

# **They Don't Want To Take The COVID-19 Vaccine, Yet They Are Willing To Listen**

## **ABSTRACT:**

COVID-19 is a viral disease that can lead to a severe respiratory distress, a major challenge to survival. As of 11 November 2021, 79.5% of all people in Quebec have received at least one vaccine dose, while 76.2% are fully vaccinated (Ministry of Health and Social Services, 2021). The questions that are brought forward are why would about 20% of the eligible Quebec population decide not to take the vaccine, those who would negatively impact the recovery speed and transition to normal life? Why are some people still hesitant about taking the booster? What should the Ministry of Health do to gain people's confidence in the vaccine? In this small-scale study, the researcher conducted interviews with 13 people that decided not to take the vaccine in order to determine the reasons for their risking their lives. Results indicated that participants were misinformed (the impact of their communities and social media), or thought that healthy diet protects them from the infection, or had their own unrevealed reasons. Knowing most of the reasons, it is important that the Ministry of Health be more transparent, informative, as well as allow for people's input, to be able to address the issue suitably.

## **INTRODUCTION:**

After 20 months of lockdowns and public health measures, the virus that causes COVID-19 is unlikely to die out, and most experts now expect it to become endemic like the common cold and the seasonal flu; that is, to gradually settle into a relatively stable rate of occurrence, maintaining a constant pool of infected hosts capable of spreading the virus to others, given its highly transmissible nature and reproduction number (Sawyer, Barbachano-Guerrero & Warren, 2021).

COVID-19 will not go away mainly because there is lapse in taking public health measures (mask use, social distancing and hand washing); there are people who don't know they are sick and thus take few measures to isolate themselves from others; there are breakthrough infections among vaccinated people because the vaccine is not 100% effective; and the vaccination rates are not high (ibid.). Surprisingly, there is evidence that as coronavirus cases are dropping, hand-washing hygiene is falling too, even among health care professionals (Hawkins, 2021).

In fact, the variability in vaccination rates across places, and adherence to social distancing recommendations and mask-wearing will likely indicate that the flu season will experience substantial variation state to state, suggesting that vaccination against influenza is of utmost importance this year to prevent a dramatic rise in influenza cases (Roberts & Zimmerman, 2021).

## **Latest Recommendations Regarding COVID-19 Vaccination**

The varying vaccination rates, among other factors, paved the way for the emergence of more than one variant over time. This necessitated more research and more urgent measures to reduce the possible harm to the maximum. One of the solutions was the COVID-19 booster shot. It is an extra dose of the vaccine given after completion of the primary vaccine series, and designed to help people maintain their protection against COVID-19 over time. Health Canada has approved Pfizer-BioNTech vaccine for use as a booster early in November 2021, and Moderna's COVID-19 vaccine (also known as Spikevax) a week after. Both are mRNA vaccines. However, the Moderna booster shot will be half a dose, while the Pfizer booster will be a full dose. Both are authorized for adults 18 years of age and older to be given at least six months after the regular second dose (CBC News, 2021).

People who will first take the booster shot include long-term care home residents; people who are immune-compromised; other high-risk groups including people living in rural indigenous communities, people age 70 and over, front-line healthcare workers who had a short period of time between their first two shots (as evidence has grown over the year showing that expanding the interval between the first and second doses offers better protection), and people who received two doses of the AstraZeneca vaccine, as the mRNA vaccines appear to offer better protection. Starting in

January 2022, anyone can get a booster shot, six to eight months after their second dose (Ireland, 2021).

As an alternative to the vaccine, the Pill is authorized for COVID-19-positive adults with at least one risk factor for severe disease; that is, adults with mild-to-moderate COVID-19 who are at risk for severe disease or hospitalization. Merck (in Oughton, 2021) announced preliminary results last month showing that the pill's drug cuts hospitalizations and deaths by half among patients with early COVID-19 symptoms, with the emphasis that the drug is safe only when used as directed (Oughton, 2021).

On the other hand, kids ages 5 to 11 are also eligible for COVID-19 vaccination now. Vaccine doses differ for different age groups depending on how developed the immune system is, and what dose provides the best protection with the fewest side effects. For the COVID-19 Pfizer vaccine, researchers found that kids ages 5 to 11 had a similar immune and safety response at one-third the dose used for those ages 12 and up. The eligible children in this age group will have the opportunity to receive the Pfizer shot through health departments, medical institutions, doctor's offices and pharmacies, as well as school and community-based sites (Shirley, 2021). On the other hand, because people's adaptive immune system starts to become weaker and forgetful around age 55, vaccine boosters can provide a quick refresher for those patients (Peppers, 2021).

