

Policy Brief: COVID-19 Vaccine Hesitancy in Canada

Summary

This survey was conducted among Canadians 18 to 40 years old in the context of the COVID-19 pandemic, and measures vaccine hesitancy. Participants were grouped into three outcome categories: 1) “non-hesitant” if they had already been vaccinated against COVID-19 or if they intended on getting the vaccine as soon as possible; 2) “hesitant” if they intended to wait to see how it affects others in the community before getting it or not intending to get it soon, but might sometime in the future; and 3) “does not intend on getting vaccinated” if they did not intend on ever getting the vaccine. Preliminary results demonstrate the sociodemographic heterogeneity across the vaccine hesitancy spectrum. Of note, the results highlight that conspiracy theories are distinct from criticism and concerns regarding the vaccine and have less bearing on vaccine intent than general attitudes towards vaccines. Nevertheless, lower education attainment, unemployment, and strong reliance on vaccine development timeline and research of COVID-19 as well as trust in scientists to inform their opinions are shown to be associated with higher odds of being vaccine hesitant compared to non-hesitant participants.

Sample

Data was collected in June 2021 (n=4905) in the province of Québec (36%), Ontario (41%), and Alberta (23%) using the Leger360 pool of registered members, a firm with access to 500,000 Canadian professionals and consumers. Sample participants were aged 18 to 40 years old, 59% were female, 90% were Canadian citizens, with first (18%), second (22%), and third or more (60%) generation immigrants. This sample was highly educated with 52% holding or enrolled in a university certificate, diploma, or degree, and 22% holding or enrolled in a college, CEGEP or other non-university certificate diploma. For employment, 41% identified as essential workers, and 36% as non-essential, and 20% unemployed.

Major Findings

Heterogeneity Across the Vaccine Hesitancy Spectrum

There is a risk of over-simplification of the perceived “not intending on getting vaccinated”, “hesitant”, and “non-hesitant” groups, which are in fact heterogeneous. It is imperative to distinguish adherence to conspiracy theory beliefs, criticism or distrust in the political or institutional systems, and concerns regarding the vaccine from one another as they each have different implications; those who are vaccinated and/or “non-hesitant” may still be critical of the government or have fears and concerns regarding the vaccine, and individuals may hold a critical view of the vaccine or the government but not adhere to conspiracy theories. In fact, conspiracy theory beliefs are much less relevant to COVID-19 vaccine hesitancy than overall attitudes towards vaccines in general.

Vaccine Hesitant Profile

General attitudes towards vaccines including mistrust in vaccine benefit, worries over unforeseen future effects, concerns about commercial profiteering, and preference for natural immunity are significantly associated with an increase in hesitancy (either being hesitant, or not intend on getting vaccinated) for the COVID-19 vaccine compared to non-hesitant participants. Among sociodemographic characteristics, educational attainment and employment status are significantly associated with the odds of an individual’s hesitancy levels, while gender, age, province, and income do not significantly influence the odds of whether an individual is hesitant towards the COVID-19 vaccine. Individuals who have not completed high school are more likely to be hesitant compared to those with a higher educational attainment. Similarly, those who are unemployed are more than twice as likely to be hesitant as those who are employed and who identify as essential workers and close to twice as likely to be hesitant

compared to “non-essential” workers. However, attitudes towards vaccines in general guide COVID-19 vaccine hesitancy more so than sociodemographic characteristics such as age, gender, province, and income. For instance, individuals who strongly agree that the fast research and development timeline influence their opinions about a COVID-19 vaccine are over twice as likely to be hesitant compared to those who strongly disagree. Moreover, trust in scientists significantly decreases likelihood of being hesitant towards taking the COVID-19 vaccine.

Recommendations

The following recommendations are based on the present findings for Canadians aged 18 to 40 years old.

1- The heterogeneity of reasons supporting vaccine hesitancy, and the relatively low impact of conspiracy theory on individuals’ position towards vaccination, suggests avoiding the oversimplification of the anti-vaccination predicament proposed in the media and in public opinion. Persisting with the current discourse may further divide the population and increase stigmatization, frustration, and subsequent resentment among the hesitant group.

2- Given vaccine hesitancy is more prevalent in subjects with low social capital (unemployment and low education), communications strategies should be adapted to the literacy level of this group and prioritize social media and local means of outreach which they may use.

3- While communication campaigns are discouraged from invalidating conspiracy theory beliefs in order to avoid giving them more visibility, results suggest it is imperative to deliver transparent and nuanced health communications to address legitimate distrust towards political and scientific actors. Such communication must recognize the limits of current knowledge in justifying institutional choices in terms of vaccination and health measures and recognizing that it is possible to criticize government action while simultaneously following guidelines. For example, introducing the nuances of science, explaining why recommendations and knowledge around COVID-19 can frequently change, and addressing the development timeline of the COVID-19 vaccine may reduce vaccine hesitancy among individuals.

Vaccine concerns driving vaccine hesitancy are anchored in distrust of institutions, consensus, and processes. Trust, however, is established over long periods of time, which is often lacking during crises such as the COVID-19 pandemic. While any one message or policy will not change public trust at the current time, steps can be taken to gain the populations’ overall confidence in vaccines; although there are similar characteristics related to the COVID-19 vaccine (i.e., development timelines), general attitudes towards vaccines is the more salient aspect. In the present context, a motivational non-paternalistic approach with vaccine-hesitant people should be adopted to foster trust in institutions and encourage self-help. A safe and respectful environment for discussions for all needs to be encouraged and should emphasize the legitimacy of individual choice, while recalling our obligations towards collective well-being and the fact that this involves delicate negotiations. People could for instance be encouraged to discuss with friends and family members who may not be vaccinated, through safe and non-judgmental dialogue that recognizes and validates their emotions. This systemic approach may at the same time be more effective in reaching the vaccine hesitant group.

