 35.4% were hesitant⁶⁷. Comfort levels in receiving the vaccine were positively associated with male gender, having more comorbidities, having lower depression scores, not practicing physical distancing, and past acceptance of influenza vaccinations⁶⁷.

COVID-19 vaccine attitudes in Canada compared to the global population

The comparison of COVID-19 vaccine attitudes in the general population across different countries around the world was reported in nine articles. Only studies that included Canada and reported outcomes by country were included. The most recent study was conducted in June 2021. High level points from the most recent studies (Jan-Jun 2021) are listed below and detailed outcomes for all other studies are located in the Appendix ([Table 9](#)).

- A global survey of 23 countries conducted in June 2021 demonstrated that vaccine acceptance was 75.2%⁶⁸, and increase from 71.5% in June 2020⁷³. The acceptance rate in Canada rose from 68.7% in June 2020 to 79.2% in June 2021⁶⁸. In multivariable models,

vaccine acceptance was positively associated with older respondents and anxiety and negatively associated with depression in Canada⁶⁸.

- In May 2021, the highest percentage of vaccine hesitant respondents was found in the US (63%), followed by Sweden (49%), Italy (43%), and Canada (42%)⁷⁴. The top vaccine concerns were statistically significantly different in each country and among the hesitant and non-hesitant subsamples within each country. Canada aligned closely with the US on top concerns in the vaccine safety and government control category compared to the European countries and more closely with the European countries compared to the US in the other two categories (freedom, and vaccine effectiveness and population control)⁷⁴.
- As of January 2021, countries with the highest intentions to vaccinate (63-77%) included the UK, Denmark, and the Netherlands. Intention to vaccinate in Canada was 55%⁷⁵.
- Increases in intention to vaccinate between November 2020 and January 2021 were seen in Spain (24.1%), UK (23.2%), Sweden (22.7%), Finland (20.4%), Netherlands (18.5%), Italy (15.4%), Norway (14.6%), France (14.2%), Denmark (13.3%), Germany (13.0%), Canada (11%), and Japan (0.8%)⁷⁵.
- In 11/15 countries there was a significant decrease in the proportion of individuals who reported concern about the side effects of a vaccine. In Canada, this worry decreased from 53.3% in November to 47.9% in January⁷⁵.

Methods

Prior to the initiation of this rapid review, a pre-defined rapid review protocol was developed to ensure the methods were reproducible, transparent, and consistent. The protocol is available upon request. This rapid review will be kept evergreen and updates will contain key research articles published up to the latest search date.

Publications and pre-prints

A daily scan of the literature (published and pre-published) is conducted by the Knowledge Synthesis team in the Emerging Science Group, Public Health Agency of Canada. The scan has compiled COVID-19 literature since the beginning of the outbreak and is updated daily. Searches to retrieve relevant COVID-19 literature are conducted in Pubmed, Scopus, BioRxiv, MedRxiv, ArXiv, SSRN, Research Square, and COVID-19 information centers run by Lancet, BMJ, Elsevier, Nature and Wiley. The cumulative scan results are maintained in a Refworks database and an excel list that can be searched. Details on this search strategy are available upon request. From this database and excel list, article titles and summaries will be systematically searched for the following key words: ("vaccin*" or "immuni*") and ("accept*" or "hesitan*" or "preference" or "confidence" or "intent*" or "willing*" or "readiness" or "behavio*" or "knowledge" or "attitude*" or "belief*" or "believe*" or "perception" or "influence*" or "reject*" or "refus*" or "oppos*" or "consent*" or "fear" or "motiv*" or "anti vax*" or "antivax*" or "trust*" or "mistrust*" or "anti vaccin*" or "pro vaccine*" or "provax*" or "pro vax" or "decision*" or "decid*" or "uptake"). the original search was conducted on October 16, 2020. The first update was conducted on November 30, 2020, the second update on January 5, 2021, the third on February 3, 2021, the

fourth on March 2, 2021, the fifth on April 2, 2021, the sixth on May 3, 2021, the seventh on June 3, 2021, the eighth on July 2, 2021, the ninth on August 4, 2021, the tenth on September 2, 2021, and the eleventh on October 1, 2021.

Grey literature

A grey literature search was conducted to compliment the database search. In prior versions the grey literature search was extended to include research from Australia, New Zealand, the United States, and the United Kingdom. The grey literature search is now exclusively focused on Canadian research. A detailed list of websites searched is available in the protocol. The original grey literature search was conducted on November 5-6, 2020. The first updated grey literature search was conducted on December 9-10, 2020, the second on January 4, 2021, the third on February 1-2, 2021, the fourth on March 7, 2021, the fifth on April 13-22, 2021, the sixth on May 3-7, 2021, the seventh on June 9-11, 2021, the eighth on July 28-30, 2021, the ninth on July 27-30, 2021, the tenth on August 30-31, 2021, and the eleventh on September 27-29, 2021 .

Quality of survey instrument

Three criteria which determine the quality of the survey instrument were reported. These include the availability of the survey tool in the report, the use of formative research to design the survey, and evidence of pre-testing the survey. A yes or no was provided for each criteria. If the information was not reported, the answer no was selected. These criteria evaluate the degree to which the survey items evaluate the theoretical concepts the survey is focused on, are comparable to other surveys and whether the instrument was comprehensive, clear and valid when applied to the target population. There is an increased risk of bias when these features are missing⁷⁶.

Acknowledgments

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Editorial review, science to policy review, peer-review by a subject matter expert and knowledge mobilization of this document was coordinated by the Office of the Chief Science Officer: ocsoevidence-bcscdonneesprobantes@phac-aspc.gc.ca.

Evidence tables

Table 1: Healthcare workers: evidence of vaccine uptake (n=1)

Study	Methods and survey tools	Key knowledge attitudes and behaviours (KAB) outcomes
Dzieciolowska (2021) ⁷ Cross-sectional study	Vaccine uptake was evaluated through an online survey in 2,761 nurses, physicians, orderlies, hospital administration working in 17 health institutions in	<ul style="list-style-type: none"> 80.9% of those offered a vaccine accepted and 19.1% refused. Multivariate analysis revealed that men (aOR 1.62, 95% CI: 1.16-2.26), those aged 50-59 (aOR 1.62, 95% CI: 1.07-2.44) or 60+ (aOR 3.28, 95% CI:

<p>Canada</p> <p>Dec 2020</p>	<p>Montreal to determine factors that are predictive on uptake. All HCWs were offered a vaccine.</p> <p>Question Topics:</p> <ol style="list-style-type: none"> 1) Vaccine uptake 2) Vaccine hesitancy <p>Survey tools available? Yes</p> <p>Formative research conducted? No</p> <p>Survey pre-tested? No</p>	<p>1.74-6.18), had occupational contact with COVID-19 patients (aOR 3.88, 95% CI: 2.29-6.58), or worked in rehabilitation centers (aOR 1.76, 95% CI: 1.17-2.66) were more likely take a vaccine when offered.</p> <ul style="list-style-type: none"> • The most common concerns or reasons for refusal among those who did not accept a vaccine were the newness of the vaccine (82%), preferred that others get vaccinated first (77%), felt they lacked information about the vaccine (74%), and that they did not have enough time to make a decision (60%). • 74.1% of those that declined a vaccine reported they will accept a vaccine in the future with 53.2% wanting to delay a few months and 31.9% wanting to wait a year. • Those who never plan on accepting a vaccine were more likely to cite not trusting experts or pharmaceutical companies, preferring natural immunity, belief that the risk of vaccination outweighed risk of COVID, or that they had a past poor vaccine reaction.
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Table 2: Evidence of vaccine attitudes of the general public (n=50)

Study	Methods and survey tools	Key KAB outcomes
Longitudinal studies (n= 11)		
<p>Leger (2021) grey literature^{9 11 48 51 53 77 78 79 80 81 82 83 84}</p> <p>Longitudinal study</p>	<p>An online survey of Canadian and American adults (18+) was conducted to evaluate vaccine perceptions and intentions to vaccinate. Only Canadian data is summarized.</p>	<p>Wave 17</p> <ul style="list-style-type: none"> • In September 2021, 76% of QC residents support mandatory vaccination of HCWs which was similar to the 75% of residents outside of QC.

<p>Canada and US</p> <p>Nov 2020 and Jan-Sep 2021</p>	<p>Wave 1: Nov 2020, 1516 Canadians and 1002 Americans</p> <p>Wave 2: Jan 2021, 1516 Canadians and 1003 Americans</p> <p>Wave 3: Feb 2021, 1535 Canadians and 1002 Americans</p> <p>Wave 4: Feb 2021, 1,532 Canadians and 1002 Americans</p> <p>Wave 5: Apr 2021, 1,504 Canadians and 1,002 Americans</p> <p>Wave 6: Apr 2021, 1,548 Canadians and 1,003 Americans</p> <p>Wave 7: May 2021, 1,529 Canadians, 1,003 Americans</p> <p>Wave 8: May 2021, 1,529 Canadians, 1,003 Americans</p> <p>Wave 9: May 2021, 1,624 Canadians and 1,002 Americans.</p> <p>Wave 10: May 2021, 1,624 Canadians and 1,002 Americans.</p> <p>Wave 11: June 2021, 1,539 Canadians, 1,004 Americans</p> <p>Wave 12: June 2021, 1,542 Canadians and 1,001 Americans</p> <p>Wave 13: July 2021, 1,518 Canadians, 1,003 Americans</p> <p>Wave 14: July 2021, 1,529 Canadians, 1,001 Americans</p> <p>Wave 15: August 2021, 1,515 Canadians, 1,005 Americans</p>	<ul style="list-style-type: none"> • Support for vaccine passports to access non-essential public places was similarly supported (79% down from 80% in late August). • Support for both mandatory HCWs vaccination and vaccine passports was higher among those aged 55+ and those who lived in urban areas. <p>Wave 16</p> <ul style="list-style-type: none"> • In late August 2021, respondents were asked about situations where high school students (over age 12) should wear a mask when vaccination is possible. Half thought they should be worn at all times at school, 24% while in common areas but removed in class, 13% felt it should be left to the parents to decide, and 12% felt they should be worn only for students without proof of vaccination. • 80% of Canadians were either strongly supportive or somewhat support vaccine passports to access non-essential public places, up from 76% earlier in August. <p>Wave 15</p> <ul style="list-style-type: none"> • In August 2021, 86% of respondents have received a vaccine, 5% have not been vaccinated but intend to, and 9% have not received a vaccine and do not plan to. • Having no intention to vaccinate was highest in Manitoba (15%), among those
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	<p>Wave 16: August 2021, 2021, 1,544 Canadians, 1,004 Americans new</p> <p>Wave 17: September 2021, 1,549 Canadians, 1,002 Americans new</p> <p>Question Topics:</p> <ol style="list-style-type: none"> 1) Vaccine intentions 2) Vaccine perceptions <p>Survey tools available? No</p> <p>Formative research conducted? No</p> <p>Survey pre-tested? No</p>	<p>aged 18 to 24 (15%), and among rural residents (14%).</p> <ul style="list-style-type: none"> • Among the 120 respondents who did not plan on getting a vaccine 71% don't believe the vaccine is safe due to newness/lack of testing or research, 20% believe that vaccine are a ruse for the government to control them, and 10% do not believe in vaccines. • Significantly more urban residents did not believe the COVID-19 vaccine was safe and significantly more rural residents did not believe in vaccines generally. • 58% agree that if studies show that a third dose is required for those that initially received AstraZeneca they will get a third dose, 7% feel comfortable as they are now, and 35% did not receive AstraZeneca. • 81% of QC respondents either strongly or somewhat supported the introduction of vaccine passports and 19% either somewhat or strongly opposed vaccine passports. • Support for vaccine passports was higher among those aged 55+ and sub-urban residents. • Outside of QC support for vaccine passports was lower with 76% strongly or somewhat support and 24% somewhat or strongly opposing. Support was higher among those aged 55+ and those in living in BC.
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		<p>Wave 14</p> <ul style="list-style-type: none"> • In a July 2021 survey, 66% of Canadians want full vaccination (two doses) as a requirement to allow people to cross the US-Canada border. • 50% of respondents supported vaccine incentives such as lotteries, 36% opposed incentives, and 14% did not know. • Support for incentives was highest in QC and among those aged 18-34 and lowest among those aged 55+ and rural residents. • Most (66%) Canadians believed that those who are medically able to be vaccinated have a responsibility to be vaccinated and should have greater freedoms than those who do not get vaccinated, whereas 26% believe that it would be unfair to place restrictions on the unvaccinated even if medically able to get vaccinated. • 53% think COVID-19 vaccines should be mandatory with the highest support among those aged 55+ and lowest in AB and those aged 18-34. • Most respondents feel comfortable going to outdoor gatherings (73%), eating on patios (72%), going to outdoor shows or sporting events (65%), going to work (56%), indoor gatherings with family/friends (55%), and eating in a dining room of a restaurant (51%) with the
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		<p>possibility of unvaccinated persons present.</p> <ul style="list-style-type: none"> • Fewer respondents were comfortable going to in person class (48%), going to spas (47%), going to the cinema (45%), indoors shows or sports (41%), using public transit (40%), the gym (38%), fly on an airplane (37%), or go to a bar/nightclub (32%) with unvaccinated persons. • 81% respondents support mandatory vaccination for healthcare professionals or hospital employees with highest support among QC residents and those aged 55+. • 71% want vaccine passports for air travel. • 35% would like a vaccine passport required for patio/terrace dining. • In general, 58% of support vaccine passports for essential and non-essential activities, 30% disagreed, and 13% did not know. • Waves 1-13 summarized in previous versions of this report.
<p>Angus Reid (2021) grey literature^{4 5 10 13 16 25 26 30 31 35 58 85 86}</p> <p>Longitudinal study</p> <p>Canada</p>	<p>Vaccine intentions and perceptions were analyzed in Canadian adults (18+) using an online survey.</p> <p>Wave 1: Jul 2020, n=1519 Wave 2: Sep 2020, n=1660 Wave 3: Dec 2020, n=1603 Wave 4: Jan 2021, n=1580</p>	<p>Wave 14</p> <ul style="list-style-type: none"> • The majority of Canadians support proof of vaccination when boarding a commercial flight (78%), traveling internationally excluding the US (80%), and when going to the US (77%), while attending a large gathering (75%), going to public places such as malls, movie theaters, and church

<p>Jul, Sept, Dec 2020 and Jan-Feb and May-Sep 2021</p>	<p>Wave 5: Feb 2021, n=1201 Wave 6: Mar 2021, n=1748 Wave 7: Apr 2021, n=NR Wave 8: Apr 2021, n=1594 Wave 9: May 2021, n= 1,319 Wave 10: June 2021, n=4,948 Wave 11: July 2021, n= 2,040 Wave 12: July 2021, n= 2,040 Wave 13: Aug 2021, n=1,615 Wave 14: Sep 2021, n=1,709 new</p> <p>Question Topics:</p> <ol style="list-style-type: none"> 1) Vaccine intentions 2) Vaccine perceptions 3) Vaccine hesitancy <p>Survey tools available? Yes</p> <p>Formative research conducted? No</p> <p>Survey pre-tested? No</p>	<p>(70%), and at work places (66%).</p> <ul style="list-style-type: none"> • Support for all proof of vaccination has increased or remained stable from May to September. • While support for vaccination in public places has risen from May to September in AB and SK, the number of respondents that strongly disagreed was still higher than the Canadian average (AB 35%, SK 32%, Canadian average of 19%). • Support for vaccine regulations has increased from 46% in August to 51% in September with 7% supporting incentives instead, 26% supporting either, and 16% (down 2%) not supporting either. Those residing in AB and SK had the least amount of support for vaccine regulations compared to the rest of Canada. • Most vaccinated respondents would like to see those who will not prove vaccination and will not leave premises escorted away with no further punishment (44%) with fewer wanting fines (29%), or to see them arrested and charged (19%). • 54% believed that all Canadians should receive the same priority of medical treatment regardless of their vaccination decision whereas 46% believed those who choose not to be vaccinated should get lower priority for
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		<p>medical treatment if they become sick with COVID-19.</p> <p>Wave 13</p> <ul style="list-style-type: none"> • 64% of those who were vaccinated reported that they always wear a mask compared to 53% of those willing to get a vaccine, and 19% who will not get a vaccine. Of those not willing to get vaccinated 51% report that they never wear a mask. • Most Canadians support using regulations/making vaccines mandatory (46%) compared to using incentives like lotteries (8%), neither (18%), or either measure (8%). • Support for regulations or incentives were lower for people with an intention to vote Conservative compared to Liberal, NDP, or Bloc Quebecois. Lack of support for regulations and incentives were higher in SK (37%) and MB (30%) compared to the average across Canada (18%). • Younger men (aged 18-34) were less likely to support either method to encourage vaccination (27%). • The majority of vaccinated persons (53%) strongly agree that they have little sympathy for those have not gotten vaccinated and get COVID-19 compared to those who intend to get vaccinated (33%), or those who will not get a vaccine (5%).
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		<ul style="list-style-type: none"> • Lower sympathy for those who choose not get vaccinated and get COVID-19 was found among Liberals. <p>Wave 12</p> <ul style="list-style-type: none"> • In a July 2021 survey, 69% of Canadians wanted to wait until at least 75% of Canadians were fully vaccinated before opening the Canada-US border, 38% would be okay with 50% of Canadians being vaccinated, and 22% say right away. • 53% of respondents reported they were not concerned about becoming sick but 9% reported they would feel less worried if 70% of eligible Canadians were vaccinated. • 54% felt the timing was right to remove the requirement for 2 weeks of isolation for returning double vaccinated Canadians, 25% felt it was too soon, and 21% felt it took too long. <p>Wave 11</p> <ul style="list-style-type: none"> • 86% of respondents reported they would get vaccinated right away or have had at least one dose, up 2% from June. • 8% would not get vaccinated down 1% since June. • Levels of those who are uncertain or would like to eventually get vaccinated but want to wait remained steady from last polling at 3%. • AB continued to lead the way in the levels of unwillingness to vaccinate at 22%, an increase
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		<p>of 5% since May. The next highest provinces are SK and MB both at 15% unwilling.</p> <ul style="list-style-type: none"> • 52.9% of the 315 respondents who received a different brand to their first dose felt total comfortable with receiving different brands, 26.5% were fairly comfortable, 18.9% were a little uncomfortable, and 3.8% are very uncomfortable. • 23% reported they were very likely to spend time with someone who is unvaccinated, 31% were pretty likely, 30% were unlikely, and 16% very unlikely. Those aged 18-24 were more likely to report being very likely to spend time with the unvaccinated. • 49% of respondents felt comfortable asking about others vaccination status, 22% felt it was not okay, and 29% felt it depended on who it was. Those who were unwilling or unsure about vaccination, those who voted Conservative in the past, and those who were younger were less comfortable with asking about vaccination status. • 76% of those who were unwilling or unsure about vaccination were planning on resuming everything they did before with no hesitation compared to 34% of those their first dose or 27% with both doses. • Vaccine passport requirements had generally high support for activities like boarding a plane
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		<p>(75%), international travel (75%), travel to the US (73%), attending events (67%), at work (61%), and public places like restaurants (59%).</p> <ul style="list-style-type: none"> Wave 1-10 summarized in previous versions of this report.
<p>Engage Manitoba (2021) grey literature^{57 87}</p> <p>Longitudinal study</p> <p>Canada</p> <p>Jan-Jun 2021</p>	<p>A series of online surveys in Manitoba were implemented to assess vaccine intentions within the Safely Restoring Services in Manitoba Survey.</p> <p>Survey 1: Jan 10-15, n=73,351 Survey 2: Feb 4-9, n= 33,687 Survey 3: Feb 25-Mar 2, n=26,909 Survey 4: Mar 18-23, n=31,776 Survey 5: Jun 4-8, n= 33,904</p> <p>Question Topics:</p> <ol style="list-style-type: none"> Vaccine intentions Vaccine perceptions <p>Survey tools available? Yes Formative research conducted? No Survey pre-tested? No</p>	<p>Survey 5</p> <ul style="list-style-type: none"> 86% have received at least one dose of a vaccine (up from 9% in survey 4). 2% have booked their first dose appointment, 2% will get the vaccine but are in no rush (down from 13%), 4% are unsure if they will get a vaccine (down from 12%), and 5% will not get a vaccine (down from 10%). Of those who were not sure or do not intend to be vaccinated, very few would be swayed by the ability to travel within Canada (9%), attend sporting events or cultural events (7-9%), visit facilities or events (10%), or visit loved ones (11%). <p>Survey 4</p> <ul style="list-style-type: none"> 9.0% of respondents have already received a vaccination (up 4% since survey 3). 56% intend to sign up for a vaccination as soon as they are eligible (up 1.9%). 13% report that they want a vaccine but are not in a rush (down from 16.2%).

