# Executive Summary

Community partnerships are an important pillar of public health programs and services. Throughout the COVID-19 pandemic, community-based organizations (CBOs) have supported health authorities, public health agencies (PHAs), and public health units (PHUs) in the provision of preventative health and social services. While various factors influence vaccine uptake, ethno-racial and other minoritized communities that experience social, structural, and systemic inequities have been disproportionately impacted by the pandemic across Canada and are less likely to have been vaccinated against COVID-19. Since COVID-19 vaccines became available to Canadians in December 2020, CBOs have been one of many visible key players that proactively mobilized to work with various public health PH sector partners in promoting vaccines in their communities. Federal and provincial/territorial (PTs) governments allocated additional funds to support PHA/PHU-CBO partnerships to strengthen community engagement and improve equity in COVID-19 vaccine confidence and uptake. This rapid review showcases the range of public health-CBO community-centred initiatives that seek to reduce barriers, improve confidence, and increase uptake of the COVID-19 vaccine among equity-deserving groups.

Our review of academic and grey literature on public health-CBO initiatives in Canada, occurring between December 2020 and May 2022, documents the strategies used by PHA/PHU-CBO initiatives to support vaccination efforts. We found extensive partnerships that formed between PHA/PHUs, CBOs and other sector partners to reach and encourage vaccination in equity-deserving communities throughout Canada. Across initiatives, community partners leveraged existing relationships with equity-deserving communities to facilitate trust and increase vaccine confidence using culturally appropriate and meaningful approaches.

These results are summarized in the International Association for Public Participation's (IAP2) *Spectrum of Public Participation* to define the level of public participation. On one end of the spectrum, "inform" captured activities that provide informational materials, tailored communications to racialized/ minoritized groups, and cultural competency training for healthcare and non-healthcare providers. "Consult and involve" described community-based, equity-oriented approaches to vaccination, community engagement, and research to understand vaccine confidence by race and socioeconomic status. Population-specific vaccine clinics were most reported, some of which were informed by task forces and working groups. Finally, "collaborate and empower" captured community mobilization activities whereby community ambassadors (trusted figures) contributed to the success of vaccination efforts.

Collectively, these strategies were effective in engaging and encouraging vaccine uptake among ethno-racial, cultural, religious groups, and other populations (e.g., transient populations, people living in congregate settings, migrant workers, immigrants, and newcomers, etc.). The significance of community engagement in vaccination efforts emphasizes the importance of trust building with ethno-racialized communities as well as the inclusion of community partners throughout every aspect of the intervention (e.g., design, implementation, and evaluation). While promising PHA/PHU-CBOs partnerships were revealed, gaps remain around the effectiveness, costs, and impacts on a range of outcomes that would help to develop "best practices" for strengthening and sustaining ongoing partnerships post-pandemic. Further research in this area may help to enhance existing strategies that have proved impactful in reaching vaccine hesitant and structurally marginalized populations.

# Introduction & Background

This report captures a range of examples of partnerships between public health organizations and community-based organizations (CBOs) in Canada related to COVID-19 vaccine uptake. The intended audience are those within the health system, both in public health and health care services, and it may also be of interest to CBOs looking to partner with health organizations. This review may help with expanding these practices and/or supporting the evaluation of these efforts to identify and learn from promising practices. This work may also be applicable beyond COVID-19 to support with other immunization efforts, such as for HPV, and beyond immunization for other health system efforts.

Across Canada, provincial and territorial (PT) governments and health authorities prioritized vulnerable populations in their COVID-19 vaccination strategies, broadly informed by the National Advisory Committee on Immunization's (NACI) *Ethics, Equity, Feasibility and Acceptability Framework* and other PT ethical frameworks (e.g., Ontario's *Ethical Framework for COVID-19 Vaccine Distribution*) (1,2). There are wide variations across the country in the approaches taken to reduce barriers to COVID-19 vaccines for specific communities, such as through community-driven task forces, engaging with faith leaders and community ambassadors/ leaders, and establishing vaccination clinics in community locations, such as places of worship and community centres (3–5). Many of these activities were funded and supported by PT governments, while others were driven by CBOs in partnership with public health partners.

Central to these initiatives is community engagement, which is known to play a significant role in reaching vulnerable populations within the global and Canadian context, and reducing health inequalities (6,7). However, the partnerships between communities and public health agencies (PHAs) and public health units (PHUs) across PTs are often not collected and documented in a systemic manner.

There are numerous tools and frameworks relevant to community engagement approaches and impact in health systems. For example, the IAP2's *Spectrum of Public Participation* outlines increasing impact on decisions along the range from inform, consult, involve, collaborate, to empower (8). More specific to health, public health, and healthcare organizations is *A Guide to Community-Centred Approaches for Health and Wellbeing* released in the United Kingdom (UK) in 2015 (9). Finally, a framework published in 2000 by the European Centre for Disease Prevention and Control outlines community engagement specific to public health events caused by community disease, framed within the emergency cycle of Anticipation/Response/Recovery (10).

The urgency and scale of the COVID-19 vaccination rollout presents an opportunity to identify and learn from the related community engagement partnerships and activities involving public health organizations in Canada. This rapid review aims to surface a range of examples of community-centered initiatives involving partnerships between PHAs/PHUs and CBOs that seek to reduce barriers, improve confidence, and increase uptake of the COVID-19 vaccine.

# Methods

We searched academic and grey literature sources, including published journal articles, government documents (e.g., websites, media releases, and announcements), mainstream media, non-governmental organization (NGO) and university-led reports and news sources, and online media content (i.e., webinars, social media posts) to uncover the range of initiatives that involve partnerships between PHAs/PHUs and CBOs that seek to reduce barriers, improve confidence, and increase uptake of the COVID-19 vaccine for equity-deserving groups (e.g., underserved and vulnerable in ethno-racially minoritized communities). We searched a broad range of sources to capture the multiple avenues through which these initiatives were reported.

Searches were performed between April 10 and May 20, 2022, using a range of keywords based on four main concepts: 1) community-centred interventions/community participation; 2) COVID-19 vaccine confidence/uptake; 3) Canada; and 4) hard-to-reach populations. For academic literature, we conducted a search in five databases (Ovid MEDLINE, Web of Science, Google Scholar, CINAHL, and SCOPUS). Sample search terms are detailed in **Appendix A**. We used Google and hand-searched government, news, and organizational websites for grey literature. The search was limited to studies and sources published in English between December 2020 and May 2022.

Results were imported to COVIDENCE, a cloud-based review management tool to perform screening. Sources were screened (title/abstract and full text) and included if they involved public health (federal, PT and/or regional) and CBOs, and considered equity in the implementation of the initiatives (see **Table 1** for inclusion and exclusion criteria).

**TABLE 1.** Inclusion and exclusion criteria

| Inclusion criteria | Exclusion criteria |
|---|---|
| • Initiatives that focus on increasing vaccine uptake and vaccine confidence.<br>• Include at least one PHA/PHU at the FPT and/or regional level as a sponsor/lead/collaborator/partner.<br>• Involves CBOs that provide service to the underserved and vulnerable in ethno-racially minoritized communities (refer to search concepts and terms for detailed list of religions and populations).<br>• Initiatives that have equity built-in during the design and implementation of the intervention.† | • Initiatives that do not partner with PHAs/PHUs.<br>• Initiatives that are solely Indigenous-led or Indigenous-centred.*<br>• Initiatives that are not designed to engage with ethno-racial and culturally minoritized communities. |

* Indigenous community centred/led initiatives have unique context, strengths, and challenges that are outside the scope of this rapid review.

† When determining whether programs for seniors who are susceptible to COVID-19 should be included, initiatives that are solely age-based would not have been included because an equity component, such as considerations of systemic factors that may impact access to vaccine, e.g., frailty, mobility issues, is not met.

