



Document: Situation, Background, Assessment, Recommendation (SBAR)  
Topic: Vaccine Hesitancy  
Date of review: August 7, 2021  
Date released: September 14, 2021  
Submitted by: CoVaRR-Net  
To: Deputy Minister of Health, PHAC; provincial/territorial governments;  
provincial/territorial health authorities; clinicians; public health  
professionals; First Nations governments and health authorities

---

## Definitions

**Vaccine Hesitancy:** The delay in acceptance or refusal of vaccination despite availability of vaccination services influenced by complacency, convenience, and confidence. It is complex and varies across time, place, and vaccines (1).

**Vaccine Acceptance:** The individual or group decision to accept or refuse, when presented with an opportunity to vaccinate (2).

**Vaccine Uptake:** Proportion of the population that has received a vaccine (2).

## Recommendations

### National Recommendations

1. Fund and support a pan-Canadian rapid evaluation that will describe and assess approaches/frameworks at the provincial/territorial/regional/local/First Nations government levels for overcoming vaccine hesitancy and commit to reporting findings and recommendations.

### Provincial Recommendations

2. Mandate vaccine certification in high-risk settings and review as vaccine rates and pandemic indicators change.
3. Train and educate provincial health workers about Canada's colonial roots to ensure that vaccine hesitancy education campaigns foster trust among local Indigenous populations (3). Engage Indigenous leaders and trusted individuals to communicate public health messages and ensure they are central to vaccination rollout programs.

### Regional/Local Recommendations

4. Public Health Professionals: Implement creative strategies to overcome vaccine hesitancy with local leaders and figureheads. Strategies may include the highlighting of community figureheads receiving their vaccine, text message reminders, media campaigns, and local myth-busting sessions.



5. Clinicians: Incorporate conversations around vaccine adoption at each patient encounter to assess the current state of individual behaviour and adopt tools and supports with scripted responses to questions and concerns (e.g., [VH Guide](#)) to navigate these conversations with patients if they suggest hesitancy towards vaccines. When possible, medical professionals with whom equity-seeking groups can identify should provide one-on-one COVID-19 vaccine guidance to marginalized and racialized populations.

## Situation

Vaccine hesitancy, defined as the delay in acceptance or refusal of vaccination despite availability of vaccination services influenced by the 3-Cs, complacency, convenience, and confidence, is a threat to the success of COVID-19 vaccination programs (1,2,4). Vaccine hesitancy is considered a top ten public health threat worldwide by the World Health Organization, and the success of vaccination campaigns depends on high rates of acceptance by the public (4,5). In the Canadian health care system, provinces and territories (PTs) are responsible for vaccination. Vaccine hesitancy is a danger to public health, given that the large majority (88.1%) of COVID-19 cases in Canada as of August 21, 2021 are among the unvaccinated population (6). As Canadian jurisdictions offer two-dose regimens of approved COVID-19 vaccines, uptake has varied and slowed (see Figure 1) across the country. Across jurisdictions, the rates of fully vaccinated persons of the total population range from 59% to 73% as of September 4, 2021. Further, all restrictions, including mandatory isolation when testing positive for COVID-19, are now eliminated in some provinces such as Alberta and Saskatchewan, leaving vaccination as the only public health tool to prevent COVID transmission and illness, thus necessitating effective strategies for reducing vaccine hesitancy.

This SBAR uses a comparative approach to explore the procedures Canadian jurisdictions are using to address vaccine hesitancy and provide policy recommendations. Consideration of effective global strategies to address vaccine hesitancy is also included.

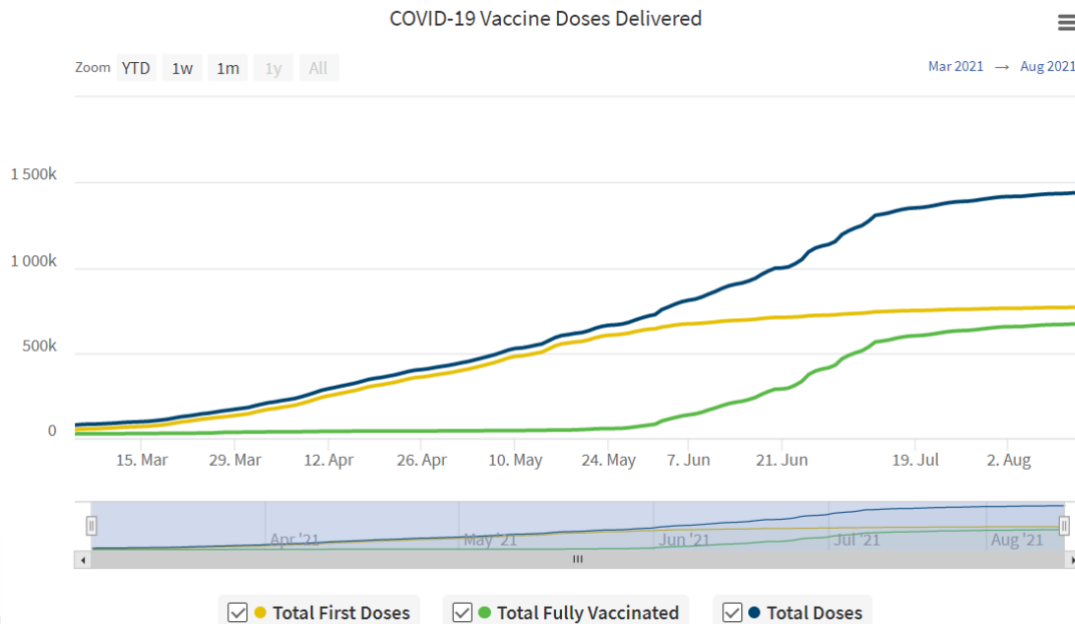


Figure 1: Illustrating the slowing of vaccine doses delivered in Saskatchewan (7).

