

COVID-19 Vaccination for Ontario: A Supplemental Community-based Proposal

This is a draft proposal to supplement Ontario's planned mass vaccination program. The proposal draws on the experience that ~9,000 comprehensive care family physicians have vaccinating children, pregnant and breastfeeding women, adults and seniors, including complex and special populations. It offers a feasible model for vaccine administration, utilizing allied health providers, through existing community-based programs run by family physicians, nurse practitioners and pharmacies.

These programs can run *alongside* large vaccination centers operated by local Public Health Units. They preserve the important relationship between local Public Health Units and primary care.

Best of all, these voluntary community-based programs can be tailored to the needs of their local areas so that they are efficient, effective and equitable.

The Problem We Need to Solve:

Create a way to vaccinate 70% of Ontarians or approximately 10, 500,000 Ontarians in a multifaceted manner that is equitable, accessible, effective and efficient.

Why?

Targeted age-based programs using large vaccination centers is an excellent way to approach a mass vaccination program. Appealing aspects of the program include simplicity, universality, standardized administration and increased throughput.

Large vaccination centers also lack a necessary equity perspective. Ontario data shows that prevalence of COVID-19 is higher and the outcomes of COVID-19 are more severe in lower socioeconomic and racialized communities ^{1 2}. This has translated to higher case positivity

¹ Public Health Ontario (2020). "COVID-19 in Ontario: A Focus on Diversity." Last accessed February 27, 2021: <https://www.publichealthontario.ca/-/media/documents/ncov/epi/2020/06/covid-19-epi-diversity.pdf?la=en>

² Public Health Ontario (2020). "COVID-19 in Ontario: A Focus on Material Deprivation." Last accessed February 27, 2021:

<https://www.publichealthontario.ca/-/media/documents/ncov/epi/2020/06/covid-19-epi-material-deprivation.pdf?la=en>

rates as well as higher rates of hospitalizations, ICU stays and death. There are challenges faced by this population that will not be addressed by Ontario's current program.

Targeted age-based programs rolled out through large vaccination centers will miss high-risk patient populations like the following examples:

- The 30 year old Caucasian man with autism whose 60 year old parents are his primary caregivers and decision-makers.
- The 54 year old wheelchair-bound South Asian woman who has quadriplegia and whose husband is her primary caregiver.
- The 19 year old black patient with bipolar disease who is couch-surfing until they can afford their own place.
- The 80 year old housebound patient with dementia and other chronic illnesses who is completely reliant for activities of daily living on her 59 year old daughter.
- The 28 year old pregnant black woman working in a grocery store in Thorncliffe Park.
- The 85 year old patient with Parkinson's Disease and history of falls who feels unsafe leaving his house and is completely dependent on his son's family for at-home caregiving.
- The 67 year old woman who has a history of opioid use disorder, who does not have a regular primary care provider, but does regularly see the family doctor who is her addictions medicine physician.
- People, patients, caregivers and healthcare workers alike, living in a major urban area who would require navigating multiple routes using public transportation to get to a mass vaccination center.
- People in high-risk congregate living situations who require catch-up vaccines who were temporarily ineligible for the COVID vaccine when mobile teams were scheduled for them.

We need at-risk patients vaccinated for COVID19 as quickly, cost-effectively and equitably as possible.

Recommendation: Supplement targeted age-based vaccination programs with family physician-identified high-risk patients for all three phases of Ontario's vaccine program.

What?