To understand the volume and scope of partners involved in COVID-19 vaccine uptake initiatives for vulnerable populations, we applied an iterative approach to define PHAs, community partners, and FPT partners, among others (see **Table 2** for the definitions and **Appendix B** for examples).

**TABLE 2**. Defining public health and community partners

| | |
|---|---|
| **PHAs** | Global, federal, provincial/territorial, and regional PHAs and organizations that provide public health services and programs. *This excludes organizations/ministries that focus on governing institutions that focus on health care system delivery and service provision.* |
| **Community partners** | Non-profit, non-governmental or charitable organizations, K-12 schools, networks, associations, and coalitions that are primarily involved in community engagement and implementation of community-based initiatives, including organizations that have presence and familiarity in the community and aim to reach specific populations and are not involved in direct healthcare delivery. *Excludes all acute/non-community health providers/organizations.* |
| **FPT partners** | Government agencies/authorities that do not provide public health services and programs directly, but may support public health initiatives through policies, guidelines, funding, etc. |
| **Other partners** | Organizations that do not have a community focused mandate nor provide public health services to the community directly. |

We developed a data extraction protocol on COVIDENCE iteratively that consisted of five main categories: 1) descriptive information about the source; 2) initiative information (i.e., objective, population, setting); 3) partners and collaborators (i.e., who is involved in the initiative and their roles); 4) findings and outcomes reported about the initiative/intervention; and 5) limitations and barriers to implementation, if reported.

## Limitations

This rapid review has several limitations. First, searches were limited to English. This led to an emphasis of initiatives outside of Quebec, as only those occurring in Quebec were included if the reports were available in English. Nevertheless, several of the included initiatives were delivered or translated into a variety of languages to reach communities of concern, accentuating the multi-lingual service provisions observed in PHA/PHU-CBO initiatives. We included past and ongoing initiatives available in a wide range of sources, including both academic and grey literature (e.g., print media, news articles, webinars, and CBO/PHU webpages). As such, the process, outcomes, and duration of the initiatives have not been uniformly reported as much of this information may not have been released publicly or was ongoing at the time of writing. For this reason, limited information was available about the nature of the partnerships and their level of collaboration and engagement for most of the initiatives in the review. Thus, conducting evaluations and accessing reliable information (i.e., what worked) seems to remain a challenge. As well, our database searches were rapid in nature and may have excluded relevant and ongoing initiatives.

Although we observed many PHU-industry/university and CBO-industry/university partnerships, our focus was on PHA/PHU-CBO partnerships. Thus, some popular campaigns – e.g., a university student ambassador from the VacciNATION campaign in Alberta, government-led hockey player influencer vaccine campaigns in Manitoba, and federally funded, pan-North American ambassador programs like the Students for Herd Immunity's Student Ambassador Program – are excluded.

Finally, initiatives specific to Indigenous communities or are Indigenous led were outside the scope of this review. However, initiatives that included Indigenous communities as one of the partner populations, but not the sole population, were included. Work in this area in Canada needs to acknowledge the experiences and expertise of Black, Indigenous, and People of Colour, and other equity-seeking populations. This includes the ongoing impacts of racism, colonialism, and systemic discrimination within our systems. We encourage individuals living in Canada to review the Truth and Reconciliation

Commission's *Calls to Action* (12). We also support the direct amplification of voices from these communities. We acknowledge that by focusing on academic articles and publicly available information, community stories and perspectives may be absent and urban centres/organizations near universities may be over-represented. Below however are a few examples of publicly available, Indigenous-led recommendations, organizations, and initiatives in Canada:

- ITK report on *the potential impacts of COVID-19 across Inuit Nunangat*
- AFN COVID-19 National Task Force
- Metis National Council

Links to Indigenous-led vaccine confidence materials and initiatives found during the screening process are listed in **Appendix C**.

# Analytic Overview

Our rapid review uncovered PHA/PHU-CBO partnered initiatives to improve COVID-19 vaccine confidence and uptake. **Table 3** uses the *IAP2 Spectrum of Public Participation* to summarize the types of initiatives based on the extent of collaboration/partnerships in place, ranging from whether the initiatives primarily aim to *inform* CBOs, *consult* and *involve* CBOs, or *collaborate* and *empower* CBOs.

**TABLE 3.** Summary strategies and activities

| | |
|---|---|
| **Inform** | • Vaccine education and vaccine awareness<br>• Capacity building: training for CBOs and allied health professionals |
| **Consult and involve** | • Identify and engage with equity-deserving communities (Task forces, Working Groups, Communication Groups)<br>• Outreach: mass vaccine clinics, fixed vaccine sites (community clinics, mobile and needs-based pop-ups)<br>• Vaccination strategies |
| **Collaborate and empower** | • Community ambassadors and mobilizers |

## Types of CBO Partners

Numerous community partners involved in vaccine uptake initiatives, which we define as nonprofit/non-governmental and /or charitable organizations, schools, networks, associations, and coalitions that are primarily involved in community engagement and implementation of community-based initiatives. See examples of community partners in **Appendix B**. We briefly summarize the types of partner organizations based on their mandate and service population:

- **Partners with a social justice and equity lens, longstanding connections with community members, and a focus on social supports.** Examples include CBOs that were involved in supporting housing and shelter, refugee and immigrant settlement, social and welfare services, and religious services. Examples of these CBOs include: the Black Health Alliance, the Calgary Catholic Immigration Society, the Council of Agencies Serving South Asians (CASSA), United Chinese Community Enrichment Services Society (S.U.C.C.E.S.S.), Home Base Housing, etc.
- **Health-oriented agencies that provide public health programs and services in low-income communities, areas with high social deprivation or large ethno-racial minority communities, and other populations**, such as people living with addiction. Examples of these are: MainStreet initiative, Women's Health in Women' s Hands, MakeWay, Khalsa Diwan Society.
- **Agencies whose mission are to promote the health of ethno-racial groups and visible minorities before the pandemic, or task forces and working groups that were established during the pandemic to respond to ethno-cultural needs of specific populations and communities.** Examples include Quinte Local Immigration Partnership (QLIP) Anti-Racism Working Group, Canadian Muslim COVID-19 Task Force, Black Scientists' Task Force on Vaccine Equity, Latin-American Covid Task Force. The "Consult and Involve" section describes how these task forces and working groups were initiated.

## Inform

'Inform" captures strategies used to provide communities with "balanced and objective information to assist them in understanding the problem, alternatives, opportunities and or/solutions" (8). Inform strategies utilized to improve vaccine confidence and uptake fell broadly under two main categories: 1) vaccine education and awareness and 2) capacity building initiatives.

### Vaccine education and awareness

We summarize initiatives across Canada that facilitated vaccine confidence and uptake in higher-risk communities in **Tables 4a** and **4b**.

***Virtual.*** Virtual and digital multimedia initiatives were found across Alberta, British Columbia, Manitoba, Nova Scotia, Ontario, Quebec, and Saskatchewan by PHAs/PHUs and CBOs to distribute vaccine educational materials and provide updates regarding vaccine eligibility and availability. The range of activities include videos and webinars, websites, social media campaigns, mobile messaging, and email campaigns (**Table 4a**). Videos and webinars were often comprised of pre-recorded videos and courses/sessions on YouTube to raise community awareness about the availability, eligibility, and supports available to communities during the vaccine rollout (13–15). Websites or webpages were created to present the newest COVID-19 vaccine information for different age groups, target audiences, and in multiple languages in the PHU/PHAs' catchment areas (16,17), some of which were updated daily or weekly at times.