		<ul style="list-style-type: none"> • 12% are unsure if they will get a vaccine when it's available (down from 14.2%). • 10% would refuse a vaccine (down from 10.5%). • Approval of the Manitoba governments approach to vaccinations is high in the latest survey with 33% strongly approving, 47% somewhat approving, 13% somewhat disapproving, 7% strongly disapproving.
<p>INSPQ (2021) grey literature^{1 2 32 36 37 38 45 49 50 52 55 61 88 89 90}</p> <p>Longitudinal study</p> <p>Canada</p> <p>Apr 2020 – Sep 2021</p>	<p>Analysis of the acceptability of vaccination against COVID-19 was evaluated using an online survey of adults and HCWs in Quebec. Number of participants was not clearly stated (~3300 each collection period). Articles in French. There were multiple collection periods:</p> <p>Apr – Dec 2020</p> <p>Feb 2021</p> <p>Apr 2021</p> <p>Early May 2021</p> <p>Late May 2021</p> <p>June 2021</p> <p>Early July 2021</p> <p>Mid July 2021</p> <p>Late July 2021</p> <p>August 2021 (report 1)</p> <p>August 2021 (report 2)</p> <p>Late Aug - Sep 2021 (report 1) new</p> <p>Late Aug - Sep 2021 (report 2) new</p>	<p>September</p> <ul style="list-style-type: none"> • The number of those either intending or not intending to be vaccinated remains steady with 89% of respondents having received both doses, 4% having received one dose, 1% intending to be vaccinated, 5% not intending to get vaccinated, and 1% unsure. • Respondents were largely in agreement that vaccines are an effective means of reducing the risk of contracting COVID-19 (84%). • 58% of respondents were worried about the efficacy of vaccines against variants. • Those residing in QC continued to express strong support for vaccine passports to access certain sites and activities (75%) as well as supporting sanctions for businesses that do not confirm client vaccine records (68%),

	<p>Mid Sep 2021(report 1) new Mid Sep 2021 (report 2) new</p> <p>Question Topics:</p> <ol style="list-style-type: none"> 1) Vaccine intentions 2) Vaccine hesitancy <p>Survey tools available? No</p> <p>Formative research conducted? No</p> <p>Survey pre-tested? No</p>	<p>and fines for people who present fake passports (82%).</p> <ul style="list-style-type: none"> • 65% (up from 24% earlier in September) agreed that proof of vaccination should be required for services and businesses (spa, malls, health center). • 26% agreed that given vaccinations it's less important to follow protective measures. • Vaccine hesitancy was higher among those without secondary education, those without employment, households with minor children, immigrants, those in the most deprived quintile, those not worried about catching COVID-19, those not following protective measures, and those with conspiratorial world views. • 48% of persons who do not intend to get vaccinated or were unsure believed the vaccination was incompatible with personal beliefs. • Outcomes on parental intentions to vaccinate located in Table 6. <p>August</p> <ul style="list-style-type: none"> • Few (23%) agreed that given vaccination progress it's less important to follow preventative measures. • 76% of respondents were in favour of vaccination passport to allow access to certain places or activities.
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		<ul style="list-style-type: none"> • 76% were confident the vaccines protect against COVID-19 variants. • Of the unvaccinated, 17% intend to get vaccinated, 65% do not intend to get vaccinated, and 18% were unsure. • Intention to vaccinate among the unvaccinated was lowest among men, those aged 18-24, those with college education, those with full time employment, French households, living in the most disadvantaged quartile, and those living in small towns and rural areas. • 70% of unvaccinated households without minor children do not intend to vaccinate compared to 65% of one person households and 59% of households with minor children. • Prior uncertainty about vaccination demonstrated by not yet unvaccinated immigrants has dissipated with unvaccinated immigrants and non-immigrants now showing similar levels of uncertainty while non-immigrants had far less intention to vaccinate than immigrants (68% vs 45% no intention to vaccinate respectively). • Attitudes or behaviours associated with low intention to vaccinate included not being worried about getting COVID-19, not following protective measures, having
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		<p>conspiratorial world views, and checking social media on COVID-19 once a day.</p> <ul style="list-style-type: none"> • Of those not vaccinated, the major reasons to not vaccinate were concern for side effects (21%) and effectiveness of the vaccine (20%), lack of confidence in vaccines in general (16%), other reasons (13%), fears of the newness of the vaccine (11%), and not seeing the need to vaccinate due to low risks with their health if they get COVID-19 (10%). • 8% agreed that vaccination is incompatible with their religious or personal beliefs (down from 28%). Agreement with vaccination being incompatible their beliefs was higher for men than women (9% vs 7%), those aged 25-34, those living in Montreal or small villages, and among those with no intention to vaccinate. • Outcomes on parental and HCW intentions to vaccinate is located in Table 3 and 6. <p>July</p> <ul style="list-style-type: none"> • In a July 2021 survey, 91% of respondents have either had one or both doses of vaccines, 2% intend to vaccinate, and 7% have no intention. • Of the unvaccinated, 18% intend to vaccinate, 69% have no intention, and 13% were unsure.
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		<ul style="list-style-type: none"> • Among the unvaccinated, those who had no intention to vaccinate were more likely to be women (70%), aged 25-34 (73%) and 35-44 (70%), those with secondary or less (72%), workers in a healthcare environment (87%), full time workers (76%), households with minors (78%), non-immigrants (72%), others as compared to French (70%), those in the highest deprivation quintile (72%), rural villages (72%), those not worried about getting COVID-19 (76%), those who do not always follow preventative measures (72%), have conspiratorial world views (74%), and never check social media on COVID-19 (74%) or check several times a day (73%). • The top reasons to not vaccinate were concern about side effects (21%) followed by fear of its newness (17%) and lack of confidence in vaccines in general (17%). • Agreement over whether the COVID-19 vaccine is danger free was not clear cut with 63% agreeing that it is danger free and 26% disagreeing. • 7% reported that vaccination is incompatible with their religious beliefs but was slightly higher among those aged 18-24 (10%), 25-34 (12%), 35-44 (10%), and those with no intention to vaccinate (38%).
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		<ul style="list-style-type: none"> • 56% are concerned about vaccine effectiveness against variants whereas 39% are not, and 5% are not sure with little difference among those with different vaccine intentions. • 53% of respondents agreed that people vaccinated against COVID-19 should be able to gather and no longer wear masks in public, 41% disagree, and 6% did not know. • 75% were in support of vaccine passports for access to events and places. • 71% (1% increase from June) disagreed that given vaccination rates and cases it's less important to follow preventative measure whereas 27% agreed, and 3% did not know. • Outcomes on parental intention to vaccinate is located in Table 6. <p>June</p> <ul style="list-style-type: none"> • 49% agreed that vaccinated adults should be able to gather without masks in private, 44% disagreed, and 6% were unsure. • Almost half of respondents felt that vaccinated people should be able to gather without masks in private (49%) but also agree that masks should be worn outside with people they don't live with (56%). • Vaccine passports have high support with 72% in favour (23% disagreed and 4% were unsure).
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		<ul style="list-style-type: none"> • 73% of respondents disagreed that it is important to follow protective measures based on the rate of vaccination and the decrease in COVID-19 cases. <p>May</p> <ul style="list-style-type: none"> • 74% of respondents who have not been vaccinated yet intend to get a vaccine, a 3% drop since late April. 18% do not intend to get a vaccine (a 4% increase), and 8% do not know (1% decrease). • Intention to vaccinate was lowest in those aged 25-34, women, those without secondary education, who were unemployed, more deprived, were not worried about getting COVID-19, those with conspiratorial views, and those who check social media once a week or less. • Households with minors had lower intentions to vaccinate compared to single person households, and households without minors. • Immigrants were more hesitant and unsure about receiving a vaccine compared to non-immigrants. • The top three reasons among those who were not intending to vaccinate included worry about side effects, lack of confidence in vaccines in general, and the newness of the vaccine.
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		<ul style="list-style-type: none"> • 28% of those who do not intend to vaccinate believe that it is incompatible with their religious beliefs or personal principles. • 2020 results reported in previous updates
<p>Independent Polling System of Society (IPSOS) and Toronto Public Health (2021) grey literature³ new</p> <p>Longitudinal study</p> <p>Canada</p> <p>Mar-Aug 2021</p>	<p>To gain a better understanding of the public’s views on vaccination, an online survey was conducted in Toronto residents with an over sampling of recent immigrants.</p> <p>Wave 1: Mar- Apr, n=1,200 Wave 2: Jul-Aug, n=1,203</p> <p>Question Topics: 1) Vaccine intentions</p> <p>Survey tools available? No Formative research conducted? No Survey pre-tested? No</p>	<p>Wave 2</p> <ul style="list-style-type: none"> • As of July-August, 81 % of respondents have received a vaccine (at least one dose), 5% intend to vaccinate, 8% were unsure, and 6% do not want to get vaccinated. There was a 7% decrease in hesitancy since the March survey. • Of those who received their first dose, 90% were waiting to get their second dose, 9% were unsure, and 1% will not get a second dose due to adverse effects from the first dose. • The top three reasons among those who don’t want to get vaccinated include worries about side effects (47%), long-term side effects (47%), and not trusting the speed of development (47%). These remain stable since the March survey. • Of those not vaccinated, 37% report that they would be more likely to get vaccinated if it was required to travel, 34% if it were required to go to work, 32% if it was tested among a large number of people, and 30% if they get paid 100\$. • Unvaccinated respondents reported that they did not know how to access the online

		<p>booking site (22%), have a preference for the type of vaccine (59%), and are confused about contradictory evidence about vaccines (53%).</p> <ul style="list-style-type: none"> • 81% and 80% agreed that vaccination should be mandatory for people who travel outside Canada and attend large events, respectively. • Once they are fully vaccinated, 41% reported they will resume activities like before COVID-19 without restrictions. • 38% and 36% agreed that when they are fully vaccinated they will not be able to spread COVID-19 or get sick from COVID-19, respectively. • Outcomes for parental intentions located in Table 6. <p>Wave 1</p> <ul style="list-style-type: none"> • The three top reasons for getting a vaccine were getting back to normal (74%), not wanting to get sick (70%), and not wanting to transmit COVID-19 to others (67%). • 61% of respondents would get the vaccine if it has been tested on a large number of people, 60% if approved by Health Canada, and 57% if the vaccines was tested on someone like them. Only 16% would be more likely if they saw athletes or celebrities get vaccinated. • The biggest barrier noted by respondents was not getting
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		<p>paid time off to get a vaccine (32%).</p> <ul style="list-style-type: none"> The preferred location for vaccination was a doctors office (56%) followed by pharmacy (47%), vaccination centre (43%), and hospital (29%).
<p>Saskatchewan Population Health and Evaluation Research Unit (2021) grey literature^{34 91 92}</p> <p>Longitudinal study</p> <p>Canada</p> <p>May 2020 – Jun 2021</p>	<p>The online Social Contours and COVID-19 Survey was used to evaluate intention and behaviours to vaccinate in residents of Saskatchewan weekly starting in May 2020. The number of individuals is not clearly stated and it is unclear if they are the same participants over time.</p> <p>May-Sep 2020, n = NR Jan-May 2021, n = 3,585 new May 2020- Jun 2021, n = 10,672 new</p> <p>Question Topics: 1) Vaccine intentions</p> <p>Survey tools available? No Formative research conducted? No Survey pre-tested? No</p>	<p>2021</p> <ul style="list-style-type: none"> In late April/early May vaccine intention was above 80% after peaking in April at 87.2%. Vaccine intentions were generally lower for rural and mid-sized city residents compared to those living in Regina or Saskatoon. 26% of those who haven't been vaccinated wear a mask little or none of the time compared to 2% of those who were already vaccinated. Those who believed they would get very sick from COVID-19, felt likely they would get infected, felt concerned about spreading COVID-19, felt others were following protocols, were social distancing most of the time, had a low number of contacts with people outside of their households while maskless, felt financially secure, or were over 65 had higher intentions to vaccinate. Vaccine hesitancy increased during vaccine rollout in 26% of health network zones. In May 2021, 35% felt the Saskatchewan government was doing a good job getting

		<p>people vaccinated (18% very good/31% fair/15% poor).</p> <p>2020</p> <ul style="list-style-type: none"> Based on results collected from June to December 2020 (n=3,219) vaccine refusal was associated with female gender, lower education, being born outside of Canada and having lived less than 20 years in Canada, Indigenous, not wearing a mask often, not adhering to social distancing, and not being overly concerned about getting sick. From May to Sep, intention to vaccinate dropped from 84.9% to 56.5%. Intention to vaccinate is highest in those 65-74 years of age and lowest in those under 48 years of age.
<p>International COVID-19 Awareness and Responses Evaluation Study (2021) grey literature⁹³ new Longitudinal study Canada Mar 2020- Jun 2021</p>	<p>The longitudinal online iCARE study captures international responses regarding COVID-19 preventative behaviors and attitudes including intention to vaccinate. In wave 9 and 10 Canadian results were reported separately. Only Canadian results are reported.</p> <p>Wave 9: Mar-May 2021, n = 449 Wave 10: May-Jul 2021, n = 395</p> <p>Question Topics: 1) Vaccine attitudes</p>	<ul style="list-style-type: none"> 69% of respondents in May-July reported that the introduction of vaccine passports would not influence their decision to get vaccinated (down from 83% in March-May). Up to 25% might be more likely to get the vaccine if immunization passports became mandatory. Strong support for a vaccine passport for travel increased from March (58%) to July (65%).

	<p>Survey tools available? No</p> <p>Formative research conducted? No</p> <p>Survey pre-tested? No</p>	
<p>Government of Manitoba (2021) grey literature⁴⁷</p> <p>Longitudinal study</p> <p>Canada</p> <p>May 2021</p>	<p>An online research panel of 600 Manitobans were surveyed to understand attitudes towards vaccination and possible incentives to increase uptake.</p> <p>Question Topics:</p> <ol style="list-style-type: none"> 1) Vaccine intentions 2) Vaccine perceptions <p>Survey tools available? No</p> <p>Formative research conducted? No</p> <p>Survey pre-tested? No</p>	<ul style="list-style-type: none"> • 87% have received a vaccine or intend to be vaccinated (74% received and 13% intend), and increase of 11% from April. • 5% will get a vaccine but were not in a rush (down from 12%), 5% were unsure if they will get a vaccine (down from 7%), and 4% will not get a vaccine (down from 5%). • From April to June there was an 18% drop in the number of people strongly approving of Manitoba’s vaccine distribution (42% to 24%), 49% somewhat approve (up from 43%), 17% somewhat disapprove (up from 11%), and 10% strongly disapprove (up from 4%). • 31% of respondents felt much more positive about COVID-19 vaccine now than when first introduced, 19% felt slightly more positive, 45% felt the same, 3% felt slightly more negative, and 2% felt much more negative. • 55% felt that whether they got the vaccine or not should be a choice, 42% felt that it should not be a choice, and 3% were unsure. • Those who would promote vaccination tended to be younger than 30 or over 65 and believed that adults

		<p>should have all their regular vaccines.</p> <ul style="list-style-type: none"> • The types of information that were the most likely to influence decision to vaccinate included information about possible side effects (42%), being able to choose the vaccine (42%), information about testing (41%), and information about how the vaccine works (36%). • The least persuasive type of information was hearing stories from celebrities who got their vaccine (90% unlikely to impact). • Women would be the most influenced by being able to choose the vaccine. • Residents of Winnipeg were more influenced than those in rural areas by getting a vaccine from a family doctor/pharmacist, speaking to their family doctor/pharmacist, having someone come to their home, and hearing stories from celebrities. • Manitobans were largely not swayed by community incentives such as being able to travel without having to isolate (50% no more likely to vaccinate), being able to visit long term care homes without restrictions (52% no more likely), entry into provinces or countries (48% no more likely), being able to attend large events (60% no more likely), attend larger gathering (54% no more likely), certain
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		<p>businesses/facilities to those that are vaccinated (61% no more likely).</p> <ul style="list-style-type: none"> • Those aged 30 to 44 were more likely to be influenced by being able to attend larger gatherings (community, faith, or personal). • Financial incentives (monetary, vouchers, complimentary items, draws for prizes, discounts) were not reported to increase the likelihood of accepting a vaccine (between 75% and 84% stating they are not more likely by any financial incentive). • 70% of respondents were concerned if only hesitant individuals received large (\$50-\$100) incentives. • Outcomes on intention to vaccinate in parents can be located in Table 6.
<p>Statistics Canada (2021) grey literature^{17 65 94 95}</p> <p>Longitudinal study</p> <p>Canada</p> <p>Sep 2020 – Apr 2021</p>	<p>An online survey conducted by Statistics Canada as part of the Canadian Community Health Survey (CCHS) assessed Canadians behaviors to safeguard their own health as well as the health of others. In the September survey, a question about vaccine intentions was added. The most recent report captures 27,263,500 responses from individuals aged 12+. Various reports include:</p> <p>Sept 2020</p> <p>Sep – Dec 2020</p> <p>Sep 2020 – Apr 2021</p>	<p>Mar-Apr 2021</p> <ul style="list-style-type: none"> • 88.1% of respondents were likely to get vaccinated, an increase of 5.8% from Jan-Feb 2021. • 71.4% of those aged 12-17 reported they were likely to get a vaccine compared to 82.8% of those 18-34, 90.3% of those 35-49, 90.7% of those 50-64, and 95.2% of those aged 65+. • Men and women were roughly equal in their intent to vaccinate across all age groups (overall for all age groups 88.2% for men and 88.1% women).