With all these recommendations and continuing research, still there are people who do not want to take the vaccine. What their reasons are, and how to reach them depends on the plan that the Ministry of Health puts forward to raise people's awareness, and how fast it will be executed.

### **More Canadians Have Chosen Not to Get Vaccinated, Or to Take This Pandemic Seriously.**

People that do not want to be vaccinated include healthcare workers, adults who have phobia of needles, pregnant women, misinformed people, and some others. Early in 2020, people gave a variety of reasons for their vaccine reluctance, including concerns about vaccine safety and side effects, waiting for additional information, thinking they were not personally at risk, or distrust of the government or vaccines. The most common reasons were concerns about vaccine safety, speed of vaccine development and insufficient testing. In January 2021, people's reluctance had not changed though they knew more about COVID-19 transmission, the potential health effects of the disease and vaccine effectiveness (Mazor & Fisher, 2021). What might help them make the decision to get vaccinated would be talking to their doctors, talking to people who have been vaccinated, and consider how they might feel in different situations, because vaccination is the only way to stop new variants (Cooper & Harrison, 2021).

Regarding healthcare workers in Quebec, 93 per cent are fully vaccinated, but that still leaves almost 22,000 of Quebec nurses who were threatened of suspension without pay if they did not show proof of a COVID-19 vaccination (They have had only a single dose or are unvaccinated). Some of the nurses who are not yet vaccinated question the claims of scientific experts about the safety of COVID-19 vaccines. Some others consider that the issue is one of having the freedom to exercise personal choice. Those nurses feel it's worth losing their jobs in order to respect their principles. Some of them are already making contingency plans (Rukavina, 2021).

The fact is that vaccine hesitancy among the healthcare workers is not rooted in overall vaccine skepticism, but rather specific concerns about how quickly the vaccine was developed, the lack of long-term data on safety, efficacy and potential side effects. This means there's a real opportunity to address concerns through information about the rigorous clinical trials process, ongoing safety data, and other necessary measures. To this end, it's crucial that public health officials reach out to specific populations to better understand and address their concerns regarding the vaccine (Gustafson, 2021).

On the other hand, about 4.5 per cent of adults in Canada have a severe phobia of needles, according to the Canadian Psychological Association. This can be the only reason that's preventing a person from getting vaccinated. For this, instead of dismissing a person's phobia, healthcare personnel can empower and support them in whatever capacity to reduce the vaccine side effects resulting from people's fear or anxiety of needles, and thus decrease immunization stress-related responses, like fear, pain, dizziness and even fainting (Smyth, 2021).

Another group that has lower COVID-19 vaccination rates are pregnant women. While many of them have been hesitant to get vaccinated, partly due to misinformation, experts say (Evan Mitsui/CBC; in N. Ireland, 2021), they should definitely get vaccinated; in fact, there is growing consensus among experts that COVID-19 vaccines are safe for pregnant women and important because they are among the groups at highest risk of serious illness if they are infected with the virus in a period when their immune systems have lowered defences (Ireland, 2021). Like all other people, and to avoid risk factors, pregnant women may receive a booster shot at least six months after the second dose of vaccine (Blake; in N. Ireland, 2021).

To those that fear the vaccine effect on fertility, doctors say it's a complete myth. There is no plausible way in which this vaccine could interfere with fertility. It has nothing to do with a person's ovaries and with his eggs or with sperm production (Gray; in N. Ireland, 2021).

Obviously, research findings have also refuted all people's assumptions about safety without taking the vaccine even when it comes to dietary practices. While eating right can favorably impact the immune system, it is not reasonable to expect that nutrition alone will defend against a potentially life-threatening virus. Diet is only one important consideration. Other variables including stress management, nutritional supplements and physical distancing and mask-wearing, matter a great deal too, yet all of them are not a replacement for potentially life-saving vaccines (Bloomer, 2021). The vaccines, though not perfect, continue to provide robust protection against severe illness and death in case of breakthrough infections.