Message-sharing on social media and mobile apps are also one of the most common strategies to motivate the community. To reach immigrants, newcomers, and multigenerational families whose first language isn't English, grassroots campaigns like #ThisIsOurShot, and university-public health-community partner initiatives like *COVID CommUNITY* have launched campaigns to share easy-to-understand materials in the languages of populations living in COVID-19 hotspots in Canada (e.g., Urdu, Hindi, and Punjabi). These messages were disseminated on social media (e.g., Instagram, Twitter, TikTok) (18–20) and on communication apps such as WhatsApp (21–23) to raise awareness on the availability and efficacy of vaccines. Similarly, hotlines were used as a communication tool to address questions related to COVID-19 vaccination in multiple languages to newcomers (24,25).

Beyond one-way communication, two-way initiatives took place both virtually and in-person. Virtual strategies such as webinars and virtual townhalls were observed. Government and community-sponsored townhalls were conceptualized to recruit community members to offer ample question and answer time to allow a panel of specialists and community leaders to answer vaccine questions. For example, the Black Scientists' Task Force on Vaccine Equity worked with Toronto Public Health (TPH) and the city's Social Development, Finance and Administration to conduct 20 townhalls, from February 1 to June 9, 2021 (26,27). These townhalls led to an estimated 20% increase in vaccine confidence among Black communities based on a survey of the 6,785 participants that dialed in from across the country (26).

**TABLE 4a**. Summary and examples of virtual and digital multimedia strategies for vaccine education and awareness

| Strategy | Examples |
|---|---|
| **Videos and webinars** | • AB: PHAC-IPF sponsored AIMGA to produce webinars, videos, and podcasts about the COVID-19 vaccine in more than 72 languages (28).<br>• MB, SK, AB, BC: The Dr. Peter AIDS Foundation hosted video calls every 2–3 weeks (May 2021–May 2022) for a total of 16 sessions in English and French called "Vaccine Community of Practice Video Call." Charities and CBOs from the Canadian Prairies (MB, SK, AB) shared how they support front-line agencies to address vaccine hesitancy and improve equitable access to the COVID-19 vaccine for people living with HIV/AIDS (14). |
| **Websites/ webpages** | • Pan-Canadian: #ThisisOurShot is a grassroots campaign launched in January of 2021. The campaign is endorsed by the PHAC, includes partnerships PHAs/PHUs, and industry sponsors. Its online education website features healthcare workers serving in racialized and ethnic communities across Canada addressing vaccine concerns in 28 different languages, and a myth-busting video series that addressed common vaccine safety concerns, pregnancy and fertility myths, and myths of vaccine-induced erectile dysfunction in men (17).<br>• BC, AB, NS, ON: Coordinating with four CHC associations in four provinces, the CACHC shared evidence-based and culturally relevant vaccination promotion resources to ensure underserved groups in Canada disproportionately impacted by COVID-19 have access to vaccinations (29). BCACHC's 31 members shared resources to conduct community engagement and provide vaccine facts in various formats (poster, article/post, video). This included faith-based COVID-19 vaccination guides such as *A Guide for Canadian Muslims* and a "Knowledge Hub" that offers resources in multiple languages and grants the public the option of sharing additional resources (ibid).<br>• ON: "Max the Vax" is a pediatric COVID-19 vaccine campaign sponsored by medical associations, community organizations who initiated other nationwide grassroots vaccine campaigns, CBOs for children's health, and regional PHUs. The website offers multilingual information to address vaccine concerns categorized by age group (under 5, 5–11) for caregivers and kids (30).<br>• BC: Sponsored by the provincial Ministry of Health, and support from the Public Health Association of BC, BCCDC released quizzes on an interactive website called IBoost Immunity. Approved by the Global Vaccine Safety Net of WHO, the quizzes promote vaccine awareness and for every quiz correctly answered donates one childhood vaccination to UNICEF Canada for those in need (31). |
| **Social media** | • SK: The Saskatchewan Health Authority partnered with the Global Gathering Place and Open Door Society Saskatchewan, two organizations that supports immigrants, refugees, and newcomers to settle in Saskatchewan. They released a series of videos on social media in French, Mandarin, Arabic, and other languages about COVID-19 vaccines (20).<br>• AB, BC, ON: Working with regional PHAs, the South Asian COVID Task Force and partners created and reposted shorts and reels* on Instagram, Facebook, Twitter, YouTube, and TikTok in Punjabi, Hindi, Tamil, Gujarati, and Bengali to maximize exposure and reduce South Asian communities' fear and anxiety around COVID-19 (23).<br>• AB, QC, ON: The national vaccine initiative, funded by PHAC-IPF and in partnership with the SCF spreads awareness on COVID-19 through social media campaigns and promotes community-based COVID-19 education for evidence-based vaccination communication to tackle vaccine hesitancy among Arabic speakers (32).<br>• ON: ROW Public Health and Emergency Services created a video series on ROW's YouTube channel, featuring 24 interviews with healthcare professionals, and trusted community leaders of diverse racial ethnic backgrounds (33). |
| **Mobile messaging** | • ON: Ottawa Public Health worked with River Jordan Ministries with a predominant Black Canadian followership mainly of African origin from Ghana, Uganda, Burundi, DRC, Kenya, etc. The pastor of the ministry sent messages in community WhatsApp group chats and connected its congregation to |

| | |
|---|---|
| | the International Pastors and Leaders Forum to allow its members to reach an informed decision about vaccines. The outreach went beyond the Christian congregation to communities of Muslim faith (21).<br>• BC, ON: Working with McMaster University's Population Health Research Institute, volunteers of the South Asian COVID Task Force visited vaccine clinics to obtain contacts on WhatsApp to send vaccine information and vaccine locations in locations with known South Asian diaspora. The Task Force received support from Fraser Health in BC; and Ontario PHUs (i.e., Haliburton-Kawartha-Pine Ridge, Peterborough, Durham, Simcoe Muskoka, York, Peel) (22). |
| **Email** | • ON: Window-Essex County Health Unit sent information memos to all farms via MailChimp that included vaccination information for employees and links to dedicated vaccine information for temporary and undocumented foreign workers, which addressed eligibility concerns, accessibility, observing side effects and after care, and other frequently asked questions by foreign workers (15). |
| **Hotlines** | • AB: Partnering with ActionDignity and Calgary Catholic Immigration Society, AIMGA established a health and wellness team that call ActionDignity clients to address vaccine hesitancy and respond to questions. ActionDignity also implemented an emergency response hotline to help newcomers in 24 languages. Clients can call the hotline to ask questions about the COVID-19 vaccine, access to food hampers, and counselling support (24). |
| **Virtual townhalls** | • AB, BC, MB, QC: The Canadian Muslim COVID-19 Task Force worked with public health departments from several provinces. The Task Force hosted virtual town halls where open discussions with community members and religious members regarding immunization were recorded and shared on social media platforms for wider consumption. Post tests revealed that participants were dramatically more inclined to receive the COVID-19 vaccine after hearing from experts with whom they could identify (34). |

*Shorts and reels: short video clips (<60 seconds) on social media, e.g., YouTube Shorts, Instagram Reels.

Abbreviations: AB (Alberta); AIMGA (Alberta International Medical Graduates Association); BC (British Columbia); BCACHC (British Columbia Association of Community Health Centres); BCCDC (British Columbia Centre for Disease Control); CACHC (The Canadian Association of Community Health Centres); CBO (Community-based Organization); CHC (Community Health Centre); MB (Manitoba); NS (Nova Scotia); PHAC-IPF (Public Health Agency of Canada-Immunization Partnership Fund); PHU (Public Health Unit); ON (Ontario); QC (Quebec); ROW (Region of Waterloo); SCF (Syrian Canadian Foundation); SK (Saskatchewan); UNICEF (United Nations International Children's Emergency Fund); WHO (World Health Organization)

***In-person.*** While virtual approaches were common PHA/PHU-CBO initiatives, in-person strategies augmented the vaccination effort (see **Table 4b**). Community-focused and equity-driven approaches emerged to spread awareness on the risks of COVID-19, to dispel misinformation that was circulating in respective communities, and to recruit knowledgeable staff of similar backgrounds within communities to answer questions about vaccinations on-site. Funding and support were provided across provinces to staff in-person educators (24,25). Culturally representative staff from CBO and partnering organizations were present at mass vaccination clinics to support large vaccination events (e.g., "vaccine rodeos") (35). Trusted nurses and physicians from primary care clinics worked with Mennonite communities to encourage its faith members to get vaccinated (36). CBOs and PHAs developed a shared delivery model at service sites for local community partners to be present on-site to educate locals on vaccine safety (37).