	<p>Sept 2020 – Apr 2021 (slightly different report)</p> <p>Question Topics: 1) Vaccine intentions</p> <p>Survey tools available? Yes</p> <p>Formative research conducted? Yes</p> <p>Survey pre-tested? Yes</p>	<ul style="list-style-type: none"> From lowest to highest intention to vaccinate were the Prairie provinces (82.9%), ON (87.9%), BC (88.2%), Atlantic provinces (90.9%), and QC (91.9%). <p>Jan-Feb 2021</p> <ul style="list-style-type: none"> 82.3% of respondents were very or likely to get a COVID-19 vaccine. Vaccine intention was highest in those over 65 years (88.1%) with a decreasing level of intention in those aged 12-17 (71.0%). Vaccine intention was similar between males and females (82.8% vs 81.9%, respectively). Earlier studies summarized in previous versions (1-9). <p>*Use with caution. Coefficient of variation (CV) from 15.1% to 35.0%.</p>
<p>Impact Canada (2021) grey literature¹⁵</p> <p>Longitudinal study</p> <p>Canada</p> <p>Apr 2020 – Mar 2021</p>	<p>Vaccine confidence and hesitancy in the Canadian context was explored through the implementation of the World Health Organization (WHO) Behavioural Insights (BI) Tool on COVID-19 in eight waves of adults (18+) using the same participants where possible.</p> <p>Wave 1: n=2023, Wave 2: n=2,098, Wave 3: n=2,000, Wave 4: n=2,152, Wave 5: n=2,169, Wave 6: n=2,141, Wave 7: n=2,129, Wave 8: n=2,117, Wave 9: n=2,055, Wave 10: n=2,125, Wave 11: n= 2,037, Wave 12: n= 2,070</p>	<p>Wave 12</p> <ul style="list-style-type: none"> In March 2021, 36% of vaccinated respondents and 40% of respondents overall reported having visited with friends or family indoors in the past two weeks. 83% of respondents that had received a vaccine would recommend the vaccine. 68% of those who received a vaccine had a clear understanding what they are allowed to do as a vaccinated person and 52% felt relief being vaccinated. Most respondents who received at least one dose did

	<p>Question Topics:</p> <ol style="list-style-type: none"> 1) Vaccine intentions 2) Vaccine perceptions 3) Vaccine hesitancy <p>Survey tools available? Yes</p> <p>Formative research conducted? Yes</p> <p>Survey pre-tested? No</p>	<p>not feel comfortable going out in public (20% agree).</p> <ul style="list-style-type: none"> • Vaccinated respondents did not feel concerned about long term side effects (4% agree) or regret getting the vaccine (3% agree). • 87.1% of those that received a vaccine reported that they intended to get vaccinated in last survey and 8% did not (5% did not recall). • 12% felt that there was a COVID-19 vaccine available for them (up from 8% in February), 82% did not feel there was a vaccine for them, and 6% did not know. • 70% of respondents reported they would like to get a safe vaccine whereas 69% would like an effective vaccine. • The top reasons for hesitancy included belief that not enough testing had been done (25%), possibility for side effects (13%), newness of vaccine (11%), and belief that it will be safe (10%). • Almost half (48%) did not have a vaccine preference, 39% had a preference, and 13% did not know. • 23% of respondents would accept either Johnson & Johnson or AstraZeneca, 4% would accept AstraZeneca, 24% would accept Johnson & Johnson, 28% would not like to receive either, and 22% did not know. • 60% agreed that that showing proof of vaccination for
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		<p>international travellers arriving in Canada would be effective.</p> <p>Wave 11</p> <ul style="list-style-type: none"> • In Feb 2021, intention to get vaccinated right away has increased to 58% (up from 49% in wave 10). 24% intend to vaccinate but would like to wait, 9% would not vaccinate, and 8% were unsure. • Those who plan to wait are mostly like to want to wait 1 to 2 months (33%). • 68% have made up their mind if they will or will not get a vaccine and 25% need more information before deciding. • The two most common reasons for vaccine hesitancy included a lack of testing or research (26%) and belief that the vaccine was not safe (15%). • 47% report that getting the most effective vaccine is the most important criteria for selecting a vaccine, followed by the vaccine that is available first (15%), and fewest side effects (12%). • 56% and 22% would like more information regarding the safety and effectiveness of the vaccine, respectively. • A vaccine recommendation from a healthcare provider would likely influence 45% of respondents. • Earlier waves summarized in previous versions (1-10)
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<p>Dubé (2021)⁴⁶</p> <p>Longitudinal study</p> <p>Canada</p> <p>Apr 2020-Dec 2020</p>	<p>During the first and second wave of the pandemic vaccine attitudes and intentions, and preventative behaviours were assessed in a weekly web panel of 3300 Quebec residents. This is a formal analysis of the INSPQ study with some additional information.</p> <p>Question Topics:</p> <ol style="list-style-type: none"> 1) Vaccine intentions 2) Vaccine hesitancy <p>Survey tools available? Yes</p> <p>Formative research conducted? Yes</p> <p>Survey pre-tested? No</p>	<ul style="list-style-type: none"> • In 2020, the intention to vaccinate started at 74% in April and grew to 76% until May, dropped to 66% in September before rebounding to 73% in December. • In multivariate analysis intention to vaccinate was higher in men (aOR 1.80, 95% CI: 1.56-2.06), those with college (aOR 1.37, 95% CI: 1.17-1.60) or university (aOR 2.01, 95% CI: 1.66-2.43), having or living with someone chronic medical conditions (aOR 1.39, 95% CI: 1.18-1.63), and those that are afraid (aOR 1.58, 95% CI: 1.32-1.89) or moderately afraid (aOR 1.51, 95% CI: 1.26-1.82) of COVID-19. • Increasing age was associated with higher intentions to vaccine (age 18-24: aOR 1.86, 95% CI: 1.46-2.36, age 45-59: aOR 1.29, 95% CI: 1.08-1.53, age 60-69: aOR 2.14, 95% CI: 1.73-2.65, age 70+: aOR 3.44, 95% CI: 2.57-4.58) compared to those aged 25-44. • Those who were less deprived were more likely to intend to vaccinate compared to those in the most deprived quintile (Q1: aOR 1.53, 95% CI: 1.20-1.94, Q2: aOR 1.34, 95% CI: 1.06-1.68, Q3: aOR 1.25, 95% CI: 1.00-1.58). • Those without conspiratorial world views were more likely to vaccinate (aOR 2.68, 95% CI: 2.28-3.14) compared to those who hold conspiratorial world views.
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<p>Mant (2021)⁴⁴</p> <p>Longitudinal study</p> <p>Canada</p> <p>Jun-Jul 2020 and Sep-Oct 2020</p>	<p>Ontario university students' willingness to receive a COVID-19 vaccine when it becomes available was evaluated using an online survey at two time points: 1) Jun-Jul 2020 (n=483) and 2) Sep-Oct 2020 (n=1269). Semi-structured interviews were conducted following each survey, with 20 students participating in each round.</p> <p>Question Topics:</p> <p>1) Vaccine intentions</p> <p>Survey tools available? No</p> <p>Formative research conducted? Yes</p> <p>Survey pre-tested? No</p>	<ul style="list-style-type: none"> • In Jun-Jul, 77.8% of participants were willing to get a vaccine. This increased to 79.6% in Sep-Oct. • Perception of the severity of COVID-19 predicted willingness to get the vaccine in both Jun-Jul (P < 0.001) and Sep-Oct (P = 0.005). Controlling for other predictor variables, for each 1-point increase in perception of the severity of COVID-19 disease, participants were 2.21 and 1.26 times more likely to be willing to get the vaccine than not in the Jun-Jul and Sep-Oct surveys, respectively. <p>Sep-Oct</p> <ul style="list-style-type: none"> • Students who indicated they would be encouraged to get the COVID-19 vaccine if their doctor/pharmacist recommended it were 76 times more likely to be willing to get the vaccine than those who would not be encouraged by medical advice. • Another factor predicting willingness to get the vaccine included being personally affected by COVID-19 (P < 0.001). • The most common reasons for not getting the vaccine were a concern about insufficient testing (68.4%) and potential side effects (66.4%).
<p>Cross-sectional studies (n=33)</p>		
<p>Nanos (2021) grey literature⁵⁶</p>	<p>1,002 Canadians aged 18+ were surveyed by telephone or online to measure comfort</p>	<ul style="list-style-type: none"> • Very few respondents would take an active approach (encourage

<p>Cross-sectional study</p> <p>Canada</p> <p>Jul- Aug 2021</p>	<p>of different vaccination situations.</p> <p>Question Topics: 2) Vaccine attitudes</p> <p>Survey tools available? Yes</p> <p>Formative research conducted? No</p> <p>Survey pre-tested? No</p>	<p>vaccination/maintain protective measures/discuss vaccinations) if they disagreed with a good friend over vaccination preferring to either avoid the topic and continue to hang out or avoid seeing the friend for the time being.</p> <ul style="list-style-type: none"> • Older adults (55+) preferred avoiding friends rather than avoiding the topic of vaccination compared to those 18-34. 9.1% of 18-24 year olds were willing to end a friendship over vaccination. • Canadians had strong agreement for proof of vaccination for air travel, long distance train, or large events. • There was less agreement regarding comfort with sending kids to school, visiting hospitals, or going to work when there was not full vaccination at each place. • A large number of respondents were uncomfortable or somewhat uncomfortable showing up for work (66%), school (71%), or a hospital (72%) if some colleagues, teachers, or HCWs were not fully vaccinated, respectively. Older respondents (55+) were more uncomfortable across the board.
<p>Independent Polling System of Society (IPSOS) (2021) grey literature⁹⁶</p>	<p>An online survey of 1000 Canadians (18+) analyzed perceptions about COVID-19 vaccination in the face of emerging variants.</p>	<ul style="list-style-type: none"> • 62% of respondents felt that vaccination would help avoid a fourth wave in Canada however 69% were still worried about a potential fourth wave. • Belief that vaccination would prevent a fourth wave was

<p>Cross-sectional study</p> <p>Canada</p> <p>Jul 2021</p>	<p>Question Topics:</p> <p>1) Vaccine perceptions</p> <p>Survey tools available? No</p> <p>Formative research conducted? No</p> <p>Survey pre-tested? No</p>	<p>highest in BC (66%) followed by SK/MB (64%), ON (63%), QC (62%), ATL (61%), and AB (59%).</p>
<p>Innovative Research Group (2021) grey literature¹⁹</p> <p>Cross-sectional study</p> <p>Canada</p> <p>May-Jun 2021</p>	<p>An online poll of 2,838 adults with a specific over sampling of Black Canadians (n=502) was conducted to evaluate COVID-19 vaccine intentions and hesitancy.</p> <p>Question Topics:</p> <p>1) Vaccine intentions</p> <p>2) Vaccine hesitancy</p> <p>Survey tools available? No</p> <p>Formative research conducted? No</p> <p>Survey pre-tested? No</p>	<ul style="list-style-type: none"> • 21% of Canadians were vaccine hesitant with higher levels among Black Canadians (33%) and non-Black visible minorities (25%) compared to White Canadians (19%). • Vaccine intentions were highest among non-Black visible minorities (32%) followed by Black Canadians (22%), and White Canadians (16%). • 60% of respondents overall have been vaccinated (65% of White Canadians, 45% Black Canadians, and 43% non-Black visible minorities). • Of those who have not received a vaccine, 48% of White Canadians would get vaccinated compared to 40% of Black and 56% of non-Black Canadians. • 54% of 25-34 old Black Canadians were vaccine hesitant. • Vaccine hesitancy was higher amongst Black Canadians and Non-Black Canadians born in Canada than those born outside of Canada. • The top reasons for hesitancy were a lack of trust/not enough testing (29%) followed

		<p>by side effects/safety concerns (26%) which mirrored the top concerns of Black Canadians (21% and 23% respectively). The most dissimilar responses were seen for don't want it/my choice (7% among Black Canadians and 2% among White) and mixed messages/rumours (10% among Black Canadians and 1% among White).</p> <ul style="list-style-type: none"> • Factor analysis finds trust in healthcare providers and vaccine makers, having a university education, being older than 55, confidence in how to get vaccinated, being able to take paid time off to get vaccinated, being in Atlantic Canada, feeling at high risk for COVID-19, and being male drive vaccine confidence for Black Canadians. • Drivers of not getting vaccinated among Black Canadians are the ability to take paid time off if they get COVID-19, concern that vaccines cause autism, and vaccine safety concerns. • 78% of Black Canadians and non-Black minorities were confident they knew how to get a vaccine but only 39% of Black and 38% non-Black minorities agree that they can take paid time off to get a vaccine. • 20% of Black and 17% non-Black minorities either strongly or somewhat agree that vaccines may cause autism
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		compared to 9% of White Canadians.
<p>Angus Reid (2021) grey literature⁵⁴</p> <p>Cross-sectional study</p> <p>Canada</p> <p>May 2021</p>	<p>1601 Canadian adults were surveyed about their thoughts on vaccination policies (proof of and vaccine passports) online.</p> <p>Question Topics:</p> <ol style="list-style-type: none"> 1) Vaccine intentions 2) Vaccine perceptions 3) Vaccine hesitancy <p>Survey tools available? Yes</p> <p>Formative research conducted? No</p> <p>Survey pre-tested? No</p>	<ul style="list-style-type: none"> • 79% Canadians were supportive of showing proof of vaccination for international travel (excluding the US), 78% support it for commercial flights, and 76% were supportive for traveling to the US. • Less support was shown for having proof of vaccination for attending large public events (69%), public places such as restaurants, bars, and movie theatres (55%), and at places of work (55%). • Those who were vaccine hesitant had much lower support for proof of vaccination across all presented scenarios. • 18% of those not willing to get a vaccine would be swayed to get vaccinated if proof of vaccination was required in many scenarios.
<p>Muhajarine (2021) preprint²⁷</p> <p>Cross-sectional study</p> <p>Canada</p> <p>Apr-May 2021</p>	<p>9,252 responses collected from 7,265 Saskatchewan adults (18+) were enrolled from landlines and online to complete an online survey regarding vaccine acceptance and hesitancy.</p> <p>Question Topics:</p> <ol style="list-style-type: none"> 1) Vaccine intentions 2) Vaccine hesitancy <p>Survey tools available? No</p>	<ul style="list-style-type: none"> • 76.1% of respondents had either been vaccinated or were willing to get vaccinated, 13.3% were vaccine hesitant, and 10.6% had refused a vaccine. • In multivariate analysis vaccine hesitancy was associated with women (RRR 2.16, 95% CI: 1.57-2.99), those with less education (no formal /completed high school RRR 2.45, 95% CI: 1.65-3.62), born outside of Canada and lived in Canada less than 20 years (RRR

	<p>Formative research conducted? No</p> <p>Survey pre-tested? No</p>	<p>3.14, 95% CI: 1.56-6.34), having Indigenous status (RRR 1.65, 95% CI: 1.01-2.70), those with unsecure financial situations (RRR 2.2, 95% CI: 1.67-2.91), and those slightly/hardly concerned about COVID-19 (RRR 2.46, 95% CI: 1.6-3.78) compared to their counterparts. Similar trends were seen with vaccine refusal.</p>
<p>Leger (2021) grey literature⁹⁷</p> <p>Cross-sectional study</p> <p>Canada</p> <p>Apr 2021</p>	<p>An online survey of 1004 participants in British Columbia was conducted to assess views on vaccines, vaccine passports, and vaccine rollout.</p> <p>Question Topics:</p> <ol style="list-style-type: none"> 1) Vaccine intentions 2) Vaccine perceptions <p>Survey tools available? No</p> <p>Formative research conducted? No</p> <p>Survey pre-tested? No</p>	<ul style="list-style-type: none"> • 16% reported they had received a vaccine. • 49% intend to tell everyone they know when they receive a vaccine, especially for respondents in urban areas (53%) compared to rural (40%). Fewer respondents would only tell immediate family and friends (42%). • 24% intend to share when they get a vaccine on social media. • Most don't feel they should be vaccinated before others (27%), or are jealous (25%), or anxious (25%) of others being vaccinated. • Vaccine passports had high support in international travellers coming to BC (77%) and BC travellers going abroad (75%). Support for passports for Canadians traveling within Canada (68%) and within BC (56%) was slightly lower. • Vaccine passports for any situation had higher support among those 55+. • 70% are happy with the order of vaccination prioritization in

		<p>BC and 44% are satisfied with the rollout.</p> <ul style="list-style-type: none"> Support for health figures or leaders has decreased since Dec 2020 (Dr. Bonnie Henry: 65%, Adrian Dix: 58%, Dr. Theresa Tam: 53%, Justin Trudeau: 45%).
<p>Statistics Canada (2021) grey literature^{14 98}</p> <p>Cross-sectional study</p> <p>Canada</p> <p>Mar-May 2021</p>	<p>Vaccine intentions and perceptions were analyzed in the second round COVID-19 Vaccination Coverage Survey (CVCS) involving Canadian adults (18+) in the provinces using mail invites and computer assisted telephone interviews for non-responses.</p> <p>Round 1: n= 1,025 capital cites of the territories</p> <p>Round 2: n= 10,678 in 10 provinces</p> <p>Question Topics:</p> <ol style="list-style-type: none"> Vaccine intentions Vaccine perceptions Vaccine hesitancy <p>Survey tools available? Yes</p> <p>Formative research conducted? Yes</p> <p>Survey pre-tested? Yes</p>	<p>Round 2</p> <ul style="list-style-type: none"> Vaccine coverage from highest to lowest (at least one dose) was: SK (54%), QC (47%), BC (46%), AB (46%), ON (45%), NL (43%), MB (42%), NB (40%), NS (36%), and PE (33%). The highest levels of those unlikely to vaccinate were in MB (8%), SK (7%), BC and AB (6%), ON, QC, NB, NS, PE, NL (5%). Intention to vaccinate was lowest among those aged 18-49 (7% unlikely to vaccinate) followed by 5% among those 50-49, and 3% among those 60+. Men, those with less education, and those with smaller household incomes were less likely to intend to vaccinate. The most common reasons for not getting a vaccine yet was not being in an age priority category (47%), not being able to get an appointment yet (13%), and not wanting to be vaccinated at this time (8%). Among those not wanting to be vaccinated, the top reasons were lacking trust in the safety in the vaccine (45%) or effectiveness (30%), and not