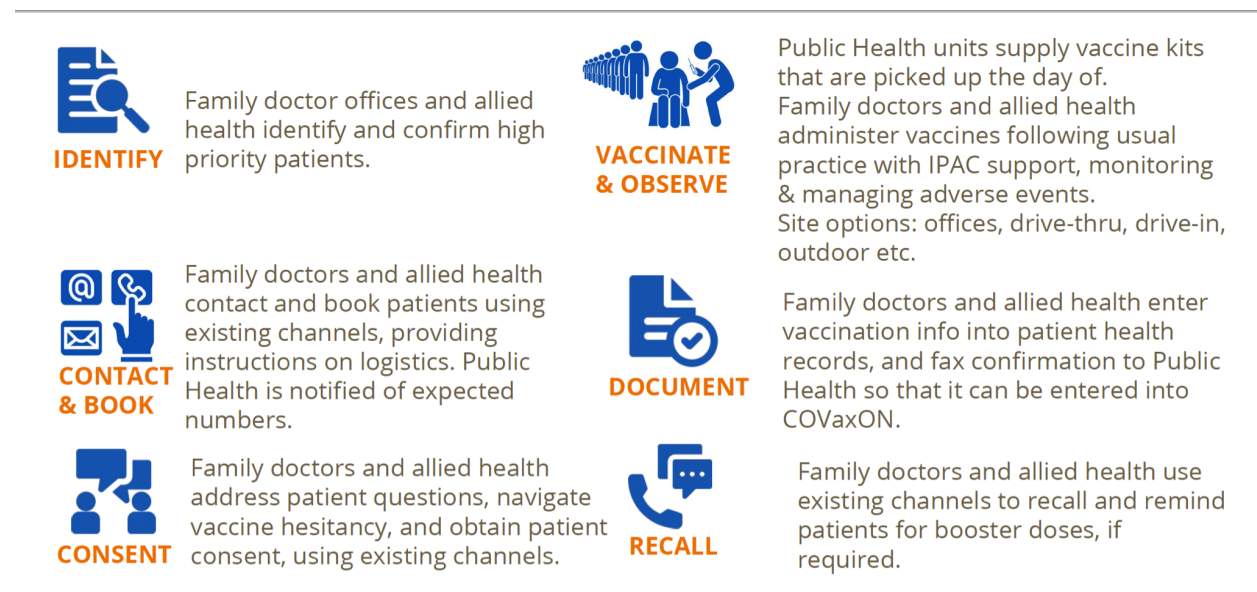
The most efficient, cost-effective way to augment the large vaccination centers is to use existing vaccination programs.

Family doctors and pharmacies, with support from local Public Health units, administer the bulk of influenza vaccines every single year. In 2020, of the 5.1 million flu shots supplied to Ontario, family physicians administered approximately 3 million flu shots and pharmacists administered 1.8 million. To do this, family physicians used innovative strategies; one example was to pivot to outdoor, drive-through venues to administer flu shots, thus allowing for ventilation, infection control precautions and physical distancing.

In many rural areas, the primary care providers have been deeply involved in planning the mass clinics for weeks. Like their urban colleagues, they are well-poised to identify those vulnerable patients who won't be able to access the centralized booking systems and/or transportation to the large vaccination centers.

In addition, multi-dose multi-vaccine regimens are routinely provided to millions of infants and children across Ontario through family physician and pediatrician offices. Building on the success of these vaccination programs is a necessity for a quicker, more cost-effective, and equitable vaccine rollout.

Proposed 6 Step Community-based Vaccination Program



Building a mass vaccination plan on existing community-based programs has six obvious advantages:

1. Family physicians and pharmacists have decades of experience administering the vast majority of vaccines in Ontario for all ages.
2. 84% of Canadians trust vaccine information from their family doctors.
3. Additional training to administer COVID-19 vaccines will be minimal for family doctors who are skilled at vaccinating all age groups.

4. Family doctors already have embedded protocols to manage catch-up immunizations for missed vaccines and recalls for booster shots.
5. Providing vaccines in a safe, familiar environment will improve uptake from the vaccine hesitant because it normalizes the procedure.
6. Most family doctor offices and pharmacies are geographically closer to patients than the large vaccination centers, removing the logistics of travel as a barrier.

Where?

Large vaccination centres are a necessary part of the vaccine rollout campaign. They work very well for homogeneous, literate, mobile populations. Benefits of such programs include standardized implementation and increased throughput.