Across Canada, documented and undocumented foreign temporary workers living in congregate settings (e.g., meat factories, mushroom farms), communities who decline COVID-19 vaccination due to mistrust, dis-/misinformation, and religious and cultural beliefs, as well as essential workers, emerged as populations suffering from high rates of COVID-19 infection and low vaccine coverage. Because each of these neighborhoods have distinct needs and challenges, an equity-focussed approach to raise vaccine

awareness was critical. PHAs who partnered with CBOs knowledgeable about the needs and concerns of these communities generated impact and increased vaccine confidence. Two examples that demonstrated such success include the collaboration between Vancouver Coastal Health, Union Gospel Mission, two local CHCs, and the Overdose Prevention Society (OPS) who spray-painted vaccine pop-up and site awareness campaigns on walls where the homeless congregate. This allowed persons who are unhoused, living in shelters, and living with addictions to receive vaccinations without judgement or identification, resulting in 200 people receiving their vaccine (38). Second, a "block party" themed drop-in vaccination clinic was hosted in Montreal by the Jamaican Canadian Association (JCA), one of several Black community groups who reached out to public health to raise awareness about vaccines and address vaccine concerns at a majority Black neighbourhood with high COVID-19 infection rates (39). JCA's representative considered this effort "a very good first step forward" and Montreal Public Health's race and equity advisor reflected that "the coverage rate will continue to increase" with a more targeted and inclusive approach (39). To note, records of the success of vaccine awareness strategies are under-documented for reasons noted in the limitations section (39).

**TABLE 4b.** Summary and examples of in-person vaccine education and awareness strategies

| Strategy | Examples |
|---|---|
| **At vaccine clinics** | • BC: Fraser Health Authority staff and nurses worked on-site to answer vaccine-related questions during its "easy, accessible, same-day immunization (EASI) clinics," which were set up in schools that were closed during lockdown (40).<br>• AB: At the "Vaccine Rodeo" (mass vaccination clinic in hot spots) for immigrants and newcomers of Northeast and Southeast Calgary, AHS worked with International medical graduates who volunteered on-site to answer questions using community members' first languages (35).<br>• MB: The Manitoba Health Authority sent nurses and doctors with cultural competency training to speak about vaccine safety to Mennonite and Anglican church members, who then received vaccinations at trusted local primary care clinics (36).<br>• ON: York Region Community and Health Services worked with 26 local neighbourhood service partners and stakeholders through a "shared care" delivery model to educate 13,500 people about vaccine safety at respective service sites in the city of Markham and Scarborough (37). |
| **In priority communities** | • BC: The Vancouver Health Authority worked with local CHCs and three social services CBOs to locate and encourage vaccination where vulnerable and transient persons may frequent. The OPS spray-painted vaccine clinic hours and locations on walls in areas where the homeless population congregate (38).<br>• AB: The AHS teamed up with "Vaxx Hunters" and the IFV Coalition to run free mobile clinics at low-uptake locations in rural, hard-to-reach, and remote oil service camps and hotels where temporary foreign workers were employed. Volunteers were on-site to answer vaccine concerns and direct people to the bus (41).<br>• QC: The Jamaica Association of Montreal, the Black Community Resource Centre (BCRC), and the Quebec Black Medical Association (QBMA) approached Montreal Public Health to host a health fair in Montreal North, one of the hardest-hit neighbourhoods during the pandemic's previous waves. Locals attending the health fair were able to ask local healthcare professionals and experts about vaccines (39). |
| **Traditional mass media** | • ON: Endorsed by regional PHUs, the Latin-American Covid Task Force worked with Spanish media outlets, from radio, newspapers, and TV channels to promote public health measures (42).<br>• SK: 800 external stakeholders worked on the Saskatchewan Health Authority's COVID-19 vaccination campaign. In each phase of the vaccine rollout were various public service announcements, area-specific social media posts; posters, videos, and tutorials; mass campaigns |

| | |
|---|---|
| | also took place across social media, local publications, posters, direct mail, and press conferences (43).<br>• ON: The Black, African, and Caribbean (BAC) Planning Table co-led by Peel Public Health and Wellfort CHC led to health fairs in BAC communities. The BAC Planning Table included partners from the LAMP CHC, Black Physicians of Ontario, Roots Community Services, and engaged external tables/groups from the High Priority Communities Strategy (HPCS), Network of Black Vaccinators (NBV), and the Black Health Equity Working Group (44). |
| **Posters and flyers** | • MB: The Manitoba RHA collaborated with Mennonite leaders and institutions (e.g., the Canadian Mennonite University, the Providence University College & Theological Seminary, the Manitoba Centre for Health Policy, and Doctors Manitoba. The group identified and worked with five churches to design faith-relevant print materials to disseminate to Mennonite and Evangelical communities (36).<br>• AB: AHS, the City of Calgary, and the IRCC worked with the Centre for Newcomers, Immigrant Services Calgary, and 15 other organizations that form the CENC to design posters translated into 72 different languages and distributed within local communities (35).<br>• BC: PHAC-IPF funded the Vancouver Infectious Diseases Centre (VIDC) to create COVID-19 vaccine education and promotion materials to facilitate vaccine uptake for homeless and transient populations in Vancouver Downtown Eastside and New Westminster (45).<br>• Pan-Canadian: The Canadian Muslim COVID-19 Task Force (CMCTF) and the Centre for Addiction and Mental Health developed a CARD (Comfort, Ask, Relax, Distract) factsheet for Canadian Muslims to relieve stress and anxiety related to getting COVID-19 vaccines. The CARD factsheets on Immunize Canada's website are designed as printable, scannable (QR codes), and shareable for clinics and vaccination sites (46). |

Abbreviations: AB (Alberta); AHS (Alberta Health Services); BAC (Black, African, and Caribbean); BC (British Columbia); CENC (Calgary East Zone Newcomers Collaborative); CBO (Community-based organization); CHC (Community Health Centre); IRCC (Immigration Refugees and Citizenship Canada); IVF (Industry for Vaccination); LAMP (Lakeshore Area Multi-Services Project); MB (Manitoba); ON (Ontario); PHU (public health unit); QC (Quebec); RHA (Regional Health Authorities); SK (Saskatchewan)

## Capacity building

Three different types of PHA/PHU-CBO-led capacity-building activities were delivered to healthcare providers and non-healthcare providers (e.g., CBO staff/volunteers, community leaders) including: 1) organizational training; 2) toolkit creation; and 3) joint training initiatives (examples summarized in **Table 5**). Notably, capacity-building activities were mostly geared towards personnel that serve or come directly from marginalized groups (i.e., racialized or newcomer communities) with the goal of understanding vaccine attitudes, reducing barriers, addressing vaccine hesitancy, and increasing COVID-19 vaccine uptake among these groups. Capacity building consisted of training to enhance skillsets and knowledge among personnel who would deliver services (i.e., assist with vaccine appointments, interpretation and translation support, resource-sharing with clients). There were several examples of training activities among volunteers noted in Toronto. For instance, Vaccine Engagement Teams (VETs; see **Box 1**) were trained through a mini training portal and curriculum (47), and staff working at accessibility clinics were provided accessibility training materials (48,49). There were several training initiatives geared towards healthcare providers to reach vaccine hesitant groups. For instance, a national vaccine initiative funded by PHAC-IPF and in partnership with Syrian Canadian Foundation addressed tackling vaccine hesitancy among Arabic speakers, including initiatives such as: developing healthcare provider capacity, promoting community-based COVID-19 education, and building capacity for evidence-based vaccination

communication (32). Resource and knowledge sharing to support vaccination strategies (i.e., vaccine clinics) and increase vaccine uptake were also observed.

