The looming hurdle of hesitancy: empowering clinicians to hold the COVID-19 vaccine discussion

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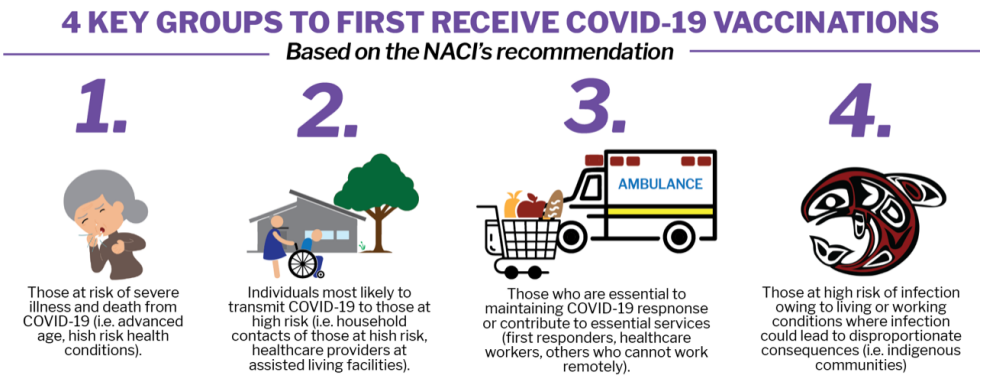
Faced with a global health threat as disruptive and impactful as SARS-CoV2, many of us hope that a vaccine will end the pandemic and restore life as we knew it.[1] With preliminary data available showing that the mRNA vaccines are effective, we must turn our attention to administration and uptake hurdles.[2] In November, our National Advisory Committee on Immunizations (NACI) released their "Preliminary Guidance on Key Populations for Early COVID-19 Immunization,"[3] which identified prioritized groups who should be the first to receive initially scarce COVID-19 vaccine in Canada.[3] These groups (identified in Figure 1.) were selected, in large part, in order to minimize serious illness and loss of life resulting from SARS-CoV2.[3]

However, an immunization program can only be as effective as its uptake, and public skepticism of COVID-19 vaccine is growing.[4] According to a recent poll, only 39% of Canadians would take a vaccine as soon as it becomes available.[4] Fortunately, we know that uptake increases when healthcare providers recommend, and communicate effectively about vaccines,[5] which means that family physicians will have a critical role in determining acceptance of COVID-19 vaccine and ultimately, in the success of Canada's COVID-19 public vaccination program. We have proposed a framework to empower family physicians to effectively discuss COVID-19 vaccination with patients.

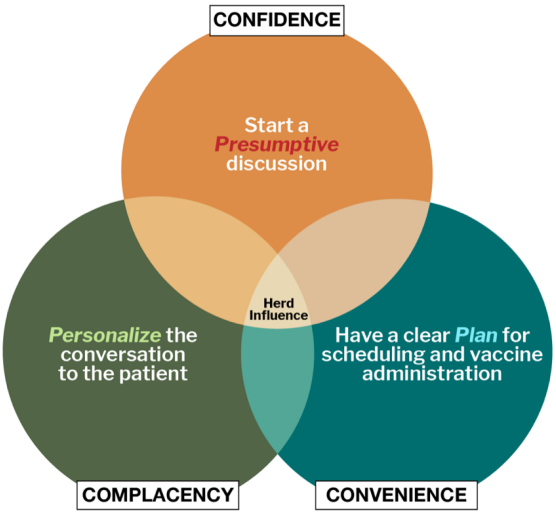
Figure 1: Key groups to first receive COVID-19 vaccinations based on NACI's recommendation



To summarize the public hesitancy towards the COVID-19 vaccine, we have put it within the context of the WHO's (World Health Organization's) "**3 C's Model of Vaccine Hesitancy (VH)**", comprising issues around vaccine:**1."Confidence**"(trust both in the safety and efficacy of vaccines and in the system that delivers them)[6] ; **2. "Complacency,** (the perception of the risk of vaccine-preventable diseases compared to the risk of vaccination itself)[6]; and **3."Convenience"** (the barriers faced by people who are willing to get a vaccine.)[6]

To help with addressing these reasons behind vaccine hesitancy and help guide the COVID-19 vaccine conversation, we recommend clinicians approach the vaccine discussion with the prioritized groups using the **3 P's of vaccine communication framework, which focuses on keeping the vaccine discussion *Personalized, Presumptive*** and ***Planned. The background for the framework we have put together is based on psychological and social theories on vaccine hesitancy and drivers of vaccination behaviour.[7] We have provided some examples of the 3P's tailored to the COVID-19 vaccine. Table 1***

Figure 2: "3 C's Model of Vaccine Hesitancy" and "3 P's Framework"



Adapted from 3C model of vaccine hesitancy[6]

Using the 3 C's and 3 P's

Building **Confidence** around the COVID-19 vaccine: Start a **Presumptive** Conversation