Table 1: Ordinal regression model for COVID-19 vaccine hesitancy, select sociodemographic characteristics, vax scale scores and vaccine factors

	Proportional OR (95%CI)	Likelihood ratio χ^2 (d.f.)
Gender		0.647(3)
<i>Female (ref)</i>	1	
<i>Male</i>	0.910 (0.675, 1.144)	
<i>Other</i>	1.111 (-0.964, 3.185)	
Age		5.686(6)
<i>Between 36 and 40(ref)</i>	1	
<i>Between 18 and 25</i>	0.918 (0.528, 1.308)	
<i>Between 26 and 30</i>	1.078 (0.705, 1.452)	
<i>Between 31 and 35</i>	1.307 (0.935, 1.678)	
Province		2.750(2)
<i>Alberta(ref)</i>	1	
<i>Ontario</i>	0.949 (0.662, 1.237)	
<i>Quebec</i>	0.787 (0.475, 1.099)	
Household income		7.318(6)
<i>\$19,999 or less(ref)</i>	1	
<i>Between \$20,000 and \$39,999</i>	0.707 (0.280, 1.134)	
<i>Between \$40,000 and \$59,999</i>	0.576* (0.147, 1.005)	
<i>Between \$60,000 and \$79,999</i>	0.666 (0.234, 1.097)	
<i>Between \$80,000 and \$99,999</i>	0.607* (0.149, 1.065)	
<i>100,000 or more</i>	0.601* (0.167, 1.035)	
Education		22.629(5)***
<i>None/Less than high school(ref)</i>	1	
<i>High school graduate</i>	0.913 (0.228, 1.598)	
<i>Apprenticeship, technical institute, trade or vocational school (any year)</i>	1.297 (0.560, 2.035)	
<i>College, CEGEP or other non-university certificate or diploma (any year)</i>	0.896 (0.209, 1.583)	
<i>University certificate, diploma or degree (any year)</i>	0.558 (-0.128, 1.244)	
Employment		32.129(2)***
<i>Not employed(ref)</i>	1	
<i>Employed – essential</i>	0.427*** (0.132, 0.721)	
<i>Employed - non essential</i>	0.581*** (0.278, 0.884)	
Vax Subscale 1: Trust/mistrust of vaccine benefit	1.293*** (1.261, 1.325)	277.709(1)***
Vax Subscale 2: Worries over unforeseen future effects	1.119*** (1.081, 1.157)	34.010(1)***
Vax Subscale 3: Concerns about commercial profiteering	1.062** (1.026, 1.099)	10.416(1)**
Vax Subscale 4: Preference for natural immunity	1.109*** (1.073, 1.146)	31.046(1)***
Vaccine Factor 2: The rushed/fast-tracked research and development timeline		99.973(7)***
<i>Strongly disagree(ref)</i>	1	
<i>Disagree</i>	0.534 (-0.216, 1.284)	
<i>Somewhat disagree</i>	0.372** (-0.350, 1.095)	

<i>Neutral</i>	0.506* (-0.105, 1.118)	
<i>Somewhat agree</i>	0.675 (0.068, 1.283)	
<i>Agree</i>	0.932 (0.314, 1.551)	
<i>Strongly agree</i>	2.575** (1.981, 3.170)	
Vaccine Factor 5: My trust in scientists		24.047(7)**
<i>Strongly disagree(ref)</i>	1	
<i>Disagree</i>	1.094 (0.245, 1.942)	
<i>Somewhat disagree</i>	1.536 (0.757, 2.315)	
<i>Neutral</i>	1.128 (0.417, 1.838)	
<i>Somewhat agree</i>	0.820 (0.102, 1.539)	
<i>Agree</i>	0.854 (0.138, 1.570)	
<i>Strongly agree</i>	0.480 (-0.266, 1.226)	
Vaccine Factor 7: The country in which a vaccine is manufactured		25.294(7)***
<i>Strongly disagree(ref)</i>	1	
<i>Disagree</i>	0.853 (0.292, 1.415)	
<i>Somewhat disagree</i>	0.941 (0.357, 1.524)	
<i>Neutral</i>	0.824 (0.326, 1.321)	
<i>Somewhat agree</i>	0.581* (0.062, 1.100)	
<i>Agree</i>	0.465** (-0.086, 1.017)	
<i>Strongly agree</i>	0.352*** (-0.258, 0.963)	
* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$		

Table 2: Legend for General Attitudes towards Vaccines (VAX Scale Questionnaire)

Responses: To what extent do you agree or disagree with the following statements? Likert scale 1 – 7: <i>Strongly disagree, Disagree, Somewhat disagree, Neutral, Somewhat agree, Agree, Strongly agree</i>
Subscale 1: Trust/mistrust of vaccine benefit (reverse coded)
<i>I feel safe after being vaccinated</i>
<i>I can rely on vaccines to stop serious infectious diseases</i>
<i>I feel protected after getting vaccinated</i>
Subscale 2: Worries over unforeseen future effects
<i>Although most vaccines appear to be safe, there may be problems that we have not yet discovered</i>
<i>Vaccines can cause unforeseen problems in children</i>
<i>I worry about the unknown effects of vaccines in the future</i>
Subscale 3: Concerns about commercial profiteering
<i>Vaccines make a lot of money for pharmaceutical companies, but do not do much for regular people</i>
<i>Authorities promote vaccination for financial gain, not for people's health</i>
<i>Vaccination programs are a big con</i>
Subscale 4: Preference for natural immunity
<i>Natural immunity lasts longer than a vaccination</i>
<i>Natural exposure to viruses and germs gives the safest protection</i>
<i>Being exposed to diseases naturally is safer for the immune system than being exposed through vaccination</i>