Toolkits were adapted and created to help organizations make information available about COVID-19 vaccines to their communities. Chatham-Kent Public Health adapted Region of Waterloo's toolkit to create a COVID-19 Vaccine Communications Toolkit for its own community partners. The toolkit included resources such as fact sheets, posters, key messages, infographics, social media posts tips (in English and French), resources in multiple languages including Spanish, Tagalong, Thai, Vietnamese, Low German, and other languages, and additional resources for temporary agricultural foreign farm workers (50).

Joint training initiatives between several partners (i.e., healthcare providers and non-healthcare providers) were noted. These initiatives often encompassed a combination of several training types such as capacity building, resource and knowledge sharing, and roundtable/stakeholder discussions. In these cases, training materials and opportunities were usually co-designed, co-developed, and co-led (see **Table 5**).

Educational approaches were more so geared to general community members while capacity building initiatives targeted healthcare and non-healthcare providers who were often involved in delivering education and vaccines. The above strategies were central to ensure that various communities were equipped with tailored, accurate information about COVID-19 vaccines to reduce barriers (i.e., language) and improve confidence and uptake of vaccines.

**TABLE 5**. Summary of capacity-building activities and select examples

| Types of activities | Select examples |
|---|---|
| Organizational training | • ON: The OPHA has been delivering customized virtual COVID-19 vaccination courses (i.e., safety, benefits, risks) since September 2021 to provide support to CBOs and for-profit organizations with the implementation of their vaccination policies (51). |
| Toolkit creation | • ON: Chatham-Kent Public Health in southwest Ontario adapted Region of Waterloo's toolkit to create a COVID-19 Vaccine Communications Toolkit for its own community partners. The toolkit included resources such as fact sheets, posters, key messages, infographics, social media posts tips offered in English and French, and resources in multiple languages including Spanish, Tagalong, Thai, Vietnamese, Low German, and other languages. Additional resources include: FAQs about COVID-19 Vaccines; Temporary Foreign Agricultural Workers: COVID-19 Vaccine Information; and COVID-19 Vaccine Resources for Youth (50).<br>• ON: The Health Emergency Operations Centre (HEOC), convened by York Regional Public Health advocated for resources that may improve reach to vulnerable populations (e.g., language translation, print or radio messaging), and working with community leaders to improve this messaging; developed a guidance tool to support HEOC communications partners to incorporate an equity lens in communication materials to ensure accessibility in communication products to meet the needs of diverse populations (52). |
| Joint training initiatives | • ON: Black Creek and Rexdale CHC clinical staff trained community ambassadors from racialized backgrounds, organized vaccine webinars and education sessions for health care providers under a PHAC funded initiative called The Northwest Toronto Vaccine Initiative (53). To increase confidence, acceptance, and uptake of COVID-19 vaccines among vaccine-hesitant and vulnerable populations in Kingston Frontenac Lennox and Addington (KFLA), the ongoing initiative launched in July 2021 aimed to develop digital tools for healthcare providers (e.g. an online module and webinars) and public education resources (e.g. infographics, videos, and social media content) (54). |

- AB: To address COVID-19 outbreaks at the Cargill meat factory in Calgary, Alberta Health, University of Calgary, and Refugee Health YYC released a policy brief on key hot zones in Calgary and planned stakeholder roundtables and vaccine clinics at the factories (55).

Abbreviations: AB (Alberta); CPCSSN (Canadian Primary Care Sentinel Surveillance Network); EON (Eastern Ontario Network); HEOC (Health Emergency Operations Centre); KFLA (Kingston Frontenac Lennox and Addington); ON (Ontario); OPHA (Ontario Public Health Association); PHAC-IPF (Public Health Agency of Canada – Immunization Partnership Fund); QHS (Queens Health Sciences); SCF (Syrian Canadian Foundation).

## Consult and Involve

"Consult" encompasses strategies "to obtain public feedback on analysis, alternatives and/or decisions" and "involve" captures strategies "to work directly with the public throughout the process to ensure that public concerns and aspirations are consistently understood and considered" (8). Elements of both these strategies were evident. PHAs/PHUs collaborated with community-based partners, government sectors, and other sectors to facilitate the planning and execution of vaccination initiatives at the provincial and regional level through: 1) identification and engagement strategies with equity-deserving communities that enhance PHA/PHUs' understanding of, and effective engagement with at-risk communities to promote vaccination; 2) outreach (i.e., vaccine clinics) that aim to reach populations not being served by general outreach methods; and 3) strategies at vaccine clinics to improve vaccine confidence/uptake among these groups.

### Identifying and engaging with equity-deserving communities

In Canada, it is not a requirement to collect disaggregated healthcare indicators such as race, income, and other sociodemographic characteristics apart from sex and age, all of which reveal inequalities across groups and provide insight to health policymakers. In light of this severe limitation on data availability, the Canadian Institute for Health Information (CIHI) called for the collection of a pan-Canadian race-based and Indigenous-identity data, the latter of which are collected by the Indigenous Services Canada and not easily linkable with provincial immunization databases (56).

To date, to estimate racialized population needs, PHA/PHUs rely on linking health insurance database, emergency response database, geographic boundaries based on population size and postal codes, and other proxy measures like the Canadian census, and indices of deprivation, and local public health knowledge (57,58). As shown above, the methodological complexity is a barrier for entry for knowledge users like PHA/PHUs to determine high-risk populations using the above databases. Without a mandate to report and collect race-based data, and the lack of available race-based data, community engagement thus became one of the most important means to identify and engage with equity-deserving groups.

Partnerships and collaborations with CBOs in high-priority populations ensured that vaccine strategies and clinic location and staffing were culturally appropriate and inclusive. Key elements required to make vaccine plans and strategies successful are: 1) establishment of advisory groups, planning tables, task forces, and working groups; 2) direct consultations with community partners on vaccination strategies; and 3) research initiatives to strengthen data-driven decision-making.

Advisory groups, planning tables, task forces and working groups were established by many PHA/PHUs and CBOs. These groups often served to facilitate community engagement and outreach, consultations

with representatives of communities served, identify priorities and outreach strategies, provide feedback on strategies, develop vaccination programs/playbooks/strategies, policies, practices, guidelines, educational/communication material, and receive status updates. These established groups usually comprised of individuals from different fields (i.e., science, healthcare), organizations and representatives that reflect and/or serve racialized, newcomer communities, faith-based groups, youth in at-risk neighbourhoods, and other high-risk groups (see **Table 6**).

PHA/PHUs and Ministries of Health held consultations with community partners and members that served to provide continuous feedback for identifying strategies to increase vaccine confidence and accessibility and informing evaluation of frameworks (59). For example, upon observing low vaccine uptake in a neighbourhood, the Nova Scotia Health Authority met with influential community leaders to identify locations where young adults aged 25 to 30 would frequent. As a result, the health authority was able to target efforts in specific locations for their mobile vaccination clinics and outreach teams (60). Roundtable and stakeholder engagement with key communities also facilitated community partners' confidence in vaccines and their ability to encourage vaccines to members that trust their authority. For instance, Alberta Health Services (AHS) in collaboration with Edmonton COVID Rapid Response Collaborative (ECRRC) held a roundtable discussion with six faith leaders representing Catholic and Anglican churches, and Indigenous and immigrant communities where a doctor from AHS explained the vaccine process and answered questions to help boost confidence in leaders so they could relate the message back to their congregations through preaching and sermons (61).