Large vaccination centres pose several challenges for patients that have not been addressed. For one, the online, central sign-up is reliant on a patient understanding and predominantly English-language instructions to use that website to queue for vaccines, having access to reliable wifi, a computer program of some sort, the manual dexterity to navigate the computer, the linguistic and cognitive ability to navigate the website, as well as the ability to remember the appointment time. Beyond that, patients will require the physical ability to travel to the vaccination site, the ability to park, follow instructions inside the site, understand their comorbidities to identify risk factors for vaccination outcome, and then the ability to travel back home following the vaccine.

By and large, patients in Ontario are accustomed to receiving vaccines in the comfort, accessibility and safety of their family physician offices and local pharmacies as they have done so for decades. A portion of Ontarians are house-bound and require care in the comfort and safety of their home. Demanding that these patients travel to large vaccination centers is a significant behavioural shift, creating a barrier to success, and may even be logistically difficult. Consider the example of a patient who lives a stone's throw away from their family doctor office now having to navigate multiple bus routes to access the large vaccination center in an urban setting. Access barriers will decrease the likelihood that the patient will travel to the vaccination center.

Recommendation: Supplement large vaccination centers with existing vaccination programs in local family physician and pharmacy offices.

Who?

Ontarians must have an “all hands on deck,” approach to COVID-19 vaccination. We have a primary care workforce of over 9,000 comprehensive care family physicians, thousands more focused practice family physicians, 3195 primary care nurse practitioners and 3200 pharmacists, all of whom can help shape the success of Ontario’s mass vaccination program.

This pandemic has had a profound impact on the lives of millions with either direct or indirect consequences. Mental health impacts of the pandemic and the pandemic response have been known to be associated with paradoxical responses that reject prevailing public health measures like lockdown and quarantine³.

In addition, we know that vaccine hesitancy is a significant issue. Hesitancy must be addressed to achieve successful vaccination rates⁴. Vaccine hesitancy is also higher among diverse populations, specifically the Indigenous and Black populations who have historically faced systemic racism from healthcare workers. The bottom line is, a vaccine refusal rate of greater than 10% in combination with other reasons rendering patients ineligible for the COVID vaccine may risk the success of attaining herd immunity⁵.

A trusting relationship with a healthcare provider can help navigate both of the above identified risks to a successful vaccine campaign that we already see playing out in Ontario. 84 % of Canadians trust their family doctor’s advice on vaccines⁶. Trust in pharmacists’ advice has been rising over time as well⁷. Physicians, nurse practitioners, nurses, pharmacists, and other allied health professions will all be required for a successful mass vaccine campaign.

Community-based leaders and healthcare providers all have key roles to play in educating Ontarians about the safety and necessity of the COVID-19 vaccine. While physicians and other healthcare providers play a key role in information dissemination, it is clear that people often turn to other influential informal sources during the decision-making process, particularly among culturally, racially and socially diverse communities⁸. Trusted sources of

³ Brooks et al (2020). “The psychological impact of quarantine and how to reduce it: rapid review of the evidence” *Lancet*, 395, 912-20.

⁴ Government of Canada (2020). “COVID-19: Preliminary guidance on key populations for early immunizations.” Last accessed Feb 27, 2021: <https://www.canada.ca/en/public-health/services/immunization/national-advisory-committee-on-immunization-naci/guidance-key-populations-early-covid-19-immunization.html>

⁵ De Roo et al (2020). “Planning for a COVID-19 Vaccination Program.” *JAMA*, 323(24):2458-2459.

⁶ Ibid.

⁷ Coletto, David (2017). “Pharmacists in Canada.” Last accessed Feb 27, 2021:

https://www.pharmacists.ca/cpha-ca/assets/File/pharmacy-in-canada/CPhA_NationalReport_BRIEFING.pdf

⁸ Fareed et al (2020). “Differences Between Races in Health Information Seeking and Trust Over Time.” *Am J Health Promotion*. 35 (1): 84-92.

information may include government, physicians, family and peers, faith leaders, charitable organizations, social media and traditional media -- depending on a patient's previous experience with government and the healthcare system.