## Background

### Canadian Response

- The Public Health Agency of Canada (PHAC) reported that 15 – 17% of the general population in Canada is hesitant to receive a COVID-19 vaccine (8).
- The Government of Canada has provided strategies for health care providers for building vaccine confidence and recognizing and responding to vaccine hesitancy (9). Their strategies and recommendations are made in response to the '5C' model, a model demonstrated to be a reliable and valid predictor of vaccination behaviour (10,11). The 5C model summarizes factors that can influence vaccine hesitancy in groups or individuals.
- The five C's are: Confidence (safety, importance, and efficacy of vaccines), Complacency (perception of low severity of disease and low risk), Convenience (vaccines being affordable, available, accessible, and an individual's ability to understand the need for a vaccine), Calculation (individual engagement in searching for vaccine information and evaluating risks of infection versus vaccination), and Collective responsibility (extent to which individuals are willing to protect others by vaccination) (12,13).
- Other frameworks have been developed and are available in understanding and addressing hesitancy. Research is limited in proving effectiveness of the frameworks.
- Evidence to inform the effectiveness of strategies to address COVID-19 vaccine hesitancy is sparse. Available research through a systematic review on vaccination prior to COVID-19 suggests that interventions that have multiple components and are dialogue-based are the most effective (14).



- In Canada, gains in combatting vaccine hesitancy have been achieved through removing barriers to access, targeted communications and advertising, targeting outreach by mobilizing trusted partners, equipping health care providers with guidance, mobilizing community-level interventions through grants, and securing COVID-19 vaccine supply (8).
- Most provinces/territories have implemented strategies to address COVID-19 vaccine hesitancy. A summary of some of these provincial/territorial strategies can be found in Appendix A.
- Research from the University of Saskatchewan indicated that vaccine hesitancy rates are dropping in Saskatchewan. In the fall of 2020, 56% of Saskatchewan respondents were willing to accept the COVID-19 vaccine, with 44% indicating they were hesitant or refusing. However, since the vaccine rollout began early in 2021, approximately 23% of respondents are hesitant/refusing the COVID-19 vaccine (15). Independent research from the Angus Reid Institute found similar results in Alberta.
- Financial incentives are an approach to improving vaccine hesitancy among populations. Some government jurisdictions, including Alberta, Manitoba, Quebec, and the Northwest Territories, implemented prize lotteries to improve vaccine uptake rates. In addition, the three northern territories have local incentive programs implemented by companies and local health units. For example, in Arviat, Nunavut, children receive a \$100 gift card when they get vaccinated (16).

#### Primary Care

- Primary care (PC) physicians are uniquely positioned to address vaccine hesitancy given their direct health care interactions with patients and technical knowledge about vaccines (17).
- A rapid review of vaccine hesitancy resources developed for and offered to PC physicians across Canada suggests that PC physicians lack information to assist in addressing the sociocultural components of vaccine hesitancy, and three key gaps are identified (17):
  1. Resources tend to be limited to only stating information and facts. Research indicated that stating facts does not necessarily increase vaccine uptake (17), and the underlying concerns (e.g., fears) should be addressed.
  2. Resources do not address the different types of vaccine hesitancies.
  3. Resources are not specific to the COVID-19 vaccines.
- A PHAC Health Care Provider Study indicated that 95% of PC physicians would find additional training on vaccine hesitancy useful for their practice (18). Respondents also indicated that webinars were their preferred means of getting information on COVID-19 vaccinations, and 65% indicated that scripted answers to frequently asked questions and common concerns would be useful for them as practitioners (18).
- A science evidence synthesis assessed factors associated with COVID-19 vaccination acceptance and uptake. Of these studies, 25/118 (21.2%) assessed whether vaccine acceptance was associated with race and ethnicity among equity-seeking groups. Of these, 24/25 (96%) studies found that racialized respondents are less likely to express vaccine acceptance compared to White respondents, although it should be noted that this trend is not true for every region of the world. The authors concluded that it might be beneficial for medical professionals with whom equity-seeking groups can identify be



the ones to provide clear and transparent guidance about COVID-19 vaccination and advice on potential adverse reactions (19).

#### Indigenous Outreach

- Indigenous communities across Canada, for example in Northern Saskatchewan, are being hit hard by the COVID-19 delta variant at present. As of August 31, 2021, the rate of reported active cases in First Nations peoples living on reserve is 3.5 times the respective rate in the general Canadian population (20)
- The Manitoba First Nations COVID-19 Response Coordination Team addressed vaccine hesitancy by hosting weekly Facebook live meetings with Indigenous medical experts and with their Grand Chief to discuss concerns and myths regarding the COVID-19 vaccine. Further, the Team provides toolkits and resources to assist with education (18).
- The CIHR Institute of Indigenous Peoples' Health developed fact sheets in all Indigenous languages in Saskatchewan as well as supported a debunking misinformation initiative called #ScienceUpFirst (21).
- Research indicates Indigenous peoples who live on a reserve in the United States are more likely to get the COVID-19 vaccine when compared to Indigenous peoples in Canada living on a reserve (68% versus 41%) (18). In contrast, in Canada, Indigenous peoples living off reserve are more likely to get vaccinated than Indigenous peoples in the US who live off reserve (52% versus 33%) (18).