Finally, research initiatives were established to understand various vulnerable and marginalized groups' vaccination rates, vaccine breakthrough infections, vaccine effectiveness, vaccine attitudes and acceptance. Research was typically used to inform initiatives to address information needs, develop culturally sensitive messaging and multi-lingual educational/promotional materials, as well as inform pandemic response tables and task forces to strategize prevention efforts (e.g., opening pop-up clinics in hot spots) (62–65).

**TABLE 6.** Summary of strategies to identify and engage with equity-deserving communities and select examples

| Strategies | Examples |
|---|---|
| Establishing taskforces and advisory/working groups | • Federal: Muslim Medical Association of Canada assembled a task force in March 2020 in partnership with public health departments in BC, Alberta, Manitoba, and Quebec, the Canadian Council of Imams, and grassroots community members and organizations to ties with marginalized ethnic and religious Muslim communities to provide timely, culturally sensitive information to Canadian Muslims via an intersectional approach (34).<br>• AB: AHS established the COVID Meat Processing Plant Task Force to address outbreaks at meat processing plants. The task force organized vaccination clinics at local area meat plants and heavily impacted geographical areas in northeast Calgary (55).<br>• The Porcupine Health Unit established the COVID-19 Vaccine Youth Working Group in partnership with variety of community partners, organizations, and experts in the fields of child-development, child behaviour, and child mental health. The youth working group led various efforts such as Family-Friendly Neighborhood Clinics and sensory-friendly vaccination clinics to increase vaccination rates in children through age-appropriate behavioural psychology-grounded approaches (66). |

| | |
|---|---|
| Direct consultation with community | • BC: A "whole-community approach" by Island Health was implemented to deliver community vaccine clinics in rural and remote locations only accessible by boat, in collaboration with local community partners (67). An "in-reach" team consisting of the South Asian Health Initiative (SAHI) at the invitation of the Fraser Health COVID-19 Vaccine Outreach Team resulted in 967 South Asian community members receiving their first dose (68).<br>• MB: Manitoba's RHAs collaborated with Mennonite communities such as the MBCM, MCC, EMC, EMMC and Providence University College and Theological Seminary, to increase vaccination rates in the Mennonite population (36).<br>• NS: To strategize mobile clinic locations, Nova Scotia HA (NSHA) identified and consulted community leaders in neighbourhoods where adults 25- to 30-year-olds have low vaccine uptake. The community leaders would point out where these adults hang out for NSHA who would deploy staff a day ahead to advertise appointment-free vaccine mobile clinics (60).<br>• AB: AHS in collaboration with Edmonton COVID Rapid Response Collaborative (ECRRC) held a roundtable discussion for six faith leaders representing Catholic and Anglican churches, and Indigenous and immigrant communities where a doctor from AHS explained the vaccine process and answered questions to help boost confidence in leaders so they could relate the message back to their congregations through preaching and sermons (61). |
| Research Initiatives for evidence-based vaccine strategy development | • ON: The Ontario Ministry of Health launched the Ontario Health Data Platform (OHDP) in July 2020 to support secure linkage of large health datasets for COVID-19 research. With ICES, Indoc Research, Ontario Health, Queen's University as key partners, the ministry financially supported the expansion of ICES's Applied Health Research Question (AHRQ) Program for rapid COVID-19-related requests. The AHRQ provides the Ministry of Health COVID-19 Command Table with frequent COVID-19 analytics and *ad hoc* on COVID-19 test positivity and early indications of testing inequities and infection in marginalized neighbourhoods generated from various provincial health systems database (62). The information informed the launch of a "High Priority Communities Strategy," which provided funding to local lead agencies (usually CHCs) to work in partnership with PHUs, CBOs, municipalities, and Ontario Health to reach the hardest-hit neighbourhoods (63)..<br>• BC: The COVID-19 Community Response Study conducted interviews (Cantonese, Mandarin, and Punjabi) by a research team at BC Children's Hospital Institute in partnership with BC Fraser Health, CanCOVID, and S.U.C.C.E.S.S; captured sentiment and thoughts of community members, front-line social services professionals, and healthcare providers regarding COVID-19 vaccines, which led to recommendations for communication of intervention practices (65). |

Abbreviations: APHRQ (Applied Health Research Question); ECRRC (Edmonton COVID Rapid Response Collaborative); EMC (Evangelical Mennonite Conference); EMMC (Evangelical Mennonite Mission Conference); MBCM (Mennonite Brethren Church of Manitoba), MCC (Mennonite Central Committee Canada); S.U.C.C.E.S.S (United Chinese Community Enrichment Services Society).

## Outreach

Outreach strategies, such as establishing vaccine clinics in specific locations, aimed at populations who are not otherwise captured by general outreach methods, were often informed by community engagement/consultation. PHA/PHU-CBO partnered initiatives to deliver vaccines included mass vaccine clinics, fixed vaccine sites, and non-fixed/pop-up clinics (**Table 7**). Mass vaccine clinics were located at public venues including schools, arenas, community halls, recreation facilities, etc. that typically required appointments and target the general population. Fixed vaccine sites were usually located at CHCs, where the locations already have trusted staff and healthcare workers that service diverse groups of marginalized communities and populations. Non-fixed/pop-up clinics were deployed in a wide range of community settings to cater to community members' specialized needs, such as tailored pop-up clinics in

under-serviced areas, at community centres, and workplaces, and mobile vaccination vans/buses and teams to serve rural and transient populations.

The implementation of vaccine clinics was commonly reported. Evidently, the attendance of vaccine clinics was shown to be successful when the organization of vaccine clinics was paired with community ambassadors (see Collaborate and Empower section) who acted as trusted sources (69–71). This was especially true for vaccine clinics that were held in collaboration with ethno-racialized communities and faith-based groups, which applied culturally relevant practices and ensured that personnel delivering the vaccines looked like the people they were vaccinating (21,72–75). Some clinics provided additional support to individuals by assisting with appointment bookings, transportation, interpretation, and translation, answering questions, connecting clients to additional services, and sharing information about the vaccine and clinic. Clinics that mitigated access barriers were found to be effective, especially for communities that have been historically structurally marginalized. A combination of these outreach methods was used across many community-centred interventions/initiatives and clinic models.

The type of vaccine clinic was determined based on a variety of factors including geographic need, disproportionate prevalence of COVID-19 infections, low vaccine uptake, and so on (76–78). Priority locations or populations were usually identified through research or community consultation/engagement via previously established relationships or the establishment of advisory/working groups (55,62,76,79–82). Community insight proved to be a helpful strategy in determining equity-focussed approaches (e.g., mobile clinic locations) that would not otherwise be revealed through data-driven strategies (60).

**TABLE 7.** Summary of delivery model types and examples of vaccine clinics leveraging public health-community partnerships

| Type of Clinic | Select examples |
|---|---|
| **Mass Vaccination clinics** | • ON: Leeds, Grenville and Lanark District Heath Unit held four fixed vaccination clinics that was informed by an advisory table comprised of community partners and social service partners (83).<br>• BC: Island Health mass vaccination clinic as a part of the Booster Campaign in collaboration with the Canadian Red Cross and community agencies vaccinated almost 400,000 people (67). |
| **Fixed site (CHC and community clinics)** | • ON: Sherbourne Health CHC worked with partners including community physicians, CBOs, and TPH to hold several vaccination clinics and other COVID-19 related services in hard-hit neighbourhoods. Other outreach initiatives were also utilized to promote access (84). Other CHCs across Toronto (Black Creek CHC, TAIBU CHC, and the Parkdale Queen West CHC) hosted vaccine clinics for marginalized communities providing cultural safe spaces, flexible hours, community ambassadors, and other outreach efforts to improve access and equity (85). |
| **Non-fixed/pop up clinics** | ***Faith-based/religious sites:***<br>• NS: Nova Scotia Health Authority supported a vaccine clinic hosted at a church in Hammonds Plains in collaboration with the Health Association of African Canadians, the Association of Black Social Workers, African Nova Scotian Affairs, and another religious institution in Cherry Brook, vaccinating 257 and 406 people, respectively (72).<br>• ON: Peel Public Health partnered with the Brampton Islamic Center and Muslim Association of Canada (MAC) for a vaccine clinic at the Islamic Community Centre of Ontario as a part of ongoing collaboration with community tables (e.g., Peel Public Health's Community Equity and Engagement Advisory Table) (86).<br>***Mobile clinics/teams:***<br>• AB: AHS Edmonton and Edmonton COVID Rapid Response Collaborative (ECRRC) supported 15 vaccine clinics (41). |

• BC: Vancouver Island RHA, in collaboration with community leaders and volunteers, provided vaccination opportunities on Lasqueti Island by making the journey seven times to the remote island by water taxi (87);.