		<p>believing they are at high risk for COVID-19 (26%).</p> <ul style="list-style-type: none"> • The top trusted sources for vaccine information were PHAC (84%), health scientists and researchers (70%), and provincial, territorial, regional health authorities (68%). • Outcomes for immigrants found in Table 7. <p>Round 1</p> <ul style="list-style-type: none"> • The majority of respondents had already received one dose (80%) with 16% likely to get vaccinated and few unlikely to get vaccinated (4%). • Respondents were more likely to have received a vaccine or were likely to be vaccinated if they has a post-secondary degree or higher (85% vs 68% for having received a vaccine and 13% vs 23% for likely to get vaccinated respectively). • 10% of those unlikely to be vaccinated had household income of less than \$60,000 compared to 2% among those with incomes between \$60,000 to more than \$120,000. • Most felt vaccines were safe (95%) and effective (97%) compared to the COVID-19 vaccine which garnered lower support for safety (86%) and efficacy (88%). • 94% of respondents felt confident that Canada’s process only approved safe and effective vaccines (94%). • Top sources for COVID-19 vaccination information were
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		Public Health Agency of Canada and Health Canada (89%) and provincial, territorial or regional health authorities (85%).
Centre for Addiction and Mental Health (2021) grey literature ⁹⁹ Cross-sectional study Canada Mar 2021	An online survey of 1000 Canadians as part of Asking Canadians web panel was conducted to measure mental health and vaccine intentions. Question Topics: 1) Vaccine intentions Survey tools available? No Formative research conducted? No Survey pre-tested? No	<ul style="list-style-type: none"> 66.4% of respondents who haven't received a vaccine yet definitely intend to get one, 21.8% will probably get a vaccine, and 11.8% definitely or probably will not get a vaccine.
Mehra (2021) preprint ¹⁸ new Cross-sectional study Canada Feb-Mar 2021	An online survey of 2,528 adults (18+) in Ontario was conducted to evaluate factors including mental health and/or substance abuse use on vaccine intentions. Question Topics: 1) Vaccine intentions 2) Vaccine hesitancy Survey tools available? No Formative research conducted? No Survey pre-tested? No	<ul style="list-style-type: none"> 72% planned to get the vaccine when available, 2.3% had received the first dose, 2.2% had received two doses, 15.1% had heard about the vaccine but were undecided, 7.2% had heard about it and did not plan to be vaccinated, and 1.3% had not heard about the vaccine. Factors significantly associated with vaccine hesitancy compared to vaccine readiness included younger age (OR 2.11, 95% CI: 1.62- 2.74), female gender (OR 1.36, 95% CI: 1.06-1.74), Black ethnicity (OR 2.11, 95% CI: 1.19- 3.75), lower education (OR 1.69, 95% CI: 1.30-2.19), lower SES (OR 0.88, 95% CI: 0.84-0.93), lower

		<p>anxiety about contracting COVID-19 (OR 2.06, 95% CI: 1.50-2.82), and lower depression score (OR 0.90, 95% CI: 0.82-0.98).</p> <ul style="list-style-type: none"> • Compared to those who had intentions to vaccinate, those who were hesitant had higher mean scores in depression (MD -0.25, p=0.040), anxiety (MD -0.61, p=0.040), suicidal ideation (MD -0.16, p<0.001), psychosis (MD -0.22, p=0.001), and repetitive thoughts and behaviors (MD -0.39, p<0.001). These trends were similar with those who did not intend to vaccinate. • Vaccine hesitancy was significantly associated with those who had a moderate/high risk of tobacco use disorder ($\chi^2=6.513$, p=0.011), cannabis use disorder ($\chi^2=6.679$, p=0.010), and opioid use disorder ($\chi^2=4.871$, p=0.027) when compared to those who intended to vaccinate. Similar trends were seen in those who have no intentions to vaccinate.
<p>Tang (2021) preprint¹²</p> <p>Cross-sectional study</p> <p>Canada</p> <p>Jan-Mar 2021</p>	<p>To assess vaccination hesitancy in population subgroups in Canada, an online survey of 14,621 panel members from the nationally representative Angus Reid Forum was conducted.</p> <p>Question Topics:</p>	<ul style="list-style-type: none"> • Overall, 9.3% do not intend on receiving a vaccine. This was highest in AB (16.4%), MB and SK (13.8%) and lowest in QC (8.3%), the Atlantic provinces (8%), ON (7.8%), and BC (7.2%). • Vaccine hesitancy was significantly associated with those aged 40-59 years (OR 0.87, 95% CI: 0.78-0.97), being

	<p>1) Vaccine intentions 2) Vaccine hesitancy</p> <p>Survey tools available? No Formative research conducted? No Survey pre-tested? No</p>	<p>a visible minority (OR 0.56, 95% CI: 0.37-0.84), lower education, and belonging to a household of five or more people (OR 0.82, 95% CI: 0.76-0.88).</p>
<p>Syan (2021) preprint⁴⁰ Cross-sectional study Canada Jan – Feb 2021</p>	<p>Factors associated with intention to receive a COVID-19 vaccine was assessed in 1,367 adults (18+) living in Southern Ontario using an online survey.</p> <p>Question Topics: 1) Vaccine intentions 2) Vaccine hesitancy 3) Vaccine attitudes</p> <p>Survey tools available? No Formative research conducted? No Survey pre-tested? No</p>	<ul style="list-style-type: none"> • 82.8% were willing to receive a vaccine and 17.2% were unwilling. • The most common reasons for vaccine hesitancy were concern over long-term (65.5%) and immediate (60.5%) side effects, and a lack of trust in the vaccine (55.2%). • Higher intention to vaccinate was significantly associated with male gender (P=0.002) and higher education levels (P<0.001). • The perception of COVID-19 vaccine safety was significantly lower (-10.7%) than vaccines in general. Females, older adults, and those with less education reported lower perceived COVID-19 vaccine safety.
<p>Leger (2021) grey literature⁵⁹ Cross-sectional study Canada Jan 2021</p>	<p>An online survey of 800 participants from Manitoba (18+) was conducted to investigate vaccine perceptions and intentions to vaccinate.</p> <p>Question Topics: 1) Vaccine intentions</p>	<ul style="list-style-type: none"> • 72% reported the intention to vaccinate when a vaccine is available. • Intention to vaccinate increases with age. 82% of those aged 55+ reported they would definitely or probably intend to vaccinate compared to 65% of those aged 18-51. • Higher education and higher incomes are associated with an

	<p>2) Vaccine perceptions 3) Vaccine rollout perceptions</p> <p>Survey tools available? No Formative research conducted? No Survey pre-tested? No</p>	<p>increased intention to vaccinate.</p> <ul style="list-style-type: none"> • Vaccine safety is still a concern as 57% don't want to be in the first wave of people getting vaccinated and want to wait until safety has been established. 49% have concerns about safety but have generally pro-vaccine opinions. • >66% agree that the vaccine should be mandatory for all HCWs. • 71% of respondents are comfortable with how the Manitoba government is determining priority groups for early vaccination.
<p>Leger (2021) grey literature⁶⁰</p> <p>Cross-sectional study</p> <p>Canada</p> <p>Jan 2021</p>	<p>1000 residents of Alberta (18+) were surveyed online regarding their perceptions of the vaccine rollout.</p> <p>Question Topics:</p> <p>1) Vaccine rollout perceptions</p> <p>Survey tools available? No Formative research conducted? No Survey pre-tested? No</p>	<ul style="list-style-type: none"> • Approval of the overall vaccine rollout in Alberta was split, 48% were satisfied and 43% were dissatisfied. • For the order of priority groups established by the government, 64% were satisfied and 28% were dissatisfied. • 44% were satisfied with the government's communication of the rollout plan and 48% were not. • More individuals were dissatisfied (56%) with the pace of the rollout compared to satisfied (35%). • 53% believe they will have the opportunity to receive a vaccine after September.
<p>Insights West (2021) grey literature¹⁰⁰</p>	<p>Intention to vaccinate was analyzed using an online survey of 824 residents of British Columbia.</p>	<ul style="list-style-type: none"> • 58% of respondents were definitely willing to be vaccinated, 22% were probably willing, 5% probably will not

<p>Cross-sectional study</p> <p>Canada</p> <p>Jan 2021</p>	<p>Question Topics:</p> <ol style="list-style-type: none"> 1) Vaccine intentions 2) Vaccine rollout perceptions <p>Survey tools available? Yes</p> <p>Formative research conducted? No</p> <p>Survey pre-tested? No</p>	<p>get vaccinated, and 7% definitely will not.</p> <ul style="list-style-type: none"> • 67% of older respondents (55+) were more likely to get vaccinated compared to those in younger age groups (52% among 18-34 year olds). • 69% felt that those with underlying conditions were should have been put ahead of others on the list. • When asked about the vaccine rollout plan, 5% rated the rollout as excellent, 30% good, 51% fair, 14% poor, and 7% very poor. Similar trends were seen for perceptions on clarity of the rollout and prioritization levels.
<p>Afifi (2021)¹⁰¹</p> <p>Cross-sectional study</p> <p>Canada</p> <p>Nov-Dec 2020</p>	<p>Using survey respondents from the longitudinal Well-Being and Experiences study (2017-2020) vaccine intentions were recorded for Winnipeg adolescents aged 16-21 and their caregivers/parents using an online survey.</p> <p>Question Topics:</p> <ol style="list-style-type: none"> 1) Vaccine intentions 2) Vaccine hesitancy <p>Survey tools available? No</p> <p>Formative research conducted? No</p> <p>Survey pre-tested? No</p>	<ul style="list-style-type: none"> • 65.4% of respondents intend to receive a vaccine, 26.1% were not sure, and 8.5% were not willing. • Parents with trade school, community college or less, with incomes of less than \$49,999, experienced quite a bit COVID-19 financial strain, self-reported low knowledge of COVID-19 were associated with lower intentions to get a vaccine. • Having a self-reported health condition was associated with higher intentions to accept a vaccine. • After adjusting for sex, age and household income, children who had no experience with spanking (aRR 0.33, 95% CI: 0.17–0.62), no peer victimization (aRR 0.49, 95% CI: 0.25–0.96), no household

		<p>substance abuse (aRR 0.41, 95% CI: 0.20–0.83), no contact with foster care/child protective office (aRR 0.34, 95% CI: 0.16–0.72), and no risk of their household running out of money (aRR 0.45 95% CI: 0.21–0.97) were more willing to get vaccinated.</p> <ul style="list-style-type: none"> • Reporting no to any household challenge adverse childhood experience (ACE) was associated with willingness to vaccinate (aRR 0.45, 95% CI: 0.20–0.99). • The top concerns for being unwilling to accept a vaccine were for vaccine safety (64.5%), not knowing enough about the vaccine (60.6%), and not thinking the vaccine would be effective (23.4%).
<p>Province of Manitoba (2020) grey literature¹⁰²</p> <p>Cross-sectional study</p> <p>Canada</p> <p>Nov 2020</p>	<p>An online survey of 9872 adults in Manitoba was conducted to assess COVID-19 vaccine perceptions and intention to vaccinate.</p> <p>Question Topics:</p> <ol style="list-style-type: none"> 1) Vaccine intentions 2) Vaccine perceptions <p>Survey tools available? Yes</p> <p>Formative research conducted? No</p> <p>Survey pre-tested? No</p>	<ul style="list-style-type: none"> • 55% and 19% of participants reported they definitely or probably will receive the COVID-19 vaccine when available, respectively. The other participants stated they were undecided (8%), probably would not (7%) or definitely would not (12%) take the vaccine. • 61% of participants agreed with the statement “Vaccines are safe and I have no doubts about vaccinating myself or my family, as recommended by my doctor”.
<p>Independent Polling System of Society</p>	<p>Intention to vaccinate and perceptions on the vaccine</p>	<ul style="list-style-type: none"> • 64% of participants would probably or certainly get vaccinated, 16% definitely

<p>(IPSOS)/Radio Canada (2020) grey literature¹⁰³</p> <p>Cross-sectional study</p> <p>Canada</p> <p>Nov 2020</p>	<p>were analyzed using an online survey of 3001 adults (18+).</p> <p>Question Topics:</p> <ol style="list-style-type: none"> 1) Vaccine intentions 2) Vaccine perceptions <p>Survey tools available? No</p> <p>Formative research conducted? No</p> <p>Survey pre-tested? No</p>	<p>would not, and 21% were unsure.</p> <ul style="list-style-type: none"> • Of those who would be vaccinated, 36% would get vaccinated as soon as possible, 38% would wait one or two months to see what happens, 15% would wait several months, and 11% were undecided. • The majority of respondents were worried about possible side-effects and risks associated with the vaccine.
<p>Independent Polling System of Society (IPSOS) (2020) grey literature⁴²</p> <p>Cross-sectional study</p> <p>Canada</p> <p>Nov 2020</p>	<p>An online survey of 1001 adults (18+) analyzed intention to vaccinate and perceptions on the vaccine.</p> <p>Question Topics:</p> <ol style="list-style-type: none"> 1) Vaccine intentions 2) Vaccine perceptions 3) Vaccine hesitancy <p>Survey tools available? No</p> <p>Formative research conducted? No</p> <p>Survey pre-tested? No</p>	<ul style="list-style-type: none"> • 52% of respondents would take a COVID-19 vaccine as possible without hesitation. However, when other options, 36% would take the vaccine waiting to see if there were adverse side-effects and 28% would after waiting to see if it's effective. • 13% of participants would refuse vaccination under any circumstance. • 71% of participants say that taking a vaccine that was created and approved so quickly makes them nervous and 69% are concerned about long-term effects. • 59% of participants support mandatory COVID-19 vaccination, a drop from 61% in Sept, and 72% in July. • Some participants stated that a recommendation by a family doctor (21%), or seeing friends and family receive the vaccine (10%) would make them willing to take a vaccine.

		<ul style="list-style-type: none"> • Most agree that frontline HCWs (62%) and first-responders (52%) should be first in line to receive the vaccine. However, outside of these target groups, Canadians are divided on who should be a priority. • Three in ten (30%) believe that we can beat COVID-19 without a vaccine, down from 40% in Oct.
<p>Racey (2021)⁴¹</p> <p>Cross-sectional study</p> <p>Canada</p> <p>Aug-Nov 2020</p>	<p>5,076 public school teachers in British Columbia participated in an online survey regarding the likelihood of accepting a vaccine.</p> <p>Question Topics:</p> <ol style="list-style-type: none"> 1) Vaccine intentions 2) Vaccine hesitancy <p>Survey tools available? Yes</p> <p>Formative research conducted? Yes</p> <p>Survey pre-tested? Yes</p>	<ul style="list-style-type: none"> • 89.7% of respondents were either likely or very likely to accept a COVID-19 vaccine, 4.6% were neutral, and 5.7% were either unlikely or very unlikely to accept a vaccine. • Indigenous status was not significantly associated with increased or decreased intentions. • Intention to vaccinate was positively associated with having a science/engineering educational background (aOR 1.36, 95% CI: 1.04-1.79), male gender (aOR 1.41, 95% CI: 1.07-1.88), viewing public health, school boards/teachers union, and healthcare providers as a reliable source of information (aOR 1.43, 95% CI: 1.12-1.83, aOR 1.51, 95% CI: 1.22-1.87, and aOR 1.51, 95% CI: 1.22-1.87 respectively), viewing healthcare providers as reliable sources of information (aOR 1.51, 95% CI: 1.22-1.87), higher vaccine knowledge (aOR 1.58 95% CI: 1.38-1.80), and viewing COVID-19 as a

		<p>serious illness (aOR 5.79, 95% CI: 4.09-8.19). .</p> <ul style="list-style-type: none"> • Intention to vaccinate was negatively associated with prior delay or refusal of vaccination (aOR 0.19, 95% CI: 0.15-0.24), lack of confidence in vaccines and (aOR 0.5, 95% CI: 0.44-0.58) and perceived risk of vaccination (aOR 0.36, 95% CI: 0.31-0.42). • LGBTQ+ outcomes located in Table 5.
<p>Independent Polling System of Society (IPSOS) (2020) grey literature¹⁰⁴</p> <p>Cross-sectional study</p> <p>Canada</p> <p>Oct 2020</p>	<p>An online survey of 1000 adults analyzed intention to vaccinate and perceptions on the vaccine. Of these, 1000 participants were Canadian.</p> <p>Question Topics:</p> <ol style="list-style-type: none"> 1) Vaccine intentions 2) Vaccine perceptions 3) Vaccine hesitancy <p>Survey tools available? No</p> <p>Formative research conducted? No</p> <p>Survey pre-tested? No</p>	<ul style="list-style-type: none"> • 54% of Canadians would be willing to take a vaccine as soon as it is available. Atlantic Canada have the highest intentions (75%), followed by SK/MB (65%), QC (63%), BC (60%), AB (58%), and ON (57%). • 61% of participants support mandatory COVID-19 vaccination, a drop from 72% in July. • 82% indicate that they would wait for reports about the effectiveness or any side-effects of a COVID-19 vaccine before taking it. • The majority (88%) of participants agree that seniors and other vulnerable communities should be the first priority to receive the vaccine. • Four in ten (40%) believe that we can beat COVID-19 without a vaccine.
<p>Toronto Public Health (2020) grey literature¹⁰⁵</p>	<p>Intention to receive a COVID-19 vaccine was evaluated</p>	<ul style="list-style-type: none"> • 73% of participants report that when a COVID-19 vaccine is available they will “definitely”

<p>Cross-sectional study</p> <p>Canada</p> <p>Oct 2020</p>	<p>using an online survey of 1201 residents of Toronto, Ontario.</p> <p>Question Topics:</p> <p>1) Vaccine intentions</p> <p>Survey tools available? No</p> <p>Formative research conducted? No</p> <p>Survey pre-tested? No</p>	<p>or “probably” get it. 20% will “definitely” or “probably” not receive it and 11% are undecided.</p>
<p>Statistics Canada (2020) grey literature²²</p> <p>Cross-sectional study</p> <p>Canada</p> <p>Sept-Oct 2020</p>	<p>A telephone survey of 120,000 (18+) was conducted to assess intention to vaccinate.</p> <p>Question Topics:</p> <p>1) Vaccine intentions</p> <p>Survey tools available? Yes</p> <p>Formative research conducted? Yes</p> <p>Survey pre-tested? Yes</p>	<ul style="list-style-type: none"> • When comparing all visible minorities against Whites race, vaccine intentions were nearly identical (77.3% vs 77.0%). • Within visible minority groups intention to vaccinate from lowest to highest was Black (57.0%), Latin American (58.5%), Filipino (64.2%), South East Asian (75.8%), other visible minorities (77.6%), Chinese (85.5%), and Arab (88.3%). • 69.3% reporting an Aboriginal identity were accepting of a vaccine compared to 77.6% not reporting an Aboriginal identity. • Higher levels of education and having an underlying medical condition were associated with higher acceptance. • Outcomes on intention to vaccinate in LGBTQ+ and immigrants can be found in Tables 5 and 7.
<p>Ogilvie (2021)²⁴</p>	<p>Intention to vaccinate was assessed in 4058 adults and</p>	<ul style="list-style-type: none"> • 79.8% of respondents were somewhat or very likely if