#### International Response

- Vast variability was reported in different countries globally for vaccine acceptance rates (22). A systematic review indicated that more research is needed to study the attitudes in Africa, Central Asia, and the Middle East (excluding Central America and South America) due to the current lack of studies (22).
- The highest COVID-19 vaccine acceptance rates globally were in Ecuador (97.0%), Malaysia (94.3%), Indonesia (93.3%), and China (91.3%). The lowest COVID-19 vaccine acceptance rates were in Kuwait (23.6%), Jordan (28.4%), Italy (53.7%), Russia (54.9%), Poland (56.3%), US (56.9%), and France (58.9%) (22).
- Israel combatted levels of vaccine hesitancy by leveraging community-based resources and infrastructure for vaccine distribution (23). The country utilized community-based nurses, primary care physicians, paramedics, and emergency medical technicians (23).
- The UK had relatively lower rates of vaccine hesitancy compared to other developed countries worldwide (5). The UK has strategies in place to address those people hesitant to receive vaccines with vaccine-related resources made available to address the hesitancy as well as trained public health professionals to address individual behavioral barriers and address misinformation.
- Some countries, such as Indonesia, have mandated COVID-19 vaccination, whereas others, such as Australia and Greece, have made vaccines mandatory only among certain groups (e.g., long-term care workers).
- Vaccine passports (documentation of vaccination) have been piloted and explored by many countries such as the UK, Estonia, Hungary, and Iceland (24). This approach is suggested to impact vaccine acceptance because it results in vaccinated individuals engaging in activities with proof of vaccination (24). More than one million people booked vaccination appointments the day France announced the vaccine passport



policy (25). This approach is lacking evidence in effectiveness for vaccine uptake; however, preliminary evidence such as the case in France indicates it may be effective.

## Assessment

The research on vaccine hesitancy identifies many frameworks and strategies to both understanding and addressing hesitancy behaviour. The many frameworks developed, but not evaluated for efficacy, can cause difficulties in jurisdictions choosing an appropriate framework to guide work in vaccine hesitancy. The factors that shape vaccine hesitancy can be quite diverse between groups and individuals. Overall, when reviewing the strategies taken by Canadian jurisdictions on vaccine hesitancy, it is difficult to conclude which framework jurisdictions are following, if any at all. The gaps in available data, including the effectiveness of approaches on vaccine hesitancy, allow for action by both federal and provincial governments, to utilize the current pandemic situation on vaccine hesitancy to fill this gap.

Further, as indicated in Appendix A, all jurisdictions across Canada have been taking different approaches to addressing vaccine hesitancy. Many creative approaches are being utilized - not only by PT governments, but also local companies, community groups, and individuals. Funding and program evaluators should be encouraged and utilized to effectively evaluate these programs resulting in transparent, published reports. Often, these practice-level documents are not available but can help add to the body of evidence for effective strategies for practitioners and policy makers. Further, these unique and novel approaches should be highlighted and shared with decision makers.

In Canada, specific strategies and actions need to be taken to address the history and nature of Indigenous vaccine hesitancy. The history of colonization and experimentation on Indigenous peoples in Canada has led to a general mistrust in both government officials and the health care system regarding vaccinations (3). Vaccination among this population cannot be forced and hesitancy must be taken seriously (3). Hesitancy must be addressed in collaboration with Indigenous communities and leaders. Similarly, there are gaps in the available data and research on effective ways to addressing COVID-19 vaccine hesitancy among this population. Canada's Indigenous population is also lacking a vaccine strategy to ensure Indigenous peoples, especially living on reserve, that the vaccines are effective, safe, and in the individual's, community's, and the land's best interest (3).

As mentioned previously, early in 2020, Saskatchewan had high rates of vaccine hesitancy and refusal (44%). However, in May of 2021, this hesitancy dropped to 23% of respondents across the province. It is unknown which of Saskatchewan's vaccine hesitancy strategies was the most effective and correlated to this drop. Transparency among provincial and territorial jurisdictions is important in sharing lessons learning and improving hesitancy across Canada. Access to vaccinations continues to be a major and significant barrier to receiving vaccines (8). PT governments must continue to work on improving access and mobility.

Requirement of vaccine certification has been increasing in certain settings across Canada. Federal public servants, university students and staff, and health care workers in certain settings across the country have been mandated to show proof of vaccines. This is one



approach being utilized for improving vaccine uptake. Global use of vaccine documentation is evolving rapidly. This rapid evolution has shown the need for strong partnerships and planning for effective implementation, as well as the need to consider scientific, technical, ethical, behavioural, and legal aspects (24). Data of effectiveness and uptake should be collected when implementing these programs in different settings.