All the above arguments have been largely debunked by scientific experts who say the COVID-19 vaccines available in Canada are safe and effective (Rukavina, 2021). Well-informed doctors confidently say that vaccine side effects are rare and generally mild, and rumors about vaccines altering DNA or causing infertility are completely false with no scientific basis. They believe that those that claim survival from COVID-19 with or without the vaccine fell victims to disinformation; they are not aware of the staggering reality of death rates among those hospitalized (Johnson, 2021). Those people are not aware of the impact on the health care system where staffing is critically low. In that sense, if a person needs hospitalization, a hospital bed will be worthless without staff to provide care (Johnson, 2021).

### **More Health Department Measures Needed**

Although the above information is made public, big percentage of the Quebecers lacks this knowledge, the thing that impacts their confidence in the system. Take for example the breakthrough [infections] that is being seen in the older people. Because the National Advisory Committee on Immunization (NACI) is slow at announcing emerging evidence and issuing national advice, a handful of provinces and territories across Canada announced their own plans for booster shots, ahead of NACI's recommendations. As a result, the 10 provinces and three territories did things differently (Matt Rourke/The Associated Press). It is also said that NACI meetings on key issues like booster shots and vaccines for kids are held behind closed doors without public input. Therefore, lack of transparency and slow issuance of new guidelines is worrisome because it threatens to undermine public confidence on key vaccine issues (Miller, 2021).

Another example is the Ministry of Health attempt to replace the suspended healthcare workers then backing down on the decision. After announcing emergency financial incentives to recruit health-care

workers, Quebec Health Minister Christian Dubé said that 1,000 nurses have committed to working full-time in the public sector, 231 nurses left the private sector to join the public network, and 1,900 candidates were in negotiations and 56 former health-workers came out of retirement (Remiorz, 2021). Obviously, such figures could increase the strain on the province's stretched health-care resources (Rukavina, 2021). In fact, after weighing the health-care network's ability to withstand losing the unvaccinated, the Health Minister Christian Dubé announced that putting the ones who don't want to be vaccinated at home will create a loss of power for health care; therefore, the province would move away from a strategy of mandatory vaccination toward one of compulsory testing for unvaccinated health-care workers. He also announced that there are no vaccination exemptions for religious reasons (CBC News, 2021).

In a nutshell, people that do not want to be vaccinated have their own reasons that are mostly wrong either because they are misinformed or because the Health Department needs to do more work to reach the set target. The case is not hopeless because big percentage of those people is willing to take the vaccine if they were properly informed and directed.

## **RESEARCH METHOD**

In this study, three methods of data collection were used to reach the 14 participants.

- At the end of each of the 5 seminars offered as part of the campaign funded by the Public Health Department, attendees took a quiz questionnaire. The last question in the survey was whether or not they would take the vaccine. Of the 70 respondents, 5 (7.14%) said they did not want to take the vaccine.
- The second was a Facebook poll. Of the 28 respondents, 2 said they did not want to take the vaccine (7.14%).
- The third was asking friends and acquaintances if they had taken the vaccine or not and why. The researcher found 8 people.

The researcher conducted interviews with 13 people. The only person that was not interviewed was an illiterate lady in her 70s who did not know how to use the phone to answer the question. There was one face-to-face focus group interview with four family members and 10 WhatsApp individual interviews. After analyzing the interviews recordings, the researcher jotted-down the reasons each participant stated, used statements that conveyed the same meaning, and tabulated them to determine frequencies (See Table 1).

## **RESEARCH PARTICIPANTS**

Of the 106 research subjects reached, 92 have taken the two doses of the vaccine. The 14 people that decided not to take the vaccine were 7 Canadians and 7 Lebanese. They constituted 13.2% of the whole sample.

The ages of the 14 research participants ranged between the 30s and 80s (see table1): 1 in her 30s, 5 in their 40s, 2 in their 50s, 2 in their 60s, 2 in their 70s and 1 in his 80s. They come from different backgrounds and fields of work. 4 of them are retired.

## **FINDINGS**

As table 1 indicates, participants' responses varied. 36% of the participants that are Lebanese Canadian for more than 20 years seemed to be generally more knowledgeable about the vaccine updates than the Lebanese participants. They had their doubts about the vaccine origin, what it is made of, and why it was not given enough study time; 29% went far to express the idea that the vaccine contains poison (the conspiracy theory) and thus it impacts men's fertility. They built their assumptions on (1) the fact that 17000 Quebec healthcare workers decided not to take the vaccine even after they were suspended from work; and (2) the belief that the pharmaceutical "cartel" is so powerful in controlling the vaccine "business" that is pushing governments to decide to vaccinate children; and (3) there are people dying when hospitalized or right after they take the vaccine.