Given the heterogeneity in Ontario, a one size fits all approach will not succeed in an equitable manner. Relying on large vaccination centers alone will miss key populations. Missing these populations will mean that we will not be able to truly vaccinate high-priority populations. While standardizing our approach is helpful, it can't be our only approach given the diversity of our population, and given that diversity, inequity and disparity of pandemic outcomes often go hand in hand. In particular, communities hardest-hit by COVID19 will need their trusted health care provider to identify, communicate with and care for those most at risk.

Recommendation: Use existing healthcare workers, including family physicians, nurse practitioners and pharmacists, working at full scope to deliver vaccinations.

How?

The proposed model is straightforward and has been built upon programs in current use by family physician offices across Ontario. Identifying, booking, assessing, vaccinating and monitoring blocks of high-risk patients in offices is feasible for most family physician offices across Ontario. Expanding vaccination capacity using thousands of family physician offices will increase the provincial program's success rate and will also increase overall throughput so that more people are vaccinated on a daily basis.

Proposed model:

- 1) **Identify:** Family physicians will run searches in their patient databases to quickly identify high-risk patients.
- 2) **Contact & Book:** Family physician offices will contact patients and book them into their preferred time block for a Vaccination Clinic. Instructions will be provided regarding infection control precautions as well as logistics. Family physician offices will notify local Public Health Units of expected numbers so that vaccine needs can be anticipated.
- 3) **Consent:** Family physicians will address patient questions, navigate vaccine hesitancy, and obtain patient consent using existing communication tools, such as forms, emails, websites or even virtual appointments.
- 4) **Vaccinate & Observe:** On the day of the Vaccination Clinic, family physicians will pick up pre-fabricated vaccine kits from their local Public Health Units. They will register patients, vaccinate them and observe them for rare but important side effects. If such an event occurs, family physician offices are already pre-equipped to

manage vaccine-related adverse events and family physicians are already aware of how to report them. They will then book patients for their follow-up booster if necessary. Innovative alternative sites may be considered including outdoor locations, drive-through options, drive-in options, local community arenas in addition to clinics and pharmacies.

- 5) **Document:** Family physicians will enter details of the COVID-19 vaccination into a patient's existing health record. They will also submit lists of patients who have been vaccinated to their local Public Health Unit so that the information can be entered into COVaxON.
- 6) **Recall** for booster if required: Family physicians will use existing structures to ensure patients are recalled for and reminded of their booster doses as required.

Vaccine kit requirements (to be supplied by local Public Health Units):

- COVID-19 vaccines in cooler(s)
- Syringes & needles
- Alcohol swabs
- Band-aids
- Sharps disposal containers
- MOH standard consent form (for those who request it)

Tracking:

There is a great need to document a patient's COVID-19 vaccination status in their existing health record as well as a need to document COVID-19 vaccination status in COVaxON, the provincial registry. Unfortunately, the two are not integrated, limiting the ability of family physicians to track COVID-19 vaccinations provided outside their offices. This is why a program that uses existing tracking platforms is necessary. Once patients are vaccinated in their offices, family physicians can enter the data into their usual patient health record/ electronic medical record systems and use their usual mechanisms to call patients back for their booster doses. Family physicians can then provide the Public Health Unit with the consent forms or the patient list which can then be entered into COVaxON by the Units. This will help to mitigate the administrative burden of this endeavour on individual family physician offices.

Funding:

Funding support will require flexibility given the variation in existing infrastructure which varies from site to site. Family physicians can be funded through existing H codes (pending designation from local public health units or hospitals) or through existing fee-for-service billing and assessment codes. Pharmacists will bill through their existing fee structures. In-kind support (administrative, nursing and physical infrastructure support) may be available but will vary from site to site.