<p>Cross-sectional study</p> <p>Canada</p> <p>Aug-Sep 2020</p>	<p>HCWs from British Columbia (25-69 years old).</p> <p>Question Topics:</p> <ol style="list-style-type: none"> 1) Vaccine intentions 2) Vaccine perceptions 3) Vaccine hesitancy <p>Survey tools available? Yes</p> <p>Formative research conducted? Yes</p> <p>Survey pre-tested? Yes</p>	<p>available to them and was recommended for them.</p> <ul style="list-style-type: none"> • Households with two adults (OR 1.2, 95% CI: 1.00-1.43) were more likely to vaccinate but there were no significant changes in intention with number of children. • Multivariate analysis demonstrated that younger respondents (30-40 years old aOR 0.64, 95% CI: 0.49-0.83, 40-50 years old aOR 0.78, 95% CI: 0.62-0.97, 50-60 years old aOR 0.67, 95% CI: 0.55-0.82), females (aOR 0.7, 95% CI: 0.55-0.89), lower education level (aOR 0.62, 95% CI: 0.51-0.77), South Asian (aOR 0.65, 95% CI: 0.39-1.07), non-White (aOR 0.76, 95% CI: 0.61-0.95), identified as Indigenous (aOR 0.58, 95% CI 0.38-0.87), other essential non-health care workers (aOR 0.72, 95% CI: 0.6-0.87), and those who suspected they had COVID-19 (aOR 0.76, 95% CI: 0.61-0.96) had significantly lower odds of intending to receive a vaccine. • Lack of confidence in vaccines (aOR 0.66, 95% CI: 0.57-0.75) and belief in vaccine risks (aOR 0.72, 95% CI: 0.66-0.80) were associated with decreased intention to vaccinate. • Intention to vaccinate was positively associated with higher attitudinal scores towards the vaccine (aOR 1.06, 95% CI: 1.04-1.08), influenced by direct social norms (aOR 1.06, 95% CI: 1.03-1.08),
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		<p>indirect social family doctor/primary care physician opinions (aOR 1.04, 95% CI: 1.00-1.08), indirect norms from the provincial health officer (aOR 1.04, 95% CI: 1.01-1.08), and indirect family norms (aOR 1.09, 95% CI: 1.06-1.13).</p> <ul style="list-style-type: none"> • Outcomes on intention to vaccinate in HCWs and LGBTQ+ can be found in Tables 2 and 5.
<p>Lang (2021)³³ Cross-sectional study Canada Aug 2020</p>	<p>An online survey of 60 adults (18+) in Alberta was conducted to assess their intention to vaccinate.</p> <p>Question Topics: 1) Vaccine intentions</p> <p>Survey tools available? Yes Formative research conducted? No Survey pre-tested? No</p>	<ul style="list-style-type: none"> • 68% of respondents would accept a vaccine if it were available, 20% would not, and 12% were unsure. • White respondents were less likely to accept a vaccine (63%) compared to other ethnicities (100%). • Those with higher education (college or university) were less likely to accept a vaccine (63%) compared to those who had attended post-secondary technical school (100%) or had a high school diploma (70%). • Intention to vaccinate was positively associated with concerns about getting COVID-19 (P <0.001) and spreading the virus (P = 0.006), and complying with public health measures such as staying home when sick (P = 0.033), masking in public (P < 0.001) and physical distancing (P = 0.005). • Respondents who received their COVID-19 health information from the Chief

		<p>Medical Officer of Health media briefings ($P = 0.030$) and Alberta Health or Alberta Health Services websites ($P = 0.040$) were significantly more likely to accept a COVID-19 vaccine.</p> <ul style="list-style-type: none"> • Intention to vaccinate was lower in other urban centers (29%) and rural Alberta (50%) compared to Calgary (75%) and Edmonton (80%), ($P = 0.030$).
<p>Carleton University (2020) grey literature¹⁰⁶</p> <p>Cross-sectional study</p> <p>Canada</p> <p>Jul 2020</p>	<p>An online opinion survey regarding vaccine intentions and perceptions was conducted online in 2000 individuals.</p> <p>Question Topics:</p> <ol style="list-style-type: none"> 1) Vaccine intentions 2) Vaccine hesitancy 3) Vaccine perceptions <p>Survey tools available? No</p> <p>Formative research conducted? No</p> <p>Survey pre-tested? No</p>	<ul style="list-style-type: none"> • 62% will definitely get the vaccine, 24% will probably get the vaccine, 5% will not likely get the vaccine, and 9% will definitely not get the vaccine. • Resistance to a vaccine is highest in MB and SK where only 37% will definitely get vaccinated across both provinces. • In terms of views on mandatory vaccination, 36% strongly agree, 26% somewhat agree, 14% strongly disagree, and 7% somewhat disagree. • The most common reason (40%) for hesitancy was potential for harmful side-effects. • The 9% of respondents who expressed strong anti-vaccine views, suspicion about the influence of the pharmaceutical industry over public health care (41%) and concern about vaccine safety and the potential for harmful

		side-effects (29%) were the most common reasons for refusal.
<p>Frank (2020) grey literature¹⁰⁷</p> <p>Cross-sectional study</p> <p>Canada</p> <p>Jun 2020</p>	<p>Factors associated with willingness to vaccinate was investigated using an online survey of ~4000 adults.</p> <p>Question Topics:</p> <ol style="list-style-type: none"> 1) Vaccine intentions 2) Vaccine hesitancy <p>Survey tools available? No</p> <p>Formative research conducted? Yes</p> <p>Survey pre-tested? No</p>	<ul style="list-style-type: none"> • 57.5% and 19% of respondents indicated they are very likely or somewhat likely to get a COVID-19 vaccine when it becomes available, respectively. • Older Canadians (65+) reported they were more likely to vaccinate (70.3%) compared to those aged 15-64 (52-58%). • Those that were born in Canada were more likely to vaccinate compared to immigrants (59.4% vs 52.0%). • Residents in the Atlantic Provinces are more likely to vaccinate (67.7%) followed by Ontario (58.8%), Prairies region (56.2%), BC (55.5%), and QC (54.3%). • Other factors associated with a higher intention to vaccinate include higher education and not having children under the age of 18. • The top two reasons for not intending to vaccinate were a lack of confidence in the safety of the vaccine (54.2%) and concerns about its risks and side-effects (51.7%).
<p>Frank (2020) grey literature¹⁰⁸</p> <p>Cross-sectional study</p> <p>Canada</p>	<p>An online survey of ~36,000 adults was conducted to investigate factors associated with willingness to vaccinate.</p> <p>Question Topics:</p> <ol style="list-style-type: none"> 1) Vaccine intentions 	<ul style="list-style-type: none"> • 68.2% and 15.2% of participants reported that they were very likely or somewhat likely to accept a COVID-19 vaccine, respectively. 12% were unlikely or very unlikely to vaccinate.

<p>May-Jun 2020</p>	<p>Survey tools available? No Formative research conducted? Yes Survey pre-tested? No</p>	<ul style="list-style-type: none"> • Those who had a high level of trust in the federal government were more likely to be willing to vaccinate compared to those with a low level of trust (77.3% vs 53.8%). • Similar trends were also seen with trust in others, and trust in federal public health authorities.
<p>Taylor (2021)¹⁰⁹ Cross-sectional study Canada and US Jun-Jul 2020</p>	<p>An online survey of 2078 adults (18+) was used to explore the potential relationship between attitudes on wearing a face mask and COVID-19 vaccination. The sample consisted of 1036 participants from the US and 1042 from Canada.</p> <p>Question Topics: 1) Vaccine attitudes</p> <p>Survey tools available? No Formative research conducted? Yes Survey pre-tested? No</p>	<ul style="list-style-type: none"> • The network of anti-masks attitudes is linked to other variables such as disregard for social distancing and anti-vaccination attitudes.
<p>Waite (2021)³⁹ Cross-sectional study Canada May 2020</p>	<p>An online survey of 1001 Canadians aged 50–64 years and 3,500 aged 65+ was conducted to evaluate intention to vaccinate against COVID-19.</p> <p>Question Topics: 1) Vaccine intentions 2) Vaccine attitudes</p>	<ul style="list-style-type: none"> • Among those aged 50–64 years, 69.1% intend to vaccinate when available, 11.3% would not vaccinate, and 19.6% were unsure. • 79.5% of those 65+ intend to receive a vaccine when available, 5.6% would not vaccinate, and 14.9% were unsure. • In both age groups, those who would accept a vaccine were

	<p>Survey tools available? No</p> <p>Formative research conducted? Yes</p> <p>Survey pre-tested? No</p>	<p>significantly more likely to be male and more likely to have at least one chronic condition ($P < 0.05$).</p> <ul style="list-style-type: none"> The preferred location to receive a vaccine in both groups was family physician office, followed by pharmacy, workplace (for those 50–64 years), and public health clinics.
<p>Taylor (2020)²⁰</p> <p>Cross-sectional study</p> <p>Canada and US</p> <p>May 2020</p>	<p>Intentions to vaccinate and attitudes towards vaccines were measured using an online survey of 3674 adults (Canada = 1902, US = 1772).</p> <p>Question Topics:</p> <ol style="list-style-type: none"> Vaccine intentions Vaccine hesitancy Vaccine attitudes <p>Survey tools available? No</p> <p>Formative research conducted? Yes</p> <p>Survey pre-tested? No</p>	<ul style="list-style-type: none"> Significantly more Americans (25%) than Canadians (20%) responded that they would not get vaccinated if a vaccine was available, $\chi^2 (df = 1) = 12.41, p < 0.001$. Negative attitudes toward a COVID-19 vaccination, and vaccinations in general, were significantly correlated ($p < 0.001$) with the intention not to vaccinate. Mistrust of the benefit of a COVID-19 vaccine was the largest factor with respect to attitude on the decision not to get the vaccine. Vaccination refusal was significantly associated with female gender, age, completed full or partial college education (vs. did not complete), being unemployed, and minority status (vs. Caucasian). Of those who indicated they would not get vaccinated ($n=812$), 38% would vaccinate if they were convinced the vaccine had been rigorously tested and 36% would vaccinate if they saw that

		<p>enough people were vaccinated without any serious side-effects.</p> <ul style="list-style-type: none"> • Compared to White ethnicity, minority status (Asian, African American/Black, Latino/Hispanic, or other) was significantly associated with vaccine refusal ($r = -0.04$, $P < 0.05$).
<p>Carleton University (2020) grey literature²⁹</p> <p>Cross-sectional study</p> <p>Canada</p> <p>May 2020</p>	<p>An online opinion survey regarding vaccine intentions and perceptions was conducted online in 2000 individuals.</p> <p>Question Topics:</p> <ol style="list-style-type: none"> 1) Vaccine intentions 2) Vaccine perceptions <p>Survey tools available? No</p> <p>Formative research conducted? No</p> <p>Survey pre-tested? No</p>	<ul style="list-style-type: none"> • 49% and 24% of the participants would “definitely” or “probably” get the vaccine when available, respectively. • 17% expressed uncertainty and 10% were unwilling. • 65% believe that the vaccine should be mandatory. • Age and political affiliation were significantly associated with intention to vaccinate. Older individuals were more willing to vaccinate than younger. Those who voted Liberal or NDP in the 2019 election were more likely to vaccinate compared to those who voted for other parties. • Respondents living in Atlantic Canada showed the strongest levels of intention to vaccinate compared to those in other provinces. • Those who believed one of the four health myths or conspiracy theories regarding COVID-19, were less likely to intend to vaccinate than those who did not believe the

		scientifically inaccurate claims about COVID-19.
<p>Parsons Leigh (2020)¹¹⁰</p> <p>Cross-sectional study</p> <p>Canada</p> <p>Apr-May 2020</p>	<p>COVID-19 perceptions, knowledge, attitudes, and behaviors were analyzed using an online survey of 1996 participants (18+).</p> <p>Question Topics:</p> <ol style="list-style-type: none"> 1) Vaccine intentions 2) Vaccine knowledge <p>Survey tools available? Yes</p> <p>Formative research conducted? Yes</p> <p>Survey pre-tested? Yes</p>	<ul style="list-style-type: none"> • 75.8% (n = 1,436) of respondents reported that they would get vaccinated when a vaccine became available. • Participants responded they “strongly agree” or “agree” that they will get vaccinated in BC (72.1%), AB (69.9%), MB/SK (69.9%), ON (66.1%), Atlantic (63.1%), and QC (41.9%). • Participants responded they “strongly agree” or “agree” that they will not get vaccinated in AB (12.4%), QC (12.1%), ON (8.1%), Atlantic (6.6%), MB/SK (6%), and BC (4.8%). • Information about vaccines and treatments were most frequently (n = 933, 48.9%, 95% CI: 46.7-51.2%) cited as topics of misinformation, however only half (n = 937, 47.4%, 95% CI: 45.2%-49.6%) of respondents felt moderately or extremely confident that they could identify incorrect or misleading information about COVID-19.
<p>Underschultz (2021)¹¹¹</p> <p>Cross-sectional study</p> <p>Canada</p> <p>Apr 2020</p>	<p>COVID-19 knowledge, attitudes, and practices were analyzed using an online survey of 1593 participants (16+). The survey was primarily targeted to residents of Alberta and Ontario.</p> <p>Question Topics:</p>	<ul style="list-style-type: none"> • 93% of respondents believe that a vaccine is needed in Canada and 81% endorsed a wide-spread vaccination strategy (having everyone vaccinated). • Vaccine acceptance was significantly associated with higher knowledge scores (p<0.001), being worried about

	<p>1) Vaccine perceptions</p> <p>Survey tools available? No</p> <p>Formative research conducted? Yes</p> <p>Survey pre-tested? No</p>	<p>COVID-19 (OR 20.4; 95% CI: 8.4-49.5, p<0.001), optimism in controlling the pandemic (OR 8.1; 95% CI: 3.4-19.7, p<0.001), and feeling informed about COVID-19 (OR 3.9; 95% CI: 1.7-9.3, p=0.0049).</p>
<p>Research Co (2020) grey literature²⁸</p> <p>Cross-sectional study</p> <p>Canada</p> <p>Apr 2020</p>	<p>Intention to vaccinate was assessed using an online survey.</p> <p>Question Topics:</p> <p>1) Vaccine intentions</p> <p>Survey tools available? No</p> <p>Formative research conducted? No</p> <p>Survey pre-tested? No</p>	<ul style="list-style-type: none"> • If a vaccine becomes available, 42% and 31% would “definitely” or “probably” get the vaccine, respectively. • Men were more likely to vaccinate than women (78% vs 68%). • The Atlantic (79%) and Alberta (78%) had the highest intentions to vaccinate and Saskatchewan/Manitoba (65%) had the lowest. • Intention to vaccinate was highest in those who voted liberal (79%) in the 2019 election, followed by NDP (76%), and conservative (69%).
<p>Qualitative studies (n=1)</p>		
<p>Benham (2021)¹¹²</p> <p>Qualitative study</p> <p>Canada</p> <p>Aug-Sep 2020</p>	<p>Nine focus groups were conducted with 50 adults (18+) from Alberta to evaluate attitudes towards public health measures including vaccination.</p> <p>Question Topics:</p> <p>1) Vaccine intentions</p> <p>2) Vaccine perceptions</p>	<ul style="list-style-type: none"> • Intention to vaccinate responses were mixed. Some stated they would vaccinate right away, while others would not vaccinate as they believed COVID-19 would not impact their health or the health of their family members. • Some participants reported that they would be willing to take a vaccine but not right away. This was more prominent in the older age groups.

		<ul style="list-style-type: none"> • Participants who regularly received the annual flu vaccine were more likely to state they would take a COVID-19 vaccine when available. However, a few experienced side effects with the annual flu shot (e.g., getting sick) which would make them less likely to get a COVID-19 vaccine. • Barriers for vaccine uptake included a lack confidence that a vaccine will work, and that it may do harm.
Quasi-experimental studies (n=1)		
<p>Poder (2021) grey literature¹¹³</p> <p>Quasi-experimental study</p> <p>Canada</p> <p>Oct-Nov 2020</p>	<p>An online survey of vaccine intentions of 1,695 Quebec adults was conducted which included an assessment of preferences through a series 12 binary choice scenarios (20,350 choice responses in total).</p> <p>Question Topics:</p> <p>1) Vaccine intentions</p> <p>Survey tools available? Yes</p> <p>Formative research conducted? Yes</p> <p>Survey pre-tested? No</p>	<ul style="list-style-type: none"> • At least 7.2% always chose not to be vaccinated in any given scenario. • Depending on the scenario, 69-93% of participants would opt for the vaccine when available. • 24% of participants would make the choice to refuse the vaccine if certain conditions were not met which were determined to be in order of priority: <ol style="list-style-type: none"> 1) vaccine efficacy 2) possible side effects of the vaccine 3) duration of effectiveness (minimum of 9 months for acceptability) 4) the organization recommending the vaccine (Public health organizations of Québec, WHO)

		<p>5) geographic origin of vaccine (European Union or United States)</p> <p>6) waiting period to be vaccinated once the vaccine is available in Quebec (4 months maximum)</p> <p>7) high priority populations (no preferences)</p>
Expert stakeholders: Cross-sectional studies (n=2)		
<p>MacDonald (2020)¹¹⁴</p> <p>Cross-sectional study</p> <p>Canada</p> <p>Aug-Oct 2020</p>	<p>Eighteen teleconference interviews with 25 public health leaders from 10 of 13 provinces and territories were conducted to evaluate perspectives on priority groups for early vaccination. Participants were asked to rank, in order of importance, their top five priority groups for vaccination.</p> <p>Question Topics:</p> <p style="padding-left: 40px;">1) Vaccine strategy perceptions</p> <p>Survey tools available? No</p> <p>Formative research conducted? No</p> <p>Survey pre-tested? No</p>	<ul style="list-style-type: none"> • All ten province and territories ranked long-term residents and health-care workers in their top five priority groups to receive vaccination. • Those with chronic medical conditions and seniors were also ranked in the top five priority groups by nine and eight provinces and territories, respectively. • To a lesser extent, those with Indigenous ancestry (n=4), with socioeconomic disadvantage (n=3), with infants or children (n=2), living in remote communities (n=2), and new immigrants and refugees (n=1) were ranked in the top five priority groups.
<p>Zhao (2021)¹¹⁵</p> <p>Cross-sectional study</p> <p>Canada</p>	<p>Among 76 expert stakeholders, an online survey was conducted to establish perspective on the relative importance of pandemic immunization strategies for different COVID-19 pandemic</p>	<ul style="list-style-type: none"> • For all pandemic scenarios, stakeholders generally ranked the strategies in the following order from most to least important: <ul style="list-style-type: none"> ○ Protect those who are most vulnerable to

<p>Jul-Aug 2020</p>	<p>scenarios at the time of initial COVID-19 vaccine availability.</p> <p>Questions asked the respondent to rank, in order of importance, four pre-defined COVID-19 pandemic immunization strategies.</p> <p>Question Topics:</p> <p>1) Vaccine strategy perceptions</p> <p>Survey tools available? No</p> <p>Formative research conducted? No</p> <p>Survey pre-tested? No</p>	<p>severe illness and death from COVID-19</p> <ul style="list-style-type: none"> ○ Protect healthcare capacity ○ Minimize transmission of COVID-19 ○ Protect critical infrastructure
<p>aOR = adjusted odds ratio, CI = confidence interval, HCWs = healthcare workers, NR = not reported, RR = risk ratio</p>		

Table 3: Evidence of vaccine attitudes of healthcare workers (n=8)

Study	Methods and survey tools	Key KAB outcomes
Cross-sectional and longitudinal studies (n=7)		
<p>Lunsky (2021)⁶³</p> <p>Cross-sectional study</p> <p>Canada</p> <p>Jan-Feb 2021</p>	<p>To evaluate vaccination intent and predictors of intent, an online survey of 3371 social service employees supporting individuals with intellectual disabilities in Ontario was conducted.</p> <p>Question Topics:</p> <p>1) Vaccine intentions</p> <p>2) Vaccine hesitancy</p>	<ul style="list-style-type: none"> • 62% and 20% reported that they were very likely, or somewhat likely to accept a vaccine, and 7% and 11% somewhat unlikely or very unlikely to get the vaccine, respectively. • Compared to individuals aged 50 +, younger individuals aged 18-29 (aOR 2.74, 95% CI: 1.70–4.43) and 30-39 (aOR 1.75, 95% CI: 1.16–2.64) were more likely to refuse a vaccine when available.