#### Appendix A: Examples of Strategies to Reduce Vaccine Hesitancy by Province/Territory

Jurisdiction	% Total Population with at Least One Dose as of Sept. 4, 2021	% Total Population Fully Vaccinated as of Sept. 4, 2021	Approaches to Reducing Vaccine Hesitancy
BC	76.25%	73.06%	<p><b>Increasing Mobility and Accessibility of Shots (26)</b></p> <ul style="list-style-type: none"> <li>- Vax for BC: Walk-in Wednesday, all clinics are walk-in only on Aug. 4th. Increase mobile and pop-up clinics in convenient locations (e.g., grocery store parking lots) and public-outing settings (e.g., fairs and festivals).</li> </ul> <p><b>Community Outreach Efforts (27)</b></p> <ul style="list-style-type: none"> <li>- The African Arts &amp; Culture Community Contributor Society received government funding to establish Black-led vaccine clinics and develop culturally responsive vaccine resources.</li> <li>- Vancouver Infectious Diseases Centre has been receiving funding to hold weekly COVID-19 vaccine pop-up clinics at single-room occupancy dwellings and homeless shelters.</li> </ul> <p><b>Media Campaigns</b></p> <ul style="list-style-type: none"> <li>- 'Fight the FOMO' (fear of missing out) social media campaign launched by Fraser Health encouraged young people to register to get vaccinated (28).</li> </ul>
AB	66.87%	60.02%	<p><b>Provincial Vaccine Lottery and Prizes (29)</b></p> <ul style="list-style-type: none"> <li>- Three \$1 million draws on July 1st (one dose), Aug. 1st (two doses) and Sept. 1st (two doses) for those 18+.</li> <li>- All-inclusive vacations, domestic and international flights, rail trips, stampede and sports packages, lifetime hunting/fishing license and more.</li> </ul> <p><b>Increasing Mobility and Accessibility of Shots</b></p> <ul style="list-style-type: none"> <li>- Offering at home vaccination options (30).</li> <li>- Increasing mobile clinics and pop-up clinics (31).</li> </ul> <p><b>Community Outreach Efforts (32)</b></p> <ul style="list-style-type: none"> <li>- Edmonton COVID-19 Rapid Response Collaborative provides COVID-19 related support (vaccine info and booking assistance in 30+ languages, culturally inclusive mental health</li> </ul>



			<p>services, basic needs support, organization of mobile and pop-up clinics) to vulnerable communities.</p> <p><b>Media Campaigns</b> - “COVID Loves” province-wide campaign, displayed how easily COVID-19 could be spread in everyday situations. The ads were displayed on social media, television, radio, billboards and the web (33).</p>
<b>SK</b>	65.74%	58.98%	<p><b>Increasing Mobility and Accessibility of Shots (34)</b> - As of Aug. 8th, clinics will be walk-in only. Increase of pop-up clinics in convenient locations and in under-vaccinated communities.</p> <p><b>Community Outreach Efforts</b> - Regina’s Mental Health and Addictions Services were able to vaccinate 600+ vulnerable individuals thanks to strong staff-patient relationships (35). - Regina Treaty/Status Indian Services Inc. will receive federal funding to implement community-based COVID-19 education, promotion, prevention and outreach strategies to support vaccine uptake among urban Indigenous populations (27).</p> <p><b>Media Campaigns</b> - Stick It To COVID is a province-wide, multi-media campaign encouraging vaccination efforts (36). The campaign includes residents sharing stories on why they are getting vaccinated, TV ads, radio, social media, billboards, washroom posters, newspaper ads, vaccination stickers, and cinema ads. - Multi-agency online advertising campaign including two-dozen health care organizations was organized to address vaccine hesitancy and encourage people to get vaccinated (37). The campaign’s URL is <a href="http://www.wearesickofthistoo.ca">www.wearesickofthistoo.ca</a> - Saskatchewan NDP launched a radio campaign with announcements in Cree, English, and Dene to address hesitancy and increase vaccine uptake in the north (38).</p>
<b>MB</b>	72.20%	67.41%	<p><b>Provincial Vaccine Lottery and Prizes (39)</b> - Two draws on Aug. 2 (1 dose) and Sept. 6 (2 dose). - Each draw awards three prizes of \$100,000 in the Winnipeg region and four prizes of \$100,000 in each of the other four regional health units. - Those ages 12-17 win ten \$25,000 scholarships in each of the two draws.</p> <p><b>Increasing Mobility and Accessibility of Shots (40)</b> - Walk-in Wednesday on July 14th at all super-sites. - Increase in more mobile and walk-in clinics.</p>





			<p><b>Community Outreach Efforts (39)</b></p> <ul style="list-style-type: none"> <li>- ProtectMB Community Outreach &amp; Incentive Grants: offer funding of up to \$20,000 to MB organizations, businesses, churches, etc. to boost vaccine uptake in vulnerable communities.</li> <li>- Partnership with Indigenous and Mennonite leaders to create a variety of community-specific interventions (community-based clinic days, pastoral education, employer outreach, etc.).</li> </ul> <p><b>Vaccine Passports (41)</b></p> <ul style="list-style-type: none"> <li>- Following full vaccination, proof-of-immunization cards are delivered, allowing individuals to skip quarantine and have greater ability to visit loved ones in hospitals and long-term care.</li> </ul> <p><b>Media Campaigns</b></p> <ul style="list-style-type: none"> <li>- ProtectMB campaign includes new TV, digital and regional prints to support increased vaccine uptake (39)</li> <li>- In partnership with First Nations influencers and trusted community leaders, the social-media campaign 'Protect our People MB' encouraged vaccine confidence and uptake among young First Nation peoples throughout MB (42).</li> </ul>
ON	73.89%	68.09%	<p><b>Increasing Mobility and Accessibility of Shots (43)</b></p> <ul style="list-style-type: none"> <li>- Closing some mass vaccination clinics in August and instead launching more mobile and pop-up clinics.</li> </ul> <p><b>Community Outreach Efforts</b></p> <ul style="list-style-type: none"> <li>- Regional public health units are teaming up with local organizations to boost vaccination among under-vaccinated minority populations (44,45)</li> </ul>
QC	76.07%	71.06%	<p><b>Provincial Vaccine Lottery and Prizes (46)</b></p> <ul style="list-style-type: none"> <li>- Each week in August \$150,000 will be drawn for those 18+ and two \$10,000 bursaries for those aged 12 to 17.</li> <li>- On Sept. 3, a \$1-million prize will be drawn for fully vaccinated adults, and 16 \$20,000 bursaries will be drawn for fully vaccinated teens.</li> </ul> <p><b>Community Outreach Efforts (27)</b></p> <ul style="list-style-type: none"> <li>- Regroupement des centres d'amitié autochtones du Québec received federal funding to train staff of three Quebec-area Friendship Centres to encourage vaccination among the Indigenous population.</li> </ul> <p><b>Vaccine Passports (47)</b></p> <ul style="list-style-type: none"> <li>- The province will implement vaccine passports as of Sept. 1, which will be required to access public events, restaurants, bars, and gyms.</li> </ul>