The other group of 43% is Lebanese. They had completely different reasons for their decision not to take the vaccine: They are following a healthy diet and doing physical exercise on routine basis, and they are taking the necessary measures when outside their homes (social distancing, wearing the mask and washing). 50% of those are neither against the vaccine nor in a hurry to take it. They just need to be convinced that it is necessary. They are aware that they cannot travel if they are not vaccinated, and thus they are willing to take the vaccine when needed.

Surprisingly, there is a Lebanese young guy among the participants that is suffering from cancer and he is allergic to new medications, while two Lebanese Canadian participants (a couple) did not want the vaccine simply for religious reasons, and they were not willing to explain why. Although the wife is more flexible, she says that, “If [her] husband does not want the vaccine, why should [she] take it if they are not mingling with other people?” The truth is that they do mingle with others outside their place and inside their home. What comforts them is that most of the others are vaccinated. However, what they don’t know is that they are at risk of being infected because those vaccinated might be carrying the virus without showing any signs.

Interestingly, one of the participants is a journalist and the nature of his job obliges him to socialize much more than others. In reality, he was against the vaccine at the beginning for the same reasons stated by the Canadians. He is now convinced that he needs to take the vaccine. However, evaluating the level of socialization commitment, he decided that, “No vaccine passport, means not gatherings, and means no extra expenses incurred. I can wait a bit till the pill comes out instead of taking an injection”. This means he is still concerned about the vaccine, yet more about convenience.

Last but not least is the lady in her 70s that had lung cancer and has undergone two operations in the past six years. She took the two doses of the vaccine and was happy about it. Now she is hesitant about the booster shot because of what she’s been hearing from people around her. She is wondering whether “to refrain from taking the shot and save [herself], or to take it and add poison to [her] body just to make sure that she won’t suffer from cancer anymore”. She is confused and concerned at the same time.

In a nutshell, findings were not surprising. It is interesting to see how this small sample - representing different age groups, different mentalities, different opinions and different health conditions – projects the same social concerns mentioned in the literature.

## **DISCUSSION**

Findings of this study have shown three major patterns of reasoning. The first is ‘dependency’ pattern represented by people of certain age group that are not willing to read about or search for information about a topic like corona virus though it scares them. They prefer to get information the easy way: from some people they trust or from social media. They are not aware of the danger of being misinformed. Consequently, they accept all sorts of wrong information about the vaccine effectiveness as stated by Mazor & Fisher (2021), its altering DNA as stated Rukavina (2021), and its effect on fertility as stated by Gray (2021) without filtering it.

The second is the ‘aggressive’ pattern represented by those that see the vaccine as a business led by the pharmaceutical ‘cartel’. “Had it been otherwise, health workers would have taken the vaccine and not risked losing their jobs,” as two expressed. They believe that the health worker’s decision is based on their witnessing what happens to those who take the vaccine and die right after. Those along with the people that base their decision on religious grounds seem to be the not-easy-to-convince to take the vaccine. They don’t accept the fact that both explanations were refuted (CBC News, 2021).

The third is the ‘alternative’ pattern represented by those who find themselves healthy and in control of everything; in addition, they are taking the necessary public health measures (mask use, social distancing and hand washing), the measures that Bloomer (2021) found insufficient. They feel strongly about staying healthy though surrounded by people infected by the virus. Those are willing to take the

vaccine if necessary – if there are children around them, or they need to travel. In fact two of them decided to take the vaccine while the researcher was answering their questions during the interview. This type of people is almost there. They just need someone to answer their questions and provide updated information as suggested by Rukavina (2021) and Bloomer (2021).

In conclusion, a good percentage of those who decided not to take the vaccine will soon take it. They are simply taking their time. If they don't take the injection, they will certainly be willing to take the pills when recommended by the Public Health Agency. They just need to rely on trustworthy sources of information.

## LIMITATIONS

Though a small-scale study, findings spotlight a major milestone: two of the 14 participants (about 15%) having decided to take the vaccine based on the information they got during the interviews (answering their questions, and addressing their specific concerns). This is one way of taking suitable measures in the direction of increasing the percentage of COVID vaccine takers. Replicating the study will not only ascertain its feasibility and reliability, but also help determine people's most important reasons for not taking the vaccine, and thus decide on the best ways to address the problem.