	<p>Survey tools available? No</p> <p>Formative research conducted? Yes</p> <p>Survey pre-tested? No</p>	<ul style="list-style-type: none"> • Women were more likely to refuse a vaccine compared to men (aOR 1.58, 95% CI: 0.97-2.59). • Compared to European respondents, Asian (aOR 0.88, 95% CI: 0.33-2.36), African and Caribbean (aOR 0.81, 95% CI: 0.35-1.86), and unknown ethnicities (aOR 0.88, 95% CI: 0.36-2.17) were less likely to refuse a vaccine and Indigenous, First Nations, and Metis (aOR 1.73, 95% CI: 0.67-4.43), Latin (aOR 1.22, 95% CI: 0.21-7.24), and mixed ethnicities (aOR 1.11, 95% CI: 0.27-4.55) were more likely to refuse. • Reasons to refuse a vaccine included lack of trust in the vaccine (OR 5.72, 95% CI: 3.84–8.53), fear of vaccine side effects (OR 2.30, 95% CI: 1.56–3.39), and belief that there was no need for the vaccine due to good health (OR 4.22, 95% CI: 2.66–6.68). • Individuals who would refuse a vaccine were less likely to believe that vaccination would protect clients (OR 0.36, 95% CI: 0.24-0.54) or family (OR 0.19, 95% CI: 0.13-0.28), be concerned about clients (OR 0.57, 95% CI: 0.34-0.97) or themselves (OR 0.51, 95% CI: 0.34-0.76) becoming ill with COVID-19, get the flu shot in a normal year (OR 0.61, 95% CI: 0.43-0.88), and get the vaccine if their co-workers did (OR 0.16, 95% CI: 0.08-0.29).
<p>Desveaux (2021) preprint⁶²</p> <p>Cross-sectional study</p> <p>Canada</p>	<p>Factors associated with intention to vaccinate was evaluated in 8634 non-physician HCWs (18+) in Ontario using an online survey.</p> <p>Question Topics:</p>	<ul style="list-style-type: none"> • 80.4% of participants reported that they intend to get a COVID-19 vaccine. • Compared to their counterparts, those who were younger (<40 years old) and who had less education (less than a high school diploma) were

<p>Jan 2021</p>	<p>1) Vaccine intentions 2) Vaccine hesitancy</p> <p>Survey tools available? No Formative research conducted? No Survey pre-tested? No</p>	<p>more likely to be unwilling to intend to vaccinate (P<0.001).</p> <ul style="list-style-type: none"> • HCWs who identified as Filipino (OR 1.07, 95% CI: 0.41-2.76, P<0.001), Caribbean (OR 3.20, 95% CI: 1.52-6.75, P<0.001), or Other (OR 1.44, 95% CI: 0.93-2.22, P<0.001) ethnicity were more likely to be unwilling to vaccinate compared those who identified as European. • Vaccine hesitancy was strongly associated with mistrust about how fast the vaccines were developed and vaccine safety concerns. It was also associated with various beliefs such as not requiring a vaccine due to one’s own good health, low confidence that the vaccine would protect their family and patients, and that getting vaccinated was not a professional responsibility. • HCWs were more likely to intend to vaccinate if direct financial supports such as paid sick days were provided (74% vs 25%, P<0.001).
<p>SafeCare BC (2021) grey literature²¹ Cross-sectional study Canada Dec 2020</p>	<p>An online survey of 1,500 continuing care workers in British Columbia was conducted to evaluate attitudes on COVID-19 vaccination.</p> <p>Question Topics: 1) Vaccine intentions 2) Vaccine hesitancy</p> <p>Survey tools available? No</p>	<ul style="list-style-type: none"> • 57% of respondents intend to get a vaccination, 28% were not sure, and 15% did not intend to get vaccinated. • Male (72% vs 56%), higher age (65+) and flu shot acceptance were predictors of intention to vaccinate. • Managers and senior leaders had the highest intentions to vaccinate (71%). Healthcare assistants were the most unsure (30%), and nurses were most likely to say no to a vaccine (20%). • Reason for hesitancy were side effects (84.6%), the newness of the vaccine (64.6%), mistrust of authorities (23.5%), belief that the vaccine will not work (16%), preferred natural

	<p>Formative research conducted? No</p> <p>Survey pre-tested? No</p>	<p>remedies (10.5%), and personal or religious beliefs (8%).</p> <ul style="list-style-type: none"> • Intention to vaccinate was highest in East (61%) and South Asian (70%). Latino and Black respondents were the most likely to refuse a vaccine (30%) and Indigenous respondents were most likely to be unsure about their decision to vaccinate (40%). • East/South Asian respondents were more concerned about side effects (93%) whereas White or Indigenous respondents were more concerned about newness (72% and 62%, respectively). • 33% said more support for vaccinations is needed e.g. more information to understand the development process, efficacy, and transparency of reporting adverse events. • The biggest perceived barrier to administering the vaccine was storage and handling constraints (66%). • Indigenous respondents had the least amount of trust in all sources of information including healthcare providers.
<p>INSPQ (2021) grey literature¹³⁶</p> <p>Longitudinal study</p> <p>Canada</p> <p>Apr-Dec 2020 and Aug 2021</p>	<p>Analysis of the acceptability of vaccination against COVID-19 was evaluated using an online survey of adults and HCWs in Quebec. Number of participants was not clearly stated (~3300 each collection period). Articles in French. There were multiple collection periods including:</p> <p>Apr – Dec 2020</p> <p>Aug 2021</p>	<p>Aug 2021</p> <ul style="list-style-type: none"> • Overall 95% of those working in a healthcare environment have been vaccinated or intend to get vaccinated whereas 4% did not intend to vaccinate. • Among the unvaccinated, 60% of those working in a healthcare environment did not intend to vaccinate. <p>Apr – Dec 2020</p> <ul style="list-style-type: none"> • In May, 73% of HCWs responded with the intention to vaccinate. In Dec this

	<p>Question Topics:</p> <ol style="list-style-type: none"> 1) Vaccine intentions 2) Vaccine hesitancy <p>Survey tools available? No</p> <p>Formative research conducted? No</p> <p>Survey pre-tested? No</p>	<p>decreased to 65% and increased to 71% in Dec.</p> <ul style="list-style-type: none"> • Intention to vaccinate did not differ between the general public and HCWs and factors associated with intention to vaccinate were not differentiated between the two groups. • Those that were older (70+) were more likely to vaccinate compared to those 25-44 years old (83% vs 57%). • Men, those with a university education, and those with one or more chronic diseases are more likely to intend to vaccinate. • The most common reasons to not intend to vaccinate include fears related to taking a new vaccine, and concern regarding the effectiveness and side-effects.
<p>Verger (2021)⁶⁴</p> <p>Cross-sectional study</p> <p>Belgium, France and Canada</p> <p>Oct-Nov 2020</p>	<p>Intention to vaccinate and intention to recommend vaccination to patients was evaluated using an online and telephone survey in general practitioners (GPs) in France (n=1209) and French-speaking parts of Belgium (n=414), and nurses in Quebec, Canada (n=1055). Belgium and France results can be found in the Europe section.</p> <p>Question Topics:</p> <ol style="list-style-type: none"> 1) Vaccine intentions 2) Vaccine hesitancy <p>Survey tools available? Yes</p>	<ul style="list-style-type: none"> • In Canada, 79.6% of nurses would definitely or probably recommend their patients vaccinate, 3.1% would not, and 17.2% were unsure. For themselves, 70.4% would definitely or probably be willing to receive the vaccine, 11.8% would refuse, and 17.8% were unsure. • 40.9% of participants reported that the safety of vaccines developed in an emergency during an epidemic cannot be guaranteed. • Opinion about the safety of vaccines developed in an emergency and distrust in the ministry of health to ensure vaccine safety were the two most important factors independently associated with vaccine hesitancy and reluctance.

	<p>Formative research conducted? No</p> <p>Survey pre-tested? Yes</p>	<ul style="list-style-type: none"> • Intention to vaccinate was positively associated with a history of personal vaccination against the flu.
<p>Ogilvie (2021)²⁴</p> <p>Cross-sectional study</p> <p>Canada</p> <p>Aug-Sep 2020</p>	<p>Intention to vaccinate was assessed in 4058 adults and HCWs from British Columbia (25-69 years old). Unclear how many HCWs in the survey.</p> <p>Question Topics:</p> <ol style="list-style-type: none"> 1) Vaccine intentions 2) Vaccine perceptions 3) Vaccine hesitancy <p>Survey tools available? Yes</p> <p>Formative research conducted? Yes</p> <p>Survey pre-tested? Yes</p>	<ul style="list-style-type: none"> • 81.8% of HCWs report that they intend to receive a vaccine. • Other results found in general population. • Multivariate analysis demonstrated that South Asian (aOR 0.65, 95% CI: 0.39-1.07), non-White (aOR 0.76, 95% CI: 0.61-0.95), and those who identified as Indigenous (aOR 0.58, 95% CI 0.38-0.87) had significantly lower odds of intending to receive a vaccine.
<p>The Canadian PSW Network (2020) grey literature¹¹⁶</p> <p>Cross-sectional study</p> <p>Canada</p> <p>NR 2020</p>	<p>Intention to vaccinate in 562 personal support workers (PSWs), nurses, and HCWs using an online survey. 84% of the sample were PSWs.</p> <p>Question Topics:</p> <ol style="list-style-type: none"> 1) Vaccine intentions 2) Vaccine perceptions <p>Survey tools available? No</p> <p>Formative research conducted? No</p> <p>Survey pre-tested? No</p>	<ul style="list-style-type: none"> • 64.2% of respondents intend to vaccinate when it is available, 16.2% refuse to vaccinate, 10.7% are unsure, and 8.9% will only take the vaccine if it's mandatory. • 71.7% do not believe there is enough clear education on the vaccine.
<p>Qualitative studies (n=1)</p>		

<p>Hung (2021) preprint¹¹⁷</p> <p>Qualitative study</p> <p>Canada</p> <p>Dec 2020 – Jan 2021</p>	<p>A focus group (n=20) and one-on-one interviews (n=10) were conducted in staff (nurses, care workers, recreational staff, and a unit clerk) of a long-term care home in British Columbia to assess attitudes towards the COVID-19 vaccine. This facility was one of the first in their jurisdiction to receive vaccinations.</p> <p>Question Topics:</p> <p>1) Vaccine attitudes</p>	<ul style="list-style-type: none"> • Some staff believed the vaccine helped decrease the effects of the outbreak since they mostly observed mild illness and the outbreak was well-controlled. • Having most residents and staff members vaccinated helped staff feel safer at work. • Staff commented that the vaccines enabled the facility to start to return to old routines once the outbreak ended, such as allowing the residents to leave their rooms and visit with family.
<p>aOR = adjusted odds ratio, CI = confidence interval, HCWs = healthcare workers, NR = not reported, PSW = personal support worker</p>		

Table 4: Older adults: Evidence of vaccine attitudes of high-risk populations (n=1)

Study	Methods and survey tools	Key KAB outcomes
<p>Waite (2021)³⁹</p> <p>Cross-sectional study</p> <p>Canada</p> <p>May 2020</p>	<p>An online survey of 1001 Canadians aged 50–64 years and 3,500 aged 65+ was conducted to evaluate intention to vaccinate against COVID-19.</p> <p>Question Topics:</p> <p>1) Vaccine intentions</p> <p>2) Vaccine attitudes</p> <p>Survey tools available? No</p> <p>Formative research conducted? Yes</p> <p>Survey pre-tested? No</p>	<ul style="list-style-type: none"> • Among those aged 50-64 years, 69.1% intend to vaccinate when available, 11.3% would not vaccinate, and 19.6% were unsure. • 79.5% of those 65+ intend to receive a vaccine when available, 5.6% would not vaccinate, and 14.9% were unsure. • In both age groups, those who would accept a vaccine were significantly more likely to be male and more likely to have at least one chronic condition (P< 0.05). • The preferred location to receive a vaccine in both groups was family physician office, followed by pharmacy, workplace (for those 50–64 years), and public health clinics.
<p>HIV – human immunodeficiency virus, LWH – living with HIV</p>		

Table 5: Evidence of vaccine attitudes of LGBTQ+ (n=4)

Study	Methods and survey tools	Key KAB outcomes
<p>Statistics Canada (2021) grey literature^{65 95} Longitudinal study Canada Sep-Apr 2021</p>	<p>An online survey conducted by Statistics Canada as part of the Canadian Community Health Survey (CCHS) assessed Canadians behaviors to safeguard their own health as well as the health of others. In the September survey, a question about vaccine intentions was added. The most recent report captures 25,000 responses from individuals aged 12+. Various reports include: Sep-Dec 2020 Sep 2020 – Apr 2021 Question Topics: 1) Vaccine intentions Survey tools available? Yes Formative research conducted? Yes Survey pre-tested? Yes</p>	<p>Jan-Apr 2021</p> <ul style="list-style-type: none"> LGBTQ2+ respondents had higher intentions to vaccinate than non-LGBTQ2+ (91.3% vs 86.1%), up from 83.3% in late 2020. <p>Sep-Dec 2020</p> <ul style="list-style-type: none"> Over the sampling period 77% were willing to receive a vaccine. This represents an increase from Sept (75.5%) to Oct (74.8%), and Nov/Dec (80.3%). LGBTQ2+ were more likely to get a vaccine (83.3%).
<p>Racey (2021)⁴¹ Cross-sectional study Canada</p>	<p>5,076 public school teachers in British Columbia participated in an online survey regarding the likelihood of accepting a vaccine.</p>	<ul style="list-style-type: none"> Those identifying as female gender or non-Binary/genderqueer/S2/other were less likely to intend to vaccinate compared to those who identified as male. 22.6% of non-Binary/genderqueer/S2/other

<p>Aug-Nov 2020</p>	<p>Question Topics: 1) Vaccine intentions</p> <p>Survey tools available? Yes</p> <p>Formative research conducted? Yes</p> <p>Survey pre-tested? Yes</p>	<p>(n=31) do not intended to vaccinate and 77.4% do.</p> <ul style="list-style-type: none"> • General population outcomes found in Table 1.
<p>Statistics Canada (2020) grey literature²²</p> <p>Cross-sectional study</p> <p>Canada</p> <p>Sept-Oct 2020</p>	<p>A telephone survey of 120,000 (18+) was conducted to assess intention to vaccinate.</p> <p>Question Topics: 1) Vaccine intentions</p> <p>Survey tools available? Yes</p> <p>Formative research conducted? Yes</p> <p>Survey pre-tested? Yes</p>	<ul style="list-style-type: none"> • 87.6% of LGBTQ2+ were willing to accept a vaccine compared to 76.4% non-LGBTQ2+.
<p>Ogilvie (2021)²⁴</p> <p>Cross-sectional study</p> <p>Canada</p> <p>Aug-Sep 2020</p>	<p>Intention to vaccinate was assessed in 4058 adults and HCWs from British Columbia (25-69 years old).</p> <p>Question Topics: 1) Vaccine intentions</p> <p>Survey tools available? Yes</p> <p>Formative research conducted? Yes</p> <p>Survey pre-tested? Yes</p>	<ul style="list-style-type: none"> • Non-binary, gender queer, agender, two-spirit or other were more likely to be receive a vaccine compared to heterosexual woemn (OR 3.04, 95% CI: 1.08-8.55, P<0.04).

Table 6: Evidence of vaccine attitudes of parents (n=10)

Study	Methods and survey tools	Key KAB outcomes
Parents		
<p>INSPQ (2021) grey literature^{1 2 32} 36 37 38 45 49 50 52 55 61 88 90</p> <p>Longitudinal study</p> <p>Canada</p> <p>Apr 2020 – Aug 2021</p>	<p>Analysis of the acceptability of vaccination against COVID-19 was evaluated using an online survey of adults and HCWs in Quebec. Number of participants was not clearly stated (~3300 each collection period). Articles in French. There were multiple collection periods:</p> <p>Apr – Dec 2020</p> <p>Feb 2021</p> <p>Apr 2021</p> <p>Early May 2021</p> <p>Late May 2021</p> <p>June 2021</p> <p>Early July 2021</p> <p>Mid July 2021</p> <p>Late July 2021</p> <p>August 2021</p> <p>Late Aug - Sep 2021 (report 1) new</p> <p>Late Aug - Sep 2021 (report 2) new</p> <p>Mid Sep 2021(report 1) new</p> <p>Mid Sep 2021 (report 2) new</p> <p>Question Topics:</p> <p>1) Vaccine intentions</p> <p>Survey tools available? No</p>	<p>September</p> <ul style="list-style-type: none"> • Most parents (86%) intended to have their children vaccinated, 12% had no intention, and 2% were unsure. This represents a 3% increase from mid August. • General population outcomes found in Table 1. <p>August</p> <ul style="list-style-type: none"> • 83% of parents intend to vaccinate their children (down from 86% at last polling July/August), 12% do not intend to vaccinate (up from 10%), and 6% do not know (up from 4%). • General population outcomes found in Table 1. <p>July</p> <ul style="list-style-type: none"> • 87% of parents intend to vaccinate their children (up 1% from June), 11% have no intention (up from 8%), and 3% were unsure (down from 6%). • General population outcomes found in Table 1.