<b>NB</b>	74.48%	66.63%	<p><b>Increasing Mobility and Accessibility of Shots (48)</b> - Increasing the number of walk-in mobile clinics, across the province.</p>
<b>NS</b>	77.48%	70.98%	<p><b>Increasing Mobility and Accessibility of Shots (49)</b> - On Aug. 15, community vaccination clinics will close, vaccines will only be available at participating pharmacies and primary care clinics. - Increasing mobile clinics in low-uptake communities.</p> <p><b>Community Outreach Efforts</b> - The Department of Health and Wellness received funding to implement a culturally relevant education and outreach campaign to promote the benefits of COVID-19 vaccines to African Nova Scotians (50). - The Mainline, a program of the Mi'kmaq Native Friendship Centre, received federal funding to encourage vaccine uptake among people who use drugs and urban Indigenous peoples in Nova Scotia (27).</p>
<b>PEI</b>	80.69%	72.50%	<p><b>Increasing Mobility and Accessibility of Shots (51)</b> - All clinics as now walk-in or last-minute appointments only after 2pm.</p> <p><b>Vaccine Passport (52)</b> - Effective July 18, fully vaccinated travelers (18+) from outside of Atlantic Canada can apply for the PEI Pass for travel to PEI without isolation. - Travelers aged 12-17 years are required to have at least one dose.</p>
<b>NFL</b>	80.24%	71.13%	<p><b>Media Campaigns</b> - Newfoundland and Labrador Medical Association launched an ad campaign to encourage vaccination through five videos highlighting why individuals should get vaccinated (53).</p>
<b>YK</b>	77.09%	73.06%	<p><b>Increasing Mobility and Accessibility of Shots (54)</b> - Pop-up clinics are continuing to be scheduled in under-vaccinated and hard-to-reach communities.</p>
<b>NWT</b>	65.08%	60.59%	<p><b>Territorial Vaccine Lottery and Prizes (55)</b> - Sept. 10 draw of \$10,000 for any resident who is fully vaccinated.</p> <p><b>Increasing Mobility and Accessibility of Shots (56)</b> - "Drive to 75%" launched Aug. 5, aims to achieve 75% full vaccination of residents by offering vaccinations in every NWT community, additional pop-up clinics and ongoing promotions throughout August.</p>



			<b>Community Outreach Efforts (57)</b> - Crush Covid Yellowknife Incentive Program: NWT government is offering up to \$10,000 per community to roll out programs to encourage more vaccinations among residents.
<b>NU</b>	60.25%	53.27%	<b>Increasing Mobility and Accessibility of Shots (58)</b> - Iqaluit Public Health is offering walk-in vaccination Monday to Friday for those 18+, and Wednesdays only for those aged 12-17.

## References

1. MacDonald NE. Vaccine hesitancy: Definition, scope and determinants. *Vaccine* [Internet]. 2015 Aug 14 [cited 2021 Jul 26];33(34):4161–4. Available from: <https://www.sciencedirect.com/science/article/pii/S0264410X15005009>
2. Dube E, Laberge C, Guay M, Bramadat P, Roy R, Bettinger JA. Full article: Vaccine hesitancy [Internet]. [cited 2021 Jul 26]. Available from: <https://www.tandfonline.com/doi/full/10.4161/hv.24657>
3. Mosby I, Swidrovich J. Medical experimentation and the roots of COVID-19 vaccine hesitancy among Indigenous Peoples in Canada. *CMAJ* [Internet]. 2021 Mar 15 [cited 2021 Aug 4];193(11):E381–3. Available from: <https://www.cmaj.ca/content/193/11/e381>
4. Finney Rutten LJ, Zhu X, Leppin AL, Ridgeway JL, Swift MD, Griffin JM, et al. Evidence-Based Strategies for Clinical Organizations to Address COVID-19 Vaccine Hesitancy. *Mayo Clinic Proceedings* [Internet]. 2021 Mar 1 [cited 2021 Jul 30];96(3):699–707. Available from: <https://www.sciencedirect.com/science/article/pii/S0025619620314877>
5. Sonawane K, Troisi CL, Deshmukh AA. COVID-19 vaccination in the UK: Addressing vaccine hesitancy. *The Lancet Regional Health - Europe* [Internet]. 2021 Feb [cited 2021 Aug 3];1:100016. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7834442/>
6. Government of Canada. COVID-19 daily epidemiology update [Internet]. Government of Canada. 2021 [cited 2021 Sep 13]. Available from: <https://health-infobase.canada.ca/covid-19/epidemiological-summary-covid-19-cases.html>
7. Government of Saskatchewan. Saskatchewan’s Dashboard - Total Doses [Internet]. Government of Saskatchewan. [cited 2021 Sep 13]. Available from: <https://dashboard.saskatchewan.ca/health-wellness/covid-19-vaccines/vaccines>
8. Public Health Agency of Canada. Closing the Gap for Vaccine Hesitancy during the Last Mile of Vaccine Rollout.
9. Public Health Agency of Canada. COVID-19 daily epidemiology update [Internet]. aem. 2020 [cited 2021 Sep 9]. Available from: <https://health-infobase.canada.ca/covid-19/epidemiological-summary-covid-19-cases.html>