• MB: Pop-up clinics implemented at a gas station to target truckers and travellers. Mobile clinics were held in partnership with Mex Y Can Association of Manitoba Inc. to serve Mexican communities (88).

• ON: Targeted pop-up clinics for temporary foreign workers were established in Windsor-Essex and Niagara by health units and community partners. The Windsor-Essex County Health Unit also held clinics for newly arriving workers during off hours to address access and hesitancy issues) (15). Over 2,800 farm workers were immunized at the Seymour-Hannah Arena in Niagara (89).

Abbreviations: AB (Alberta); AHS (Alberta Health Services); BC (British Columbia); CBO (Community-based organization); CHC (Community Health Centre); MB (Manitoba); ON (Ontario); RHA (Regional Health Authority); TPH (Toronto Public Health)

## Strategies at vaccine clinics to increase uptake

To encourage vaccination and turnout to local vaccine clinics, community clinics were established using existing locations and infrastructure in communities. Community clinics in Peel Region (Ontario) were held in trusted locations, such as schools and places of worship, co-designed with community partners (90). Similarly, in British Columbia neighbourhood drop-in clinics were held in various locations such as at Bear Creek Park and Surrey Sport and Leisure for four days in May 2021, administering 4,000 vaccine doses (91). Vaccination clinics were also set up in schools, particularly in neighbourhoods with low vaccination rates (92). In some cases, these school-based clinics targeted both children and their families. For instance, TPH organized the “Vax the East: Scarborough” event. More than 30 schools across Scarborough with lower vaccination rates were included in this initiative. Vaccine Engagement Teams (VETs) shared information about the clinics to residents in multiple languages including, “Arabic, Bengali, Farsi, French, Gujarati, Hindi, Polish, Punjabi, Simplified and traditional Chinese, Swahili, Tagalog, Tamil, Ukrainian, and Urdu” (93). To accommodate essential workers with long work hours, WECHU set up targeted clinics during workers’ off hours, and continued engagement with community partners to ensure that every worker who was willing to get the vaccine received one (15).

In addition to setting up vaccine clinics in locations that are familiar and well-known to locals and the provision of multi-lingual information on-site, PHA/PHUs strategically engaged with CBOs who possess local knowledge, connection, and influence in the following groups: ethno-racialized communities, religious communities, rural and remote communities, persons living with disability, homebound individuals, essential workers working long hours, and clinics for children with special needs.

Findings show that including ethno-racialized community members to implement vaccine uptake initiatives yield positive results. Peel Public Health and the Ontario Ministry of Health included nearly 130 non-clinical staff and volunteers on-site with collaborating organizations such as the Indus Community Services, Latin-American Covid Task Force, Punjabi Community Health Services, and Sheridan College (74,75). Over the duration of the clinic, 9,400 vaccinations were administered, moreover, the targeted postal code of this clinic had the highest percentage vaccine uptake in the Peel Region; nearly 100% of eligible 18- to 29-year-olds in the area received their first dose over the course of the 17-day clinic (82).

Collaborations were also established with faith-based CBOs. For instance, in British Columbia, the Fraser Health Authority had community partnerships with gurdwaras and mosques that provided new vaccination opportunities to Surrey residents. The first 1,000 residents to arrive at clinics held at the religious sites received same-day appointments. Staff assisted with registration and booking appointments

at other clinics (94). Due to the success of clinics held in partnership with various faith-based CBOs, health units, such as the Nova Scotia Health Authority and Ottawa Public Health, made plans to host clinics or continue working with these faith-based CBOs to improve vaccine uptake (21,72).

Across provinces like Ontario, Alberta, and British Columbia, mobile clinics were made available for people living in long-term care and retirement homes (95), rural/remote communities (16,78,87), hotspots and communities experiencing barriers to access vaccines (77,96), or vulnerable, low-income, and immigrant communities who may be vaccine hesitant (41). Some PHUs offered mobile vaccination teams to visit CBOs, workplaces, places of worship, and others requesting a mobile clinic (97,98).

Mobile clinics and other pop-up clinics particularly assisted with accommodating people with mobility challenges, those who are homebound, and others who could not physically attend other vaccination clinics, as seen in examples from British Columbia (Island Health), Ontario (Porcupine Health Unit and the Hastings Prince Edward PHU, Peel Public Health), and Nova Scotia. This included administering vaccines to individuals in their cars (e.g., "Van RV" [Leeds, Grenville and Lanark District Health Unit, 2022]) and establishing home-bound programs for in-home vaccinations (76,100–103). The homebound program operated by Island Health Authority (British Columbia) resulted in 2,800 in-home vaccinations administered by community health nurses (101).

Specialized clinics were established for people with disabilities. In Toronto, 11 "super supportive and accessible" clinics were implemented in partnership with TPH, Toronto's Accessibility Task Force on COVID-19 Vaccines, the Accessibility Collaborative, community VETs, and ambassadors as of January 2022. Clinic locations were physically accessible, had resources on-site to support individuals with a fear of needles, a quiet space to receive the vaccine, an American Sign Language (ASL) interpreter and a companion to get vaccinated (48,49) (see **Box 1**). There are also clinics geared to children and youth with special needs which offer private spaces for immunization in a sensory-friendly environment with reduced noise and lighting, and toys as well as caring therapists and volunteers for support. A local PHU's special accommodation clinic established for children with general anxiety, severe needle anxiety and special needs, including their parents, caregivers and other household members, administered 550 vaccine doses (first, second and booster) in 14 months (104).

Identification and engagement strategies with community partners helped facilitate the implementation of many vaccine uptake initiatives. The engagement of community members helped to inform the targeted locations to run vaccine clinics, and useful strategies to reduce access barriers and improve vaccine confidence among diverse ethno-racialized communities. The strategies incorporated to increase vaccine uptake among specific communities were determined based on the needs of these targeted communities. Though evaluative reports were lacking, consultation and involvement of community yielded promising results.

**BOX 1.** Vaccine Engagement Teams

The Vaccine Engagement Teams (VETs) founded in April 2021, were comprised of 155 community agencies, over 600 neighbourhood ambassadors, social service agencies, and faith-based organizations. Established in all 10 of Toronto's geographical clusters, Toronto Public Health (TPH) used a data-driven approach to overlay contributors to inequality (e.g., race, income, food security, housing, and disability) to identify areas that require a hyper-local COVID-19 vaccine rollout (105).

The City of Toronto then called for trusted community services and non-profit organizations to apply for the city's COVID-19 VET Grant to carry out vaccine uptake and confidence initiatives across Toronto (105). VETs became integral to the city's Immunization Community Engagement & Mobilization Plan (69). Under the VET, Toronto trained over 720 community ambassadors who are members of the community to act as trusted sources of information. The ambassadors dispelled vaccine myths, relayed and promoted public health messaging in their communities in their mother-tongue, and engaged in a range of "motivating" strategies, including: hosting multilingual vaccination information sessions, townhalls and webinars, promoting local vaccine clinics, sharing social media messaging in community platforms and venues, assisting and registering seniors for home vaccinations, and accompanying residents age 50 and older to their vaccine appointments (69,106).