	Formative research conducted? No Survey pre-tested? No	
<p>Angus Reid (2021) grey literature⁶ new</p> <p>Cross-sectional study</p> <p>Canada</p> <p>Aug 2021</p>	<p>An online survey of 804 parents of children aged 12-17 and 122 parents of children aged 5-11 was conducted to gain an understanding of their thoughts on vaccination and the return to school.</p> <p>Question Topics:</p> <p>1) Vaccine perceptions</p> <p>Survey tools available? Yes</p> <p>Formative research conducted? No</p> <p>Survey pre-tested? No</p>	<ul style="list-style-type: none"> • In parents with children aged 12-17, 82.7% reported their children have been vaccinated, 13.6% have not been vaccinated yet, and 3.6% preferred not to say. • Support for mandatory vaccination for all school staff was high (74% of parents of children aged 12-17 and 81% of parents of children aged 5-11). • 65% of those with children aged 12-17 and 71% with children aged 5-11 wanted to see vaccine mandates for students as well. At the time of this study the vaccine was not available for children <12. • 33% of parents living in the Prairies and 25% of those in QC believed that neither masks nor vaccines should be mandatory for students. This was higher than BC (11%) and ON (17%). • 61% of parents with unvaccinated children and 85% of those who prefer not to say did not believe that masks or proof of vaccination should be required for students compared to 12% of parents with vaccinated children. Similar trends were seen for school staff requirements. • More parents whose children had been vaccinated were concerned about their 12-17 year olds getting sick (63%) compared to those that haven't had their children vaccinated (32%).
<p>Independent Polling System of Society (IPSOS) and Toronto</p>	<p>To gain a better understanding of the public's views on vaccination, an online survey was conducted</p>	<p>Jul-Aug</p> <ul style="list-style-type: none"> • 69% of parents with children >11 years old reported that their child

<p>Public Health (2021) grey literature³ new</p> <p>Longitudinal study</p> <p>Canada</p> <p>Mar-Aug 2021</p>	<p>in Toronto residents with an over sampling of recent immigrants.</p> <p>Wave 1: Mar- Apr, n=1,200 Wave 2: Jul-Aug, n=1,203</p> <p>Question Topics: 2) Vaccine intentions</p> <p>Survey tools available? No Formative research conducted? No Survey pre-tested? No</p>	<p>had received at least one dose, 8% were intending to vaccinate their children, 19% were unsure, and 7% did not want their children vaccinated.</p> <ul style="list-style-type: none"> The top reasons for parents not wanting to vaccinate their children were concern about side effects (56%), long-term effects (48%), and lack of trust in how quickly the vaccine was developed for children (40%). In parents of children <12, 47% were very likely to get their children vaccinated when available, 17% were somewhat likely, 9% were somewhat unlikely, 17% were very unlikely, and 10% were unsure. 66% and 64% of parents agreed that COVID-19 vaccines should be mandatory for children who want to return to in-person learning in schools and mandatory for children to participate in extra curricular activities, respectively.
<p>Lazarus (2021) preprint⁶⁸</p> <p>Cross-sectional study</p> <p>23 countries: Brazil, Canada, China, Ecuador, France, Germany, Ghana, India, Italy, Kenya, Mexico, Nigeria, Peru, Poland, Russia, South Africa, South Korea,</p>	<p>Vaccine acceptance rates and factors influencing acceptance of a COVID-19 vaccine was analyzed using various methods (online, telephone, and direct mail surveys) of 22,500 adults across 23 countries (n=1000 per country). Comparisons in acceptance rates among the 19 countries in their 2020 study (73) were also reported.</p> <p>Question Topics: 1) Vaccine intentions</p>	<ul style="list-style-type: none"> Parents' willingness to vaccinate children was highest in China (95%), Brazil (91.3%), Ecuador (85.9%), Peru (85.1%) and lowest in Russia (35.5%), Poland (46.3%) and France (48.5%). In Canada it was 66.9%. In all countries, willingness to vaccinate one's children was significantly higher among parents who accepted the vaccine for themselves (p<0.001). The rest of the results on the global population are located in Table 9.

<p>Singapore, Spain, Sweden, Turkey, UK, US</p> <p>Jun 2021</p>	<p>Survey tools available? Yes</p> <p>Formative research conducted? Yes</p> <p>Survey pre-tested? Yes</p>	
<p>Government of Manitoba (2021) grey literature⁴⁷</p> <p>Longitudinal study</p> <p>Canada</p> <p>May 2021</p>	<p>An online research panel of 600 Manitobans were surveyed to understand attitudes towards vaccination and possible incentives to increase uptake.</p> <p>Question Topics:</p> <ol style="list-style-type: none"> 1) Vaccine intentions 2) Vaccine perceptions <p>Survey tools available? No</p> <p>Formative research conducted? No</p> <p>Survey pre-tested? No</p>	<ul style="list-style-type: none"> • In a group of 70 parents or guardians of children aged 12-17, 15% were not sure if they will vaccinate their children, and 13% will not vaccinate their children. • Those who did not intend to vaccinate their children were in households making less than \$40,000, would not get the vaccine themselves, and didn't believe adults should get all the regular vaccines.
<p>McKinnon (2021) preprint⁶⁹</p> <p>Cross-sectional study</p> <p>Canada</p> <p>Jan – Apr 2021</p>	<p>Willingness to vaccinate children according to level of education, neighbourhood, and visible minority status was evaluated using an online survey in 380 parents with children aged 2-17 in Montreal.</p> <p>Question Topics:</p> <ol style="list-style-type: none"> 1) Vaccine intentions 2) Vaccine hesitancy <p>Survey tools available? No</p>	<ul style="list-style-type: none"> • Parents were 61% very likely, 25% somewhat likely, 9.2% somewhat unlikely, and 4.5% very unlikely to have their child vaccinated. • Concern over the lack of information about the vaccine's safety and possible side effects was the most common reason for hesitancy (48%). • Comparing visible minority to non-visible minority parents, 30.3% vs. 66.6% were very likely to vaccinate their children, 36.8% vs. 23.9% were somewhat likely, and 32.9% vs. 9.5% were unlikely to vaccinate, respectively.

	<p>Formative research conducted? No</p> <p>Survey pre-tested? No</p>	<ul style="list-style-type: none"> Comparing visible minority to non-visible minority parents, 30.3% vs. 66.6% were very likely to vaccinate their children, 36.8% vs. 23.9% were somewhat likely, and 32.9% vs. 9.5% were unlikely to vaccinate, respectively.
<p>Vallis (2021)⁶⁷</p> <p>Cross-sectional study</p> <p>Canada</p> <p>Jun-Oct 2020</p>	<p>Attitudes and concerns towards COVID-19 vaccination in individuals living with overweight and obesity were evaluated using an online survey. Two samples were used: 1) representative sample of 1089 individuals living with overweight and obesity and 2) convenience sample of 980 individuals recruited from obesity clinical services or patient organizations.</p> <p>Question Topics:</p> <ol style="list-style-type: none"> Vaccine intentions Vaccine hesitancy <p>Survey tools available? No</p> <p>Formative research conducted? Yes</p> <p>Survey pre-tested? No</p>	<ul style="list-style-type: none"> 64.6% of those living with obesity were comfortable receiving a vaccine and 35.4% were hesitant. Individuals were less comfortable with their children receiving the vaccine (58.5% comfortable, 41.6% hesitant, $P < 0.001$).
<p>Drouin (2021) preprint⁶⁶</p> <p>Cross-sectional study</p> <p>Canada</p>	<p>Parental intention to have their child with asthma vaccinated against COVID-19 was assessed using an online survey in 305 parents.</p> <p>Question Topics:</p>	<ul style="list-style-type: none"> 63% of parents were likely to have their child vaccinated, 19.1% were unlikely, and 17% were unsure. For themselves, 64% were likely to get vaccinated, 21% were unlikely, and 15.1% were unsure. There was a strong relationship between a parents' intention to vaccinate their

<p>Aug 2020</p>	<p>1) Vaccine intentions 2) Vaccine hesitancy</p> <p>Survey tools available? No Formative research conducted? No Survey pre-tested? No</p>	<p>children and person intention to vaccinate.</p> <ul style="list-style-type: none"> Factors significantly associated with a parents' decision to vaccinate their child included higher level of education, being employed, sex of the child (female), presence of other chronic diseases, prior influenza vaccination, parental anxiety, and consultation with a health professional.
<p>Lackner (2021)⁷¹</p> <p>Cross-sectional study</p> <p>Canada</p> <p>May-Jun 2020</p>	<p>The demographic, experiential, and psychological factors associated with the anticipated likelihood and speed of having children receive a COVID-19 vaccine was investigated in 455 families (857 children).</p> <p>Question Topics:</p> <p>1) Vaccine intentions</p> <p>Survey tools available? No Formative research conducted? Yes Survey pre-tested? No</p>	<ul style="list-style-type: none"> Factors associated with a higher likelihood of having their children vaccinated include older parental age, living in the Prairies (relative to Central Canada), more complete child and parental vaccination history, positive attitudes towards vaccines in general, higher psychological avoidance of the pandemic, and a greater tendency to prioritize the risks of the disease relative to the risks of side-effects. In some models, perceived COVID-19 risk and higher levels of state anxiety were associated with increased likelihood of having children vaccinated. The above factors were also predictors of faster speed of intended vaccination. However, higher SES was a trend-level predictor.
<p>Hetherington (2021)⁷⁰</p> <p>Cross-sectional study</p>	<p>Participants from the longitudinal cohort study All Our Families (n=1321) in Alberta were invited to participate in an online COVID-19 impact survey to understand factors associated with COVID-19</p>	<ul style="list-style-type: none"> 60.4% of parents intended to vaccinate their children, 8.6% said they did not intend to vaccinate, and 31% were unsure. Participants with less education were more likely to not want to vaccinate (OR 2.80, 95% CI: 1.78-4.40) or be

<p>Canada</p> <p>May-Jun 2020</p>	<p>vaccine intentions among parents of 9-12 year old children.</p> <p>Question Topics:</p> <ol style="list-style-type: none"> 1) Vaccine intentions 2) Vaccine hesitancy <p>Survey tools available? No</p> <p>Formative research conducted? No</p> <p>Survey pre-tested? No</p>	<p>unsure (OR 1.98, 95% CI: 1.47-2.71). A similar pattern was seen for income.</p> <ul style="list-style-type: none"> • History of partial or non-vaccination was associated with intent to not vaccinate (OR 2.81, 95% CI: 1.78-4.40). There was no association between vaccination history and uncertainty regarding a COVID-19 vaccine (OR 1.29, 95% CI: 0.92-1.80). • Concerns over vaccine safety and efficacy, long-term effects, and a rushed vaccination process were reported.
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Table 7: Evidence of vaccine attitudes of immigrants (n=6)

Study	Methods and survey tools	Key KAB outcomes
<p>Innovative Research Group (2021) grey literature¹⁹</p> <p>Cross-sectional study</p> <p>Canada</p> <p>May-Jun 2021</p>	<p>An online poll of 2,838 adults with a specific over sampling of Black Canadians (n=502) was conducted to evaluate COVID-19 vaccine intentions and hesitancy.</p> <p>Question Topics:</p> <ol style="list-style-type: none"> 1) Vaccine hesitancy <p>Survey tools available? No</p> <p>Formative research conducted? No</p> <p>Survey pre-tested? No</p>	<ul style="list-style-type: none"> • Vaccine hesitancy was higher amongst Black Canadians and Non-Black Canadians born in Canada than those born outside of Canada. • General population outcomes located in Table 1.
<p>INSPQ (2021) grey literature^{1 32} <small>36 37 38 45</small></p>	<p>Analysis of the acceptability of vaccination against COVID-19 was evaluated using an online survey of adults and HCWs in Quebec. Number of participants was</p>	<p>August</p> <ul style="list-style-type: none"> • There is no longer a difference in vaccination uncertainty between unvaccinated immigrant and non-immigrant populations in Quebec. Both populations have similar levels

<p>Longitudinal study</p> <p>Canada</p> <p>Apr 2020 – Aug 2021</p>	<p>not clearly stated (~3300 each collection period). Articles in French. There were multiple collection periods:</p> <p>Apr – Dec 2020</p> <p>Feb 2021</p> <p>Apr 2021</p> <p>Early May 2021</p> <p>Late May 2021</p> <p>August 2021</p> <p>Question Topics:</p> <ol style="list-style-type: none"> 1) Vaccine intentions 2) Vaccine hesitancy <p>Survey tools available? No</p> <p>Formative research conducted? No</p> <p>Survey pre-tested? No</p>	<p>of hesitancy in the latest survey, while non-immigrant’s had far less intention to vaccinate compared to immigrant’s (68% vs 45% had no intention to vaccinate respectively)</p> <ul style="list-style-type: none"> • Overall non-immigrants and immigrants have similar level of accepting vaccination and intention (93% and 91% respectively). <p>Previous reports</p> <ul style="list-style-type: none"> • Immigrants were more hesitant and more unsure about receiving a vaccine compared to non-immigrants.
<p>Statistics Canada (2021) grey literature^{14 98}</p> <p>Cross-sectional study</p> <p>Canada</p> <p>Mar-May 2021</p>	<p>Vaccine intentions and perceptions were analyzed in the second round COVID-19 Vaccination Coverage Survey (CVCS) involving Canadian adults (18+) in the provinces using mail invites and computer assisted telephone interviews for non-responses.</p> <p>Round 1: n= 1,025 capital cites of the territories</p> <p>Round 2: n= 10,678 in 10 provinces</p> <p>Question Topics:</p> <ol style="list-style-type: none"> 1) Vaccine intentions 	<p>Round 2</p> <ul style="list-style-type: none"> • 11%* of non-permanent residents were unlikely to vaccinate compared to 5% of non-immigrants, 4% among immigrants in Canada for more than 10 years, and 3% among immigrants living in Canada for less than 10 years. • General population outcomes located in Table 1

	<p>2) Vaccine perceptions 3) Vaccine hesitancy</p> <p>Survey tools available? Yes Formative research conducted? Yes Survey pre-tested? Yes</p>	
<p>Muhajarine (2021) preprint²⁷</p> <p>Cross-sectional study</p> <p>Canada</p> <p>Apr-May 2021</p>	<p>9,252 responses collected from 7,265 Saskatchewan adults (18+) were enrolled from landlines and online to complete an online survey regarding vaccine acceptance and hesitancy.</p> <p>Question Topics:</p> <p>1) Vaccine intentions 2) Vaccine hesitancy</p> <p>Survey tools available? No Formative research conducted? No Survey pre-tested? No</p>	<ul style="list-style-type: none"> Those who were born outside of Canada and living in Canada less than 20 years were more vaccine hesitant compared to those born in Canada (RRR 3.14, 95% CI: 1.56-6.34). General population outcomes found in Table 1.
<p>Statistics Canada (2021) grey literature^{65 94 95}</p> <p>Longitudinal study</p> <p>Canada</p> <p>Sep-Dec 2020 – Apr 2021</p>	<p>An online survey conducted by Statistics Canada as part of the Canadian Community Health Survey (CCHS) assessed Canadians behaviors to safeguard their own health as well as the health of others. In the September survey, a question about vaccine intentions was added. The most recent report captures 25,000 responses from</p>	<p>Sep 2020-Apr 2021</p> <ul style="list-style-type: none"> Non-immigrants (87.1%) were the most likely to vaccinate followed by immigrants that have spent more than 10 years in Canada (86.4%), then immigrants living in Canada for under 10 years (78.9%). Intention among all the groups has increased since last polling in Sept-Dec 2020. <p>Sep-Dec 2020</p> <ul style="list-style-type: none"> Immigrants were slightly less likely to vaccinate (74.6%) but this varied greatly between older and younger

	<p>individuals aged 12+. Various reports include: Sept 2020 Sep – Dec 2020 Sept 2020 – Apr 2021</p> <p>Question Topics: 1) Vaccine intentions</p> <p>Survey tools available? Yes Formative research conducted? Yes Survey pre-tested? Yes</p>	<p>immigrants (73.2% for 12-64 and 81.1% for those 65+).</p>
<p>Statistics Canada (2020) grey literature²² Cross-sectional study Canada Sept-Oct 2020</p>	<p>A telephone survey of 120,000 (18+) was conducted to assess intention to vaccinate.</p> <p>Question Topics: 1) Vaccine intentions</p> <p>Survey tools available? Yes Formative research conducted? Yes Survey pre-tested? Yes</p>	<ul style="list-style-type: none"> • Immigrants living in Canada for less than 10 years (80.3%) and more than 10 years (70.7%) had comparable intentions to vaccinate compared to non-immigrants (75.9%). • Women who were non-immigrants or who immigrated less than 10 years ago had lower intentions than men (74.7% vs 77.2% for non immigrants and 78.1% vs 82.9% for less than 10 years).