10. Betsch C, Schmid P, Heinemeier D, Korn L, Holtmann C, Böhm R. Beyond confidence: Development of a measure assessing the 5C psychological antecedents of vaccination. Angelillo IF, editor. PLoS ONE [Internet]. 2018 Dec 7 [cited 2021 Aug 12];13(12):e0208601. Available from: <https://dx.plos.org/10.1371/journal.pone.0208601>
11. Ghazy RM, Abd ElHafeez S, Shaaban R, Elbarazi I, Abdou MS, Ramadan A, et al. Determining the Cutoff Points of the 5C Scale for Assessment of COVID-19 Vaccines Psychological Antecedents among the Arab Population: A Multinational Study. J Prim Care Community Health [Internet]. 2021 Jan [cited 2021 Aug 12];12:215013272110185. Available from: <http://journals.sagepub.com/doi/10.1177/21501327211018568>
12. Razai MS, Oakeshott P, Esmail A, Wiysonge CS, Viswanath K, Mills MC. COVID-19 vaccine hesitancy: the five Cs to tackle behavioural and sociodemographic factors. J R Soc Med [Internet]. 2021 Jun 1 [cited 2021 Aug 4];114(6):295–8. Available from: <https://doi.org/10.1177/01410768211018951>
13. Public Health Agency of Canada. Addressing vaccine hesitancy in the context of COVID-19: A primer for health care providers [Internet]. 2021 [cited 2021 Sep 9]. Available from: <https://www.canada.ca/en/public-health/services/diseases/2019-novel-coronavirus-infection/health-professionals/vaccines/vaccine-hesitancy-primer.html>
14. Jarrett C, Wilson R, O’Leary M, Eckersberger E, Larson HJ. Strategies for addressing vaccine hesitancy – A systematic review. Vaccine [Internet]. 2015 Aug 14 [cited 2021 Jul 30];33(34):4180–90. Available from: <https://www.sciencedirect.com/science/article/pii/S0264410X15005046>
15. Saskatchewan Population Health and Evaluation Research Unit (SPHERU). Results - Social Contours & COVID-19 [Internet]. 2021 [cited 2021 Sep 9]. Available from: <https://spheru.ca/covid-19/socialcontours/covid-19-results.php>
16. The Canadian Press. Vaccinated youth in Nunavut community to receive \$100 gift card [Internet]. CTVNews. 2021 [cited 2021 Sep 15]. Available from: <https://www.ctvnews.ca/canada/vaccinated-youth-in-nunavut-community-to-receive-100-gift-card-1.5476663>
17. Pinto N, Fadaak R, Leslie M. COVID-19 Vaccine Hesitancy Conversations: A rapid review of resources available to Primary Care Teams across Canada. Canadian Family Physician [Internet]. 2021 Aug 2 [cited 2021 Aug 5]; Available from: <https://www.cfp.ca/news/2021/02/03/03-2-1>
18. Hyett S, Marjerrison S, Gabel C. Improving health research among Indigenous Peoples in Canada. CMAJ [Internet]. 2018 May 22 [cited 2021 Jul 27];190(20):E616–21. Available from: <http://www.cmaj.ca/lookup/doi/10.1503/cmaj.171538>
19. Crawshaw J, Konnyu K, Castillo G, van Allen Z, Grimshaw JM, Presseau J. Factors affecting COVID-19 vaccination acceptance and uptake among the general public: a living behavioural science evidence synthesis (v3, Jun 30th, 2021). :62.