Recommendations:

1. Build on existing vaccination programs through family physician mobile and office-based teams, pediatric offices, pharmacies and nurse practitioner-led clinics. Use family physician-led programs for higher-risk Phase I, II and III populations. Use pharmacies and nurse practitioner-led clinics for lower-risk Phase II and Phase III populations
2. Participation should be *voluntary* as there are offices, clinics and pharmacies that do not have the infrastructure to support a COVID-19 vaccination program.
3. Build on existing tracking systems, updating both patient health records and public health records.
4. Support from local Public Health units should include vaccine kits to be disseminated to and administered by local clinics, mobile units and pharmacies, as well as administrative support to enter patient information into COVaxON.
5. Provide flexible funding support.

What about house-bound patients or patients with limited mobility?

Family physician offices, nurse practitioners, nurses and emergency medical services (EMS) can volunteer to create locally available mobile units to connect, coordinate and vaccinate house-bound patients or patients with limited mobility. These teams were used to good effect during the pandemic for COVID-19 testing. Such teams have existed for community-based blood pressure monitoring as well as palliative care outreach programs in various communities. Repurposing this kind of program to administer COVID-19 vaccinations is a natural progression.

The process would be similar to the model proposed above. The only difference would be that the vaccine kits would be taken to the patient and their essential caregivers. Booking and consent should be done in advance. Blocks of patients should be pre-booked. Funding support should be through H codes for family doctors.

Recommendation: Build on existing community-based outreach programs to target house-bound patients and their essential caregivers for vaccination.

What about patients with substance use and precarious social situations?

Ontario data confirms that this population has endured disproportionate COVID-19 infection rates and more severe outcomes⁹. This population also faces challenges accessing the healthcare system and often their chief connection to the healthcare system is through community-based addiction treatment services. Drop-out or no-show rates of conventional preventative approaches is anecdotally estimated at 80-90%, with every subsequent step of the treatment cascade creating a barrier.

In essence, the optimal way to serve this high-risk population is to adopt an unconventional approach and create a more horizontal, one-stop shop environment for care:

- Offering testing/ vaccinating/ treatment at point of care
- Hiring peer support workers to support testing/ vaccinating/ treatment
- Allowing patients access to care without an appointment, without a phone/ address/ ID or even a health card.
- Allowing physician or allied health provider remuneration even if the patient had no ID or health card.

Recommendation: Draw on the expertise of addiction doctors who work closely with patients to adopt a peer-to-peer one-stop shop approach to testing, vaccination and treatment for patients with addictions and insecure social situations.

What about patients who have no regular family physician or nurse practitioner?

Approximately 1 million Ontarians do not have a regular primary care provider. Analysis of this group reveals that they are primarily people from low socioeconomic status, immigrants, migrants, of younger ages, and mobile due to education/ work/ family obligations. Because of the heterogeneity of this group, a flexible, multifaceted, multi-site, multi-provider approach will be necessary.

Communication is more challenging given the diversity of this population and will require innovative targeted outreach through local non-English papers, radio stations, posters in shelters/ bus stops, peer-to-peer communication, community-based informal social/ cultural leaders, and so on. Passive communication techniques such as predominantly English-language websites may not be enough.

⁹ Richard, L et al (2021). "Testing, infection and complication rates of COVID-19 among people with a recent history of homelessness in Ontario, Canada." Last accessed March 2, 2021: <http://cmajopen.ca/content/9/1/E1.full>

Options for this group includes mobile pop-up sites after socialization of the vaccine. Family physicians and allied health can help cover this population, much as they have stepped up and assisted with mass vaccination efforts in long-term care and retirement homes.

Recommendation: Consider a multifaceted multi-site approach to appropriately meet the needs of this heterogeneous population.

Conclusion

In adopting a diversified community-based approach alongside large vaccination hubs, COVID-19 vaccinations will be distributed more efficiently and equitably to the Ontarians that need them the most in the shortest period of time. Such a community-based approach is not difficult to implement or administer because it builds up on pre-existing patterns of care that are already well-established in the community. It does require support from local Public Health Units as well as a coordinated supply of COVID-19 vaccine kits. Such a multifaceted program will better fit the needs of a population as diverse and heterogeneous as the one found in Ontario.

Further questions or concerns as well as media or public inquiries should be directed to:
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