## CONCLUSIONS

The Public Health Agency of Canada (PHAC) has done a lot so far and will do more. It would be great if the agency's research findings come out right in time to gain public confidence (Miller, 2021). In addition, knowing that people are more impacted and misinformed by the audio-visual materials posted on social media, it would be favourable that PHAC produce short, focused, and catchy podcasts that answer people's most important pertinent questions and consequently reach bigger audience.

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**Table 1. Reasons for the decision not to take the COVID-19 vaccine**

Reasons For Not Taking The Vaccine	P.1 L/30s	P.2 L/40s	P.3 L/40s	P.4 C/40s	P.5 C/40s &Wife	P.6 C/40s &Wife	P.7 L/50s	P.8 C/50s	P.9 L/60s	P.10 L/60s	P.12 C/70s	P.13 C/70s	P.14 C/80s
Not knowing the origin of the vaccine or what it is made from				X	X	X			X		X		
The vaccine was not given enough study time;				X	X	X	X	X					
There is poison in the vaccine				X	X	X					X		
The vaccine may affect people's fertility				X	X	X					X		
Why do 17000 healthcare workers not take it? Why do children need to take it now? There is a hidden stitch.				X	X	X				X	X		
Pharmaceutical cartel is controlling The vaccine "business".				X	X	X				X	X		
A lot of people were hospitalized or died after taking the vaccine.				X	X	X	X	X			X		
I am healthy; I follow a healthy diet; do routine physical exercise;		X						X	X	X		X	X
I am taking necessary measures (distancing, mask, washing, etc.)			X				X	X	X			X	X
Neither against the vaccine, nor in a hurry to take it; it won't make any difference.		X	X					X					
If necessary, I will take the vaccine (to travel or meet friends in public).		X						X					
Has cancer and is allergic to new	X												

medications.													
Religious purposes (no explanation)												X	X
No vaccine passport, no public gathering, no waste of money; will certainly take the pill.								X					
Took two doses; hesitant about the booster because of what is being said;											X		

P: participant; L = Lebanese; C = Canadian; Age group: (30s, 40s, 50s, 60s, 70s, 80s)

**REFERENCES:**

Bloomer, R. (2021). Can healthy people who eat right and exercise skip the COVID-19 vaccine? A research scientist and fitness enthusiast explains why the answer is no. URL: <https://theconversation.com/can-healthy-people-who-eat-right-and-exercise-skip-the-covid-19-vaccine-a-research-scientist-and-fitness-enthusiast-explains-why-the-answer-is-no-166393>. [accessed on 7.11.2021]

CBC News (2021). Health Canada authorizes Moderna COVID-19 vaccine as a booster shot. CBC News. URL: <https://www.cbc.ca/news/health/health-canada-moderna-covid-19-booster-1.6246844>. [accessed on 13.11.2021].

CBC News (2021). Quebec backs down again on mandatory vaccination in health network. URL: <https://www.cbc.ca/news/canada/montreal/mandatory-vaccination-new-health-workers-1.6235760>. [accessed on 12.11.2021].

CBC News (2021). More than 17000 Quebec health-care workers face suspension for refusing COVID-19 vaccine. Cbc.ca. URL: <https://www.cbc.ca/news/canada/montreal/17-000-health-care-workers-quebec-vaccination-suspended-1.6191433>. [accessed on 7-11-2021].

Cooper, V. & Harrison, L. (2021). Massive numbers of new COVID–19 infections, not vaccines, are the main driver of new coronavirus variants URL: <https://theconversation.com/massive-numbers-of-new-covid-19-infections-not-vaccines-are-the-main-driver-of-new-coronavirus-variants-166882>. [accessed on 7.11.2021]

COVID-19 Diary. *Le journal*, November 2021.

Gustafson, A. (20210). Why are some healthcare workers refusing COVID vaccines? *Modern Healthcare* <https://www.modernhealthcare.com/labor/why-are-some-healthcare-workers-refusing-covid-vaccines>. [accessed on 12.11.2021).

Ireland, N. (2021). Seniors 70 and older, front-line health workers, people who got 2 AZ doses can be offered boosters, NACI says. URL: <https://www.cbc.ca/news/health/naci-october-29-boosters-covid-19-1.6229985> [accessed on 10.11.2021].