20. Government of Canada. Confirmed cases of COVID-19 [Internet]. 2021 Sep [cited 2021 Sep 13]. Available from: <https://www.sac-isc.gc.ca/eng/1598625105013/1598625167707>
21. Government of Canada CI of HR. CIHR Scientific Directors Discuss Vaccination in Canada [Internet]. 2021 [cited 2021 Jul 27]. Available from: <https://cihr-irsc.gc.ca/e/52476.html>
22. Sallam M. COVID-19 Vaccine Hesitancy Worldwide: A Concise Systematic Review of Vaccine Acceptance Rates. *Vaccines (Basel)* [Internet]. 2021 Feb 16 [cited 2021 Sep 9];9(2):160. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7920465/>
23. Science Table. Strategies to Support Ontarians' Capability, Opportunity, and Motivation for COVID-19 Vaccination [Internet]. Ontario COVID-19 Science Advisory Table. [cited 2021 Sep 10]. Available from: <https://covid19-sciencetable.ca/sciencebrief/strategies-to-support-ontarians-capability-opportunity-and-motivation-for-covid-19-vaccination/>
24. Carbone S, Stalteri R, Plouffe R, Ongolo Zogo C, Motaghi Pisheh S, Puchalski Ritchie L, et al. Key considerations and emerging evidence of experience across jurisdictions implementing documentation of vaccination. *CanCOVID*; 2021.
25. Young L. COVID-19 cases down after France introduced its vaccine passport – will the same happen in Canada? - National | *Globalnews.ca* [Internet]. Global News. [cited 2021 Sep 14]. Available from: <https://globalnews.ca/news/8162976/france-vaccine-passport-cases-covid/>
26. Government of British Columbia. Find a drop-in vaccine clinic in your community [Internet]. Province of British Columbia; [cited 2021 Sep 9]. Available from: <https://www2.gov.bc.ca/gov/content/covid-19/vaccine/vaxforbc>
27. Public Health Agency of Canada. Government of Canada funds five new projects to encourage COVID-19 vaccination in Canada [Internet]. 2021 [cited 2021 Sep 9]. Available from: <https://www.canada.ca/en/public-health/news/2021/07/government-of-canada-funds-five-new-projects-to-encourage-covid-19-vaccination-in-canada.html>
28. Fraser Health. Fraser Health urges young adults to Fight the FOMO and Register Book and Get Their Shot [Internet]. [cited 2021 Sep 9]. Available from: <https://www.fraserhealth.ca/news/2021/May/fraser-health-urges-young-adults-to-fight-the-fomo-and-register-book-and-get-their-shot>
29. Government of Alberta. Open for Summer Lottery [Internet]. 2021 [cited 2021 Sep 9]. Available from: <https://www.alberta.ca/open-for-summer-lottery.aspx>
30. Canada Homecare Group. HOW WE CARE | Canada Homecare Group [Internet]. CanadaHomecareGroup. [cited 2021 Sep 9]. Available from: <https://www.canadahomecaregroup.ca/copy-of-resources>
31. Government of Alberta. New mobile vaccination clinic launches in Alberta [Internet]. 2021 [cited 2021 Sep 10]. Available from: <https://www.alberta.ca/news.aspx>



32. Edmonton Covid 19 Rapid Response Collaborative. Emergency COVID Response [Internet]. [cited 2021 Sep 10]. Available from: <https://ecrrc.ca/>
33. Government of Alberta. Covid Loves Everyone. Keep Covid Out. [Internet]. Covid Loves Everyone. Keep Covid Out. [cited 2021 Sep 10]. Available from: <https://covidloves.ca/>
34. Government of Saskatchewan. Stick It To COVID: Vaccination Roll-Out Transitioning To Outreach As Of August 8 | News and Media [Internet]. Government of Saskatchewan. 2021 [cited 2021 Sep 10]. Available from: <https://www.saskatchewan.ca/government/news-and-media/2021/july/26/stick-it-to-covid-vaccination-roll-out-transitioning-to-outreach-as-of-august-8>
35. Saskatchewan Health Authority. Regina's Mental Health and Addictions Services teams successfully vaccinate clients [Internet]. SaskHealthAuthority. 2021 [cited 2021 Sep 10]. Available from: <https://www.saskhealthauthority.ca/news-events/news/reginas-mental-health-and-addictions-services-teams-successfully-vaccinate-clients>
36. Government of Saskatchewan. Stick It To COVID Saskatchewan Launches Vaccination Ad Campaign | News and Media [Internet]. Government of Saskatchewan. 2021 [cited 2021 Sep 10]. Available from: <https://www.saskatchewan.ca/government/news-and-media/2021/march/29/stick-it-to-covid-saskatchewan-launches-vaccination-ad-campaign>
37. Saskatchewan Medical Association. Latest News | News release: Multi-agency online campaign promotes vaccinations, addresses hesitancy | Saskatchewan Medical Association [Internet]. 2021 [cited 2021 Sep 10]. Available from: <https://sma.sk.ca/news/1355/news-release-multi-agency-online-campaign-promotes-vaccinations-addresses-hesitancy.html>
38. Global News. Sask. NDP launching radio campaign to boost low vaccination rates in north | Globalnews.ca [Internet]. 2021 [cited 2021 Sep 10]. Available from: <https://globalnews.ca/news/7966365/sask-ndp-radio-campaign-vaccinations/>
39. Province of Manitoba. Province of Manitoba | News Releases | New Vaccine Lottery to Encourage Immunizations for All Eligible Manitobans [Internet]. Province of Manitoba. 2021 [cited 2021 Sep 10]. Available from: <https://news.gov.mb.ca/news/index.html?item=51427>
40. Province of Manitoba. Province of Manitoba | News Releases | Manitoba Achieves "4-3-2-One Great Summer" Vaccine Milestone, Continues to Build Responsive, Community-Focused Vaccine Opportunities and Outreach [Internet]. Province of Manitoba. 2021 [cited 2021 Sep 10]. Available from: <https://news.gov.mb.ca/news/index.html?item=51657&posted=2021-07-07>
41. Fawcett M. Enough carrots – Canada needs to use the stick for COVID anti-vaxxers [Internet]. Canada's National Observer. 2021 [cited 2021 Sep 10]. Available from: <https://www.nationalobserver.com/2021/07/20/opinion/canada-herd-immunity-covid-anti-vaxxers>
42. Province of Manitoba. Influencer-Led Vaccination Campaign Encourages Young First Nation People to Protect Themselves and Their Communities [Internet]. Province of Manitoba.