Table 8: Evidence of vaccine attitudes of individuals with comorbidities (n=2)

Study	Methods and survey tools	Key KAB outcomes
Kaida (2021) preprint ⁷²	Intention to vaccinate was evaluated by HIV status among 5,588 women and gender diverse participants	Entire sample

<p>Cross-sectional study</p> <p>Canada</p> <p>Aug 2020 – Mar 2021</p>	<p>in British Columbia. Of these, 69 (1.2%) were living with HIV (LWH) and 5,519 (98.8%) were not.</p> <p>Question Topics:</p> <ol style="list-style-type: none"> 1) Vaccine intentions 2) Vaccine attitudes <p>Survey tools available? No</p> <p>Formative research conducted? Yes</p> <p>Survey pre-tested? Yes</p>	<ul style="list-style-type: none"> • 79.7% of all participants reported being very or somewhat likely to intend to vaccinate when available. • Compared to White participants, intention to vaccinate was lower in people of Indigenous ancestry (aOR 0.49, 95% CI: 0.35-0.70), and people of other or mixed ethnicities (aOR 0.76, 95% CI: 0.62-0.94). • Those residing in lower income households (aOR 0.53, 95% CI: 0.42-0.67), with less education (aOR 0.65, 95% CI: 0.53-0.79), and essential workers not in the health sector (aOR 0.69, 95% CI: 0.57-0.83) were significantly less likely intend to vaccinate. • Participants were influenced by direct social norms (family/friends) and indirect social norms (media/doctors) to receive a vaccine. <p>Participants LWH</p> <ul style="list-style-type: none"> • Intention to vaccinate was significantly lower among participants LWH compared with those not LWH (OR 0.49, 95% CI: 0.30-0.83, P = 0.009). In a multivariable model, this was no longer significant. • Participants LWH had lower vaccine confidence, higher perceptions of vaccine risks, and less positive attitudes towards vaccine compared to those not LWH. • Intention to vaccinate in people LWH was positively associated with older age (OR 1.05 per year increase, 95% CI: 1.00-1.10), having one or more chronic health conditions (OR 3.50, 95% CI: 0.98-13.43), lack of vaccine confidence (OR 0.40, 95% CI: 0.18-
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		0.71), positive attitudes towards the vaccine (OR 1.31, 95% CI: 1.15-1.54), greater influence of direct social norms (OR 1.27, 95% CI: 1.08-1.54), and greater influence of indirect social norms (OR 1.31, 95% CI: 1.13-1.55).
Vallis (2021) ⁶⁷ Cross-sectional study Canada Jun-Oct 2020	<p>Attitudes and concerns towards COVID-19 vaccination in individuals living with overweight and obesity were evaluated using an online survey. Two samples were used: 1) representative sample of 1089 individuals living with overweight and obesity and 2) convenience sample of 980 individuals recruited from obesity clinical services or patient organizations throughout Canada.</p> <p>Question Topics:</p> <ol style="list-style-type: none"> 1) Vaccine intentions 2) Vaccine hesitancy <p>Survey tools available? No</p> <p>Formative research conducted? Yes</p> <p>Survey pre-tested? No</p>	<ul style="list-style-type: none"> • 64.6% of those living with obesity were comfortable receiving a vaccine and 35.4% were hesitant. • Individuals were less comfortable with their children receiving the vaccine (58.5% comfortable, 41.6% hesitant, P<0.001). • The majority of respondents scored low (4 or less) on the following items: "vaccines are effective" (91.3% low confidence); "vaccines are important for my health" (92.4% low confidence); "being vaccinated is important for the health of others in my community" (92.7% low confidence); "all vaccines offered by the government programme in my community are beneficial" (89.4% low confidence); "the information I receive about vaccines from the vaccine programme is reliable and trustworthy" (85.7%) low confidence; "getting vaccines are a good way to protect myself from disease"(91.5% low confidence); and, "generally, I do what my doctor or healthcare provider recommends about vaccines (90.2% low confidence). • The mean score on the confidence subscale of the vaccine hesitancy scale was significantly lower than any other measure (mean = 2.26). • Fear of COVID-19 was a predictor of vaccine attitudes for all dependent measures.

		Comfort levels in receiving the vaccine were positively associated with male gender, having more comorbidities, having lower depression scores, not practicing social distancing, and past acceptance of influenza vaccinations.
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Table 9: Evidence of vaccine attitudes of the global population (n=9)

Study	Methods and survey tools	Key KAB outcomes
Quasi-experimental studies (n= 1)		
<p>Duch (2021) preprint¹¹⁸</p> <p>Quasi-experimental study</p> <p>13 countries (Australia, Brazil, Canada, Chile, China, Colombia, France, India, Italy, Spain, Uganda, UK, US)</p> <p>Nov-Dec 2020</p>	<p>To understand public opinions on key aspects of vaccine allocation, an online experiment of 15,536 adults (18+) across 13 countries was conducted. Participants were required to make eight binary choices about hypothetical vaccine recipients that randomly varied on five attributes including occupation, age, transmission status, risk of death from COVID-19, and income.</p> <p>Question Topics:</p> <p>1) Vaccine perceptions</p> <p>Survey tools available? Yes</p> <p>Formative research conducted? Yes</p> <p>Survey pre-tested? No</p>	<ul style="list-style-type: none"> • Overall there was global consensus on which population segments should have priority for a COVID-19 vaccine. • In almost all countries and across participants of different education levels, incomes, and political ideologies, results show that the public favors prioritizing the vaccine to HCWs, those at high risk, those in lower income brackets, and older populations. • At least two thirds of participants in each of the countries (80% in Canada) believed that the government should assume the lead role in the distribution of COVID-19 vaccines. However, there is evidence that a large proportion of individuals would be willing to pay for a vaccine if it were available privately. This ranged from 18% of participants in France to 79% in India and Uganda. 35% of Canadians would be willing to pay for a vaccine. • There was no consensus on support for mandatory vaccination either globally or within national borders. In the global sample, 24% were strongly opposed and 38% were strongly in

		<p>favor. In France 60% of participants opposed mandatory vaccination whereas in China, India, and Uganda very few people were strongly opposed.</p>
<p>Cross-sectional studies (n=7)</p>		
<p>Lazarus (2021) preprint⁶⁸</p> <p>Cross-sectional study</p> <p>23 countries: Brazil, Canada, China, Ecuador, France, Germany, Ghana, India, Italy, Kenya, Mexico, Nigeria, Peru, Poland, Russia, South Africa, South Korea, Singapore, Spain, Sweden, Turkey, UK, US</p> <p>Jun 2021</p>	<p>Vaccine acceptance rates and factors influencing acceptance of a COVID-19 vaccine was analyzed using various methods (online, telephone, and direct mail surveys) of 22,500 adults across 23 countries (n=1000 per country). Comparisons in acceptance rates among the 19 countries in their 2020 study (73) were also reported.</p> <p>Question Topics:</p> <p>1) Vaccine intentions</p> <p>Survey tools available? Yes</p> <p>Formative research conducted? Yes</p> <p>Survey pre-tested? Yes</p>	<ul style="list-style-type: none"> • Global COVID-19 vaccine acceptance was 75.2%, of which 49% had received at least one dose and 51% were willing to receive it once available. This increased from 71.5% in Jun 2020. • China (97.6%), Canada (79.2%) and the UK (81.2%) had the highest acceptance rates and Russia (51.6%), Nigeria (57%), and Poland (59.3%) had the lowest. • The acceptance rate in Canada rose from 68.7% in Jun 2020 to 79.2% in Jun 2021. • In all countries, vaccine acceptance when recommended by employer increased (global average - 48.1% in 2020 to 64.2% in 2021), except in Germany and South Korea. Vaccine acceptance when recommended by a doctor was higher in all countries compared to an employer. • Vaccine acceptance was highly correlated with perceptions of risk, trust, safety, equity, and efficacy (r=0.85, P<0.001) and was weakly correlated with a country's current COVID-19 case burden (r=-0.13, p>0.05), mortality (r=-0.25, p>0.05), and approval of government responses to the pandemic in June 2020. • In multivariable models, vaccine acceptance was associated with older

		<p>respondents in Canada, France, Germany, South Korea, Sweden, UK, and USA (aOR range 1.02-1.04). It was also positively correlated with anxiety (aOR=4.59) and negatively correlated with depression in Canada (aOR=0.21).</p> <ul style="list-style-type: none"> Outcomes on parents intention to vaccinate located in Table 6.
<p>Piltch-Loeb (2021) preprint⁷⁴ new</p> <p>Cross-sectional study</p> <p>Canada, Italy, Sweden, US</p> <p>May 2021</p>	<p>This online survey aimed to compare vaccine hesitancy and vaccine-related concerns in adults (18+) across four countries (n=1000 for Canada, Sweden, and Italy and n=750 for Italy).</p> <p>Question Topics:</p> <p>1) Vaccine hesitancy</p> <p>Survey tools available? Yes</p> <p>Formative research conducted? No</p> <p>Survey pre-tested? No</p>	<ul style="list-style-type: none"> The highest percentage of vaccine hesitant respondents was found in the US (63%), followed by Sweden (49%), Italy (43%), and Canada (42%). Under the category "Vaccine Safety and Government Control", respondents from the US and Canada shared the same top concern: the fast production of the vaccine compromised its safety. The top concerns from Sweden (the vaccine can cause other diseases) and Italy (you can get COVID-19 from the vaccine) were unique. Respondents from Canada, Sweden, and Italy shared the same top concern in the "Vaccine Effectiveness and Population Control" category: there is no elite group that will achieve financial power if people are getting vaccinated. The top concern in the US was unique: everyone should get vaccinated to achieve herd immunity. Under the category "Freedom", respondents from Canada, Sweden, and Italy shared the same top concern: people should be free to decide if they get vaccinated or not. The US was unique in their top concern: people should be allowed to

		live their life with no restrictions once vaccinated.
<p>Crespo (2021) preprint⁷⁵</p> <p>Cross-sectional studies</p> <p>15 countries: Australia, Canada, Denmark, Finland, France, Germany, Italy, Japan, Netherlands, Norway, Singapore, South Korea, Spain, Sweden, UK</p> <p>Nov-Jan 2021</p>	<p>Change in intention to vaccinate over time was assessed using two online surveys, one in Nov 2020 and the other in Jan 2021 across fifteen countries. It is unclear if and how many individuals completed both surveys.</p> <p>Question Topics:</p> <p>1) Vaccine intentions</p> <p>Survey tools available? No</p> <p>Formative research conducted? No</p> <p>Survey pre-tested? No</p>	<ul style="list-style-type: none"> • In Canada, intention to vaccinate increased from 44.2% in Nov to 55.2% in Jan. • In the Jan survey, the countries with the highest intentions to vaccinate included the UK (77.5%), Denmark (67%), and the Netherlands (63.1%). The countries with the lowest intentions included South Korea (43.7%), France (39.2%), and Singapore (34.8%). • Increase in intention to vaccinate between Nov and Jan was seen in Spain (24.1%), UK (23.2%), Sweden (22.7%), Finland (20.4%), Netherlands (18.5%), Italy (15.4%), Norway (14.6%), France (14.2%), Denmark (13.3%), Germany (13.0%), Canada (11%), and Japan (0.8%). • Countries with a decrease in intentions between Nov and Jan included Australia (-6.6%), South Korea (-5.0%), and Singapore (-1.3%). • In 11/15 countries there was a significant decrease in the proportion of individuals who reported concern about the side-effects of a vaccine. In Canada, this concern decreased from 53.3% in Nov to 47.9% in Jan.
<p>Clarke (2021)¹¹⁹</p> <p>Cross-sectional study</p> <p>Australia, Canada, France, Italy, Spain, UK and US</p>	<p>An international online survey of 8,209 adults from high income countries was conducted with the goal of evaluating perceptions of prioritization of global vaccine allocation on a scale 0 ('very much disagree') to 100 ('very much agree').</p>	<ul style="list-style-type: none"> • All countries favoured in order of most support: allocating based on need, by affordability, and by which country developed the vaccine. • The UK had the largest percentage of respondents who do not favor donating purchased vaccines to other countries (26%) and Italy and Spain had the lowest (15%).

<p>Nov-Dec 2020</p>	<p>Question topics: 1) Vaccine perceptions</p> <p>Survey tools available? No</p> <p>Formative research conducted? No</p> <p>Survey pre-tested? No</p>	<ul style="list-style-type: none"> Between 48% and 56% of respondents would donate their country's vaccines at some level. The highest was Canada (56%) and lowest France (48%).
<p>World Economic Forum (2020) grey literature¹²⁰</p> <p>Cross-sectional study</p> <p>15 countries (Australia, Brazil, Canada, China, France, Germany, India, Italy, Japan, Mexico, South Africa, South Korea, Spain, UK, and US)</p> <p>Oct 2020</p>	<p>An online survey of 18526 individuals globally analyzed intention to vaccinate and perceptions on the vaccine. Of these, 1000 participants were Canadian.</p> <p>Question Topics: 1) Vaccine intentions 2) Vaccine perceptions 3) Vaccine hesitancy</p> <p>Survey tools available? Yes</p> <p>Formative research conducted? Yes</p> <p>Survey pre-tested? Yes</p>	<ul style="list-style-type: none"> 73% stated they would get a vaccine for COVID-19 if it were available. Compared to three months earlier (Aug), this is a 4% drop. Intention has declined between Aug and Oct in 10/15 countries, most of all China, Australia, Spain, and Brazil. Countries with the highest intent include India (87%), China (85%), South Korea (83%), and Brazil (81%). France has the lowest intention to vaccinate (54%), followed by the US (64%), and Spain (64%). 52% indicated that they would become vaccinated within three months after vaccine becomes available to all. 55% believe that a vaccine will not be available on the market until the third quarter of 2021. Globally, the most common reasons for hesitancy include concerns about side-effects (34%), and concerns that clinical trials are moving too quickly (33%).
<p>Mannan (2021) preprint¹²¹</p>	<p>Sixty national representative online and telephone surveys were conducted capturing 26,852 responses</p>	<ul style="list-style-type: none"> 62.6% of Canadians strongly accepted a COVID-19 vaccine which was the lowest acceptance recorded among countries in North America.

<p>Cross-sectional study</p> <p>60 countries: (Afghanistan, Algeria, Argentina, Australia, Bangladesh, Belgium, Bolivia, Botswana, Brazil, Canada, Chile, China, Columbia, Cuba, Dominican Republic, Ecuador, Egypt, El Salvador, England, Fiji, France, Germany, Guatemala, India, Italy, Jamaica, Japan, Kenya, Kiribati, Libya, Mali, Malaysia, Mauritius, Mexico, Morocco, Nauru, New Zealand, Nicaragua, Nigeria, Palau, Panama, Papua New Guinea, Paraguay, Peru, Poland, Russia, South Africa, Saudi Arabia, Singapore, Solomon Islands, Spain, South Korea, Sweden, Switzerland, Turkey, Tonga, Tuvalu, United States of America, Uruguay, Venezuela)</p>	<p>from adults (19+) regarding vaccine acceptance and attitudes.</p> <p>Question Topics:</p> <ol style="list-style-type: none"> 1) Vaccine intentions 2) Vaccine hesitancy 3) Vaccine attitudes <p>Survey tools available? Yes</p> <p>Formative research conducted? Yes</p> <p>Survey pre-tested? No</p>	<ul style="list-style-type: none"> • 65.5% strongly agreed that it was important to get a vaccine to protect others, 57.6% agreed that pharmaceutical companies will develop a safe vaccine, and 31.7% believed that vaccines were safer if they made in America or Europe rather than other countries. • Hesitancy was demonstrated with 48.7% worried about side effects, 44.7% worried about unforeseen impacts, 43.7% had concerns over commercial profiteering, 42.6% had general mistrust of vaccine benefits, and 34.6% had a preference for natural immunity. • Vaccine acceptance for each country: Africa Algeria (66.3%), Egypt (43.6%), Botswana (71.2%), Kenya (61.3%), Libya (49.6%), Mali (62.4%), Mauritius (82.8%), Morocco (48.4%), Nigeria (61.5%), South Africa (79.3%) Asia Afghanistan (47.2%), Bangladesh (49.8%), China (87.4%), India (73.9%), Japan (71.4%), Malaysia (52.7%), Saudi Arabia (51.1%), Singapore (66.8%), South Korea (76.2%), Turkey (59.2%) Oceania Australia (89.9%), Fiji (87.2%), New Zealand (88.4%), Kiribati (89.8%), Nauru (88.3%), Palau (89.2%), Papua New Guinea (91.9%), Solomon Islands (92.6%), Tonga (92.9%), Tuvalu (90.5%) North America Canada (62.6%), Cuba (77.9%), Dominican Republic (79.5%), El Salvador (71.8%), Guatemala (75.0%), Jamaica (71.0%), Mexico (73.3%), Nicaragua (81.2%), Panama (87.4%), United States (74.8%) South America Argentina (81.3%), Brazil (86.2%), Bolivia (82.8%), Chile
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<p>Jun-Sep 2020</p>		<p>(79.2%), Columbia (81.8%), Ecuador (70.2%), Paraguay (67.7%), Peru (77.8%), Uruguay (75.6%), Venezuela (74.8%)</p> <p>Europe England (69.3%), Belgium (60.4%), Germany (65.2%), Italy (68.4%), France (51.9%), Poland (52.3%), Spain (72.5%), Sweden (62.7%), Switzerland (60.2%), Russia (51.3%)</p>
<p>Lazarus (2020)⁷³ Lazarus (2021)¹²²</p> <p>Cross-sectional study</p> <p>19 countries: (Brazil, Canada, China, Ecuador, France, Germany, India, Italy, Mexico, Nigeria, Poland, Russia, Singapore, South Africa, South Korea, Sweden, UK, US)</p> <p>Jun 2020</p>	<p>Vaccine acceptance rates and factors influencing acceptance of a COVID-19 vaccine was analyzed using an online survey of 13,426 adults. The data from this survey was analyzed differently in two publications.</p> <p>Question Topics:</p> <p>1) Vaccine intentions</p> <p>Survey tools available? Yes</p> <p>Formative research conducted? Yes</p> <p>Survey pre-tested? Yes</p>	<ul style="list-style-type: none"> • 71.5% of participants reported that they would be “very likely” or “somewhat likely” to take a COVID-19 vaccine • 48.1% reported that they would accept their employer’s recommendation to take the vaccine. • China (88.6%), Brazil (85.4%), and South Africa (81.6%) had the highest acceptance rates and Nigeria (58.9%), Poland (56.3%), and Russia (54.9%) had the lowest. • The acceptance rate in Canada was 68.7%. • Individuals aged 25+ were more likely to accept the vaccine than those aged 18-24. The strongest difference was seen (OR 1.73, 95% CI: 1.48-2.02) when responses from the oldest age cohort (65+) were compared to the youngest cohort (18-24). • People with higher education, women, those who earned more income, those who reported COVID-19 illness in the family, and those who trusted their government were more likely to accept the vaccine. • Having a high/very high education may be linked to lower vaccine

		acceptance in Canada, Spain, and the UK.
Burke (2021) ¹²³ 5 countries: Australia, Canada, New Zealand, UK, US NR 2020	An online survey of 4303 individuals across 5 countries analyzed intention to vaccinate and perceptions on the vaccine. Of these, 695 participants were Canadian. Question Topics: 1) Vaccine intentions Survey tools available? No Formative research conducted? Yes Survey pre-tested? No	<ul style="list-style-type: none"> • 66% of the entire group surveyed reported they would receive a vaccine, with Australia having the highest rates of intention (73%), followed by Canada (66%), England (64%), New Zealand (62%), and the US (55%). • All seven vaccine hesitancy beliefs were significant in explaining intentions to vaccinate, with the largest impact related to trusting the government to approve a safe and effective vaccine (b= 0.764, P< 0.001). • Canadians revealed significantly weaker effects relating to perceptions of disease severity for themselves and others, and vaccine effectiveness for themselves as predictors of overall vaccination intentions (P< 0.01).
NR = not reported		

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