The most frequently cited issues related to COVID-19 vaccine confidence include concerns about safety,[7-9] side effects,[7-9] (90% of vaccine hesitant survey respondents citing safety as a reason) efficacy,[7-9] perceived lack of information,[7,9] and lack of trust in the vaccine approval and development processes,[7,9] which 78% of the population believes is moving too quickly.[9]

As the most influential source of vaccine information, healthcare providers are in a unique position to address this crisis of confidence. We recommend that clinicians use the *presumptive* approach to vaccine conversation, as this has been shown to increase vaccination behaviour, and helps advance a clear and committed recommendation from a trusted source. The Presumptive approach helps build the trust as has been shown in randomized control trials looking at the vaccine conversation. We also recommend that clinicians borrow techniques from behavioural change literature to persuade patients to vaccinate against COVID-19. PRIME Theory, for example, suggests that protective behaviours can be encouraged by creating a strongly felt "need" to engage in the behaviour by linking it to one's identity.[10] For example, a patient might be more likely to accept vaccination if their physician links the action to their self-identification as a person who "trusts in science" or "would do anything to protect their loved ones." Likewise, the Prospect Theory of Judgement and Decision Making suggests that clinicians may be able to encourage vaccination by framing perceived benefits in terms of certainties while making the negative outcomes of avoiding vaccination readily imaginable.[10] For example, a physician would likely be more persuasive suggesting that "a COVID-19 vaccine *will* protect you against a virus that could *result in the death or traumatic hospitalization of you or a loved one*," instead of "a COVID-19 vaccine *would reduce your chance of getting* a virus that could *make you quite sick."*

Combat **Complacency: Personalize** the conversation

Complacency comes from perceptions that COVID-19 infection is unlikely, not severe and/or that there are other effective ways to prevent it. [8] Because even among those prioritized groups some may believe themselves to be

at lower risk, it is important that clinicians highlight pandemic personal cost in addition to just perceived personal health risk.[11,12] The vaccine conversation must be ***personalized*** and tailored vs a discussion that is more about comparing philosophies or COVID-19 vaccine information in general. [6,9]

For patients with comorbidities or older age it may be sufficient for the clinician to base the conversation around personal health risks such as death, prolonged hospitalization, and deconditioning. For younger, healthier patients, however, (i.e. health care workers) in addition to emphasizing perceived personal risk (disease severity, long term effects of COVID-19) the conversation should also emphasize spread to patients, missed work and staff shortages, forced quarantine, impact on their families. Such discussions should aim to maximize the cognitive dissonance linked to nonadherence to medical advice, which should in turn, minimize people's sense of 'exceptionalism' with respect to a recommended vaccine. It also helps combat some of the issues with temporal discounting: when making decisions, people undervalue outcomes to a greater extent the later they are expected to occur in the future. Personalizing the conversation, aims to bring the benefits into people's immediate time horizon, as well as aiming to reduce the concept of exceptionalism noted in early work on COVID-19 vaccine hesitancy. The Personalization recommendation comes from the issues surrounding complacency, making the recommendation tailored to each patient while also highlighting their role in the pandemic.[10,11,13]

Solve issues around **Convenience** and Scarcity: Provide a clear Action **Plan**

In the context of COVID-19 vaccine hesitancy, we argue that *convenience* transforms into *availability,* because once such a vaccine is licensed, uptake will be influenced by issues presenting within the prioritized groups as well as issues surrounding vaccine scarcity.[3]

As a vaccination program rolls out, there will be vaccine scarcity, potentially even among the key prioritized groups. Vaccine scarcity may increase its desirability, but only if the vaccine is made personally relevant and messaging around vaccine promotion does not downsize perceived personal value.[9] It will also be important for prioritized groups to be able to obtain the vaccine without undue inconvenience or hardship. Therefore, to maximize the desirability of an initially scarce vaccine**,** in addition to the personalization mentioned above, a clear ***plan*** in terms of vaccine schedule and delivery should be outlined for each clinic visit with a member of a prioritized group. The Planned approach helps to ensure that conversations around vaccination are prioritized and given time during busy clinic schedules.

Even though COVID-19 vaccines may be licensed before the end of this year,[3] our public vaccination program cannot achieve maximum effectiveness until we appreciate and tackle the looming hurdle of hesitancy.[11] As most Canadians' first point of contact with the healthcare system, Family Physicians have an unrivalled opportunity to address COVID-19 vaccine hesitancy. We have summarized key features of COVID-19 vaccine hesitancy using the context of the "3 C's Model of Vaccine Hesitancy," and we have proposed the "3 P's Framework," which we hope will empower Family Physicians to tackle the COVID-19 vaccination discussion, improve COVID-19 vaccine acceptance, and ultimately protect our patient population.

Table 1: 3P's of Vaccine Communication:

Presumptive:	Start the conversation assuming that they will get vaccinated.	*We need to ensure you get the vaccine as soon as possible so you can be protected as early as*

		possible.
Personalized:	Express the need for the COVID-19 vaccine within the perspective of the patient's medical and social situation.	*Because you have diabetes and high blood pressure, you are at higher risk of severe disease.*
Planned:	Provide a clear schedule and location around availability for COVID-19 vaccination.	*Our staff can schedule you for a vaccine now and another in x weeks.*

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