Ireland, N. (2021). Why doctors are so worried about pregnant people getting COVID-19. *CBC News*. URL: <https://www.cbc.ca/news/health/fertility-and-pregnancy-covid-19-vaccine-1.6233434> [accesses on 11-11-2021].

Johnson, N. (2021). At my hospital, over 95% of COVID-19 patients share one thing in common: They’re unvaccinated, URL: <https://theconversation.com/at-my-hospital-over-95-of-covid-19-patients-share-one-thing-in-common-theyre-unvaccinated-166708> [accessed on 7.11.2021]

Mazor, K. & Fisher, K. (2021). A direct recommendation from a doctor may be the final push someone needs to get vaccinated. URL: <https://theconversation.com/a-direct-recommendation-from-a-doctor-may-be-the-final-push-someone-needs-to-get-vaccinated-165155>. [accessed on 7.11.2021]

Miller, A. (2021). Why provinces and territories 'jump the gun' on Canada's COVID-19 vaccine guidance. CVCNews. URL: <https://www.cbc.ca/news/health/canada-boosters-covid-19-vaccine-naci-1.6231053> [accessed on 10-11-2021].

MSSS (2021). COVID-19 vaccination data. URL: <https://www.quebec.ca/en/health/health-issues/a-z/2019-coronavirus/situation-coronavirus-in-quebec/covid-19-vaccination-data> [accessed on 11.11.2021].

Montreal Gazette (Sept. 2021)

Oughton, M. (2021). U.K. 1st country to authorize use of Merck's coronavirus antiviral pill. *The Associated Press*. URL: <https://www.cbc.ca/news/world/uk-merck-molnupiravir-coronavirus-1.6236618> [accessed on 12.11.2021].

Peppers, B. (2021). Why vaccine doses differ for babies, kids, teens and adults – an immunologist explains how your immune system changes as you mature. URL: <https://theconversation.com/why-vaccine-doses-differ-for-babies-kids-teens-and-adults-an-immunologist-explains-how-your-immune-system-changes-as-you-mature-168708>. [accessed on 7.11.2021]

Remiorz, R. (2021). Quebec recruits more than 1,000 full-time nurses in public sector amid critical staffing shortage. /The Canadian Press). URL: <https://www.cbc.ca/news/canada/montreal/quebec-recruits-more-than-1000-full-time-nurses-in-public-sector-1.6203064>. [accessed on 12.11.2021].

Roberts, M. S., & Zimmerman, R. K. (2021). Flu season paired with COVID-19 presents the threat of a 'twindemic,' making the need for vaccination all the more urgent, URL: <https://theconversation.com/flu-season-paired-with-covid-19-presents-the-threat-of-a-twindemic-making-the-need-for-vaccination-all-the-more-urgent-169011>. [accessed on 7.11.2021]

Rukavina, S. (2021). CBC News These Quebec nurses are willing to sacrifice their careers to avoid getting COVID-19 shots. URL: <https://www.cbc.ca/news/canada/montreal/quebec-nurses-unvaccinated-reasons-1.6208174>. [accessed on 12.11.2021].

Sawyer, S., Barbachano-Guerrero, A., & Warren, C. (2021). Is COVID-19 here to stay? A team of biologists explains what it means for a virus to become endemic. *The Conversation*, URL: <https://theconversation.com/is-covid-19-here-to-stay-a-team-of-biologists-explains-what-it-means-for-a-virus-to-become-endemic-168462> [accessed on 7.11.2021].

Shirley, D.A. (2021). The FDA authorizes Pfizer's COVID-19 vaccine for children ages 5 to 11 – a paediatrician explains how the drug was tested for safety and efficacy, URL: <https://theconversation.com/the-fda-authorizes-pfizers-covid-19-vaccine-for-children-ages-5-to-11-a-pediatrician-explains-how-the-drug-was-tested-for-safety-and-efficacy-169907> [accessed on 7.11.2021]

Smyth, G. (2021). Needle phobias are preventing some people from getting COVID-19 vaccines. These interventions could help. URL: <https://www.cbc.ca/news/health/needle-phobia-prevention-1.6229655#:~:text=Needle%20phobias%20are%20preventing%20some%20people%20from%20getting%20COVID%2D19%20vaccines.,-These%20interventions%20could> [accessed on 11-11-2021].