2021 [cited 2021 Sep 10]. Available from:

<https://news.gov.mb.ca/news/index.html?item=51246>

43. McKenzie-Sutter H. Several Ontario mass vaccination clinics wind down as focus shifts to smaller sites. The Globe and Mail [Internet]. 2021 Jul 23 [cited 2021 Sep 10]; Available from: <https://www.theglobeandmail.com/canada/article-several-ontario-mass-vaccination-clinics-wind-down-as-focus-shifts-to-smaller-sites/>

44. Graham A. COVID-19: Black London Network serves food, tunes and vaccines at pop-up clinic - London | Globalnews.ca [Internet]. 2021 [cited 2021 Sep 10]. Available from: <https://globalnews.ca/news/8055611/covid-19-black-london-network-serves-food-tunes-and-vaccines-at-pop-up-clinic/>

45. Stranger D. Vaccine hesitancy tackled in new video with Sol Mamakwa, CAMH [Internet]. APTN News. 2021 [cited 2021 Sep 10]. Available from: <https://www.aptnnews.ca/national-news/educational-video-looks-to-reduce-vaccine-hesitancy-with-indigenous-peoples/>

46. Gouvernement du Québec. Being vaccinated, it's a win Contest [Internet]. [cited 2021 Sep 10]. Available from: <https://www.quebec.ca/en/health/health-issues/a-z/2019-coronavirus/progress-of-the-covid-19-vaccination/being-vaccinated-a-win-contest>

47. Jonas S. Facing "inevitable" 4th wave, Quebec to implement COVID-19 vaccine passport Sept. 1 | CBC News [Internet]. CBC. 2021 [cited 2021 Sep 10]. Available from: <https://www.cbc.ca/news/canada/montreal/quebec-vaccine-passport-1.6136031>

48. Government of New Brunswick C. 64.4 per cent of eligible New Brunswickers fully vaccinated / mobile vaccination clinics [Internet]. 2021 [cited 2021 Sep 10]. Available from: [https://www2.gnb.ca/content/gnb/en/news/news\\_release.2021.07.0559.html](https://www2.gnb.ca/content/gnb/en/news/news_release.2021.07.0559.html)

49. Stoodley C. Nova Scotia to cut back community vaccination clinics, COVID updates [Internet]. HalifaxToday.ca. 2021 [cited 2021 Sep 10]. Available from: <https://www.halifaxtoday.ca/coronavirus-covid-19-local-news/nova-scotia-to-cut-back-community-vaccination-clinics-covid-updates-3983143>

50. Public Health Agency of Canada. Government of Canada funds four new projects to encourage COVID-19 vaccination in Canada [Internet]. 2021 [cited 2021 Sep 10]. Available from: <https://www.newswire.ca/news-releases/government-of-canada-funds-four-new-projects-to-encourage-covid-19-vaccination-in-canada-803601545.html>

51. Higgins B. COVID-19 on P.E.I.: What's happening Wednesday, July 28 | CBC News [Internet]. 2021 [cited 2021 Sep 10]. Available from: <https://www.cbc.ca/news/canada/prince-edward-island/pei-covid-daily-wednesday-july-28-1.6120404>

52. Government of Prince Edward Island. Apply for a PEI Pass [Internet]. 2021 [cited 2021 Sep 10]. Available from: <https://www.princeedwardisland.ca/en/service/apply-for-a-pei-pass>



53. Newfoundland and Labrador Medical Association (NLMA). NLMA News: Please get the COVID-19 vaccine [Internet]. [cited 2021 Sep 10]. Available from: <http://www.nlma.nl.ca/News-And-Events/NLMA-News/Page/0/Article/378>
54. Government of Yukon. Youth vaccine eligibility expands as mobile clinics return to Yukon communities [Internet]. 2021 [cited 2021 Sep 10]. Available from: <https://yukon.ca/en/news/youth-vaccine-eligibility-expands-mobile-clinics-return-yukon-communities>
55. Yellowknife Chamber. Let's Crush Covid Together! [Internet]. Yellowknife Chamber of Commerce. [cited 2021 Sep 10]. Available from: <https://ykchamber.com/crush-covid-yellowknife/>
56. Government of Northwest Territories. NWT to Rally Public in "Drive to 75 %" Vaccine Initiative [Internet]. Government of the Northwest Territories; 2021 [cited 2021 Sep 10]. Available from: <https://www.gov.nt.ca/en/newsroom/nwt-rally-public-drive-75-vaccine-initiative>
57. Hadley-Burke M. NWT businesses, communities launch vaccine incentives [Internet]. 2021 [cited 2021 Sep 10]. Available from: <https://cabinradio.ca/66206/news/nwt-businesses-communities-launch-vaccine-incentives/>
58. Government of Nunavut. Walk-in vaccinations clinics for Iqalumiut aged 12-17 [Internet]. 2021 [cited 2021 Sep 10]. Available from: <https://www.gov.nu.ca/health/news/walk-vaccinations-clinics-iqalumiut-aged-12-17>

### Suggested Citation

Rowein, S., Marks, W.N., Habbick, M., Camillo, C.A., MacKay, A., Muhajarine, N. Vaccine Hesitancy. August 2021. Document no.: [3.1]. CoVaRR-Net Public Health, Health Systems, Social Policy Team, c2021.

### About CoVaRR-Net

Coronavirus Variants Rapid Response Network (CoVaRR-Net) is a network of interdisciplinary researchers from institutions across the country created to assist in the Government of Canada's overall strategy to address the potential threat of emerging SARS-CoV-2 variants. Pillar Six of CoVaRR-Net studies the impacts of Coronavirus variants on public health, our health care system, and on social policy, and reports these findings to decision-makers and government officials.

CoVaRR-Net is funded by the  
Canadian Institutes of Health Research (CIHR)