The collaboration of Team Toronto, TPH, and the VET reduced vaccine barriers such as language and culture, precarious employment, child care responsibilities, and stigma (107). The city's external and internal program evaluation in July of 2022 show the importance of VETs and community ambassadors in increasing vaccine confidence and uptake in faith-and-culturally minoritized populations (69).

## Collaborate and Empower

According to the IAP2's *Spectrum of Public Participation,* the goal of "collaborate" is "to partner with the public in each aspect of the decision including the development of alternatives and the identification of the preferred solution" and "empower" is "to place the final decision making in the hands of the public" (8). Community ambassadors and mobilizers demonstrate the importance of directly engaging and recruiting members from the community who can then feel empowered to conduct direct outreach efforts that help to improve vaccine confidence among diverse marginalized groups.

### Community ambassadors and mobilizers

Notably, the use of ambassadors pre-date the pandemic. For instance, Nunavut has had Community Health Representatives integrated into the health system for decades. These representatives were also very active during the pandemic, including being on radio to support COVID-19 vaccine uptake (108). Community ambassadors were a critical component in building vaccine confidence and trust among community members during the pandemic in multiple jurisdictions. Ambassadors, initiated in partnership between PHAs and community partners, were seen in Ontario (Toronto, Ottawa, Peel Region, Hamilton), British Columbia, Quebec, and Nova Scotia (60,69,109,110).

Ambassadors are often members of the community and act as trusted sources of information, providing access to vaccine resources, building vaccine confidence, combatting vaccine hesitancy, and endorsing public health messaging (69). Community ambassadors have been instrumental to the delivery of the Community Vaccine Promotion (CVP) Initiative funded by PHAC, with Ontario, British Columbia, Manitoba and Nova Scotia having their own initiative (111). The Alliance for Healthier Communities (or the Alliance)

which governs CHCs that serve the Greater Toronto Area's (GTA) 3.5 million underserved, vulnerable, and minoritized populations, implemented the CVP-ON initiative in Ontario, from April 2021 to September 2022 (111). The Alliance has recruited, trained, and paid community members to conduct outreach initiatives such as door-to-door visits and social media information sharing/forwarding, provision of transportation to vaccination clinics, social service support (shelter, medical referrals, food banks), and engagement with locals to facilitate opportunistic vaccination during local community events (70). These initiatives were geared towards hard-to-reach populations, residents in rural areas, religious followers/faith-based groups, ethnic and cultural minorities, and others who face barriers accessing healthcare (70). As of April 2021, 1,393 individuals booked vaccine appointments or were vaccinated. As of April 2022, the Alliance had hosted 105 online/in-person public events, connected with 19,734 individuals and families through phone, text and door-to-door visits, and reached 241,890 people through social media and local advertising (111).

PHAC via a Vaccine Community Innovation Challenge (VCIC) fund, also provided funding for the Carrefour de ressources en Interculturel (CRIC)'s *Ambassadrices 2.0* initiative in Quebec to train women in low-vaccination immigrant communities to become ambassadors to engage other women in the community to receive vaccination (11).

Ottawa Public Health and the Ottawa Local Immigration Partnership (OLIP) worked with a dozen trusted leaders and community leaders in the "COVID-19 community engagement team" to converse with community members via a series of dialogues. A prominent faith leader shared the city's vaccination messages in a church WhatsApp group to create organic community dialogues that led to an increase in vaccine confidence (21).

Similar approaches were carried out in Peel Region (Ontario), Toronto (Ontario), and the City of Hamilton (Ontario). Task forces such as the Latin-American Covid Task Force and the South Asian COVID Task Force translated Peel Public Health's vaccine information to the local Latino and South Asian diaspora, their social media and mass media national vaccination campaigns were highly visible and relevant during the pandemic (42).

In Ontario, the Health Commons Solutions Lab, a publicly funded not-for-profit innovation lab, supported ambassadors to go into their communities and gain input on major access challenges and questions about COVID-19, testing, and vaccines. The Lab has developed a repository of tools and training material to empower ambassadors throughout the province to act, which has led to an active, engaged network that supports community partners and the health system to address a range of challenges related to the delivering off healthcare to racialized, low income, and marginalized communities (112).

In Nova Scotia, where Black Canadians of Caribbean and African origins have a strong presence and voice, the Health Association of African Canadians partnered with the Association of Black Social Workers to engage concerned Black citizens early on. At vaccination events, community volunteers served as greeters, welcoming people to the clinics, playing an important role in making people feel comfortable as they prepared to get the vaccines (85).

Overall, community ambassadors (paid) and volunteers (on stipend or non-paid) have been critical in the public health response as ambassadors are culturally sensitive and align with community needs and values. A plethora of informal presentations and reports share community ambassador's positive influence in vaccine confidence for their ability to acknowledge historical and institutional racism in the

health system, amplify multisectoral community leadership, and apply an individualized ethno-racial centric approach to vaccine education and health communication. However, like vaccine awareness outcome reporting, due to the lack of disaggregated data reporting, the impact of community ambassadors is anecdotally reported by CBOs in news media and websites, or proxy-measured by the volume of engagement (i.e., in-person, virtually), or doses administered at initiative-participating vaccine clinics.

# Conclusions

Our review identified a wide range of PHA/PHU-CBO partnered initiatives to improve confidence, access, and uptake of COVID-19 vaccines across Canada. The initiatives focused on a variety of equity-deserving groups including: 1) ethno-racial minorities (e.g., South Asian, Latino, Black, Chinese); 2) people of different faiths (e.g., Muslim, Christian, Catholic, Hinduism, Sikhism); 3) newcomers, immigrants, and refugees or temporary foreign workers; and 4) vulnerable populations (e.g., persons living with disability, homebound individuals or in long-term care residences, persons experiencing homelessness, and persons suffering substance abuse and addiction).

To "*Inform*" various equity-deserving groups, a proactive multi-pronged approach was used to increase vaccine awareness and education both virtually on social media platforms, WhatsApp, hot lines, and in-person at vaccine sites in multiple languages. Further vaccine confidence was addressed through the provision of equity-oriented training for healthcare and healthcare-affiliate personnel, who serve marginalized communities.

To *"Consult and Involve"* vulnerable and race/faith-based communities who experience systemic racism and oppression, PHA/PHUs across Canada identified and engaged with high-risk groups. PHA/PHUs established vaccine task forces, working groups, advisory groups, and race/faith-based planning tables, often at the urge of community partners who represent equity-deserving groups in hotspots (e.g., South Asian Task Force, Black Scientists Task Force, Canadian Muslim COVID-19 Task Force). These race/faith-based planning tables played a key role in facilitating community engagement and informing certain populations, types, and locations of vaccine clinics as well as vaccine strategies in COVID-19 hotspots.

To "*Collaborate and Empower"* communities, community ambassadors and mobilizers implemented on-the-ground engagement, parallel to PHA/PHU communications, on vaccine availability and vaccine safety and efficacy that were comprehensible to equity-deserving groups. PHAs/PHUs, CBOs, and other partners at the FTP and regional level (e.g., healthcare, primary care services, and professional associations) worked together to develop and disseminate timely and up-to-date vaccine information.

Collectively, these strategies allowed a more streamlined collaborative process with CBOs, other government sectors, emergency and paramedic services, primary healthcare, and community health clinics. Initiatives that evaluated the number of vaccines administered reported that tailored strategies were effective in increasing vaccine uptake among the BAC communities, the South Asian diaspora, and vulnerable populations.

While promising PHA/PHU-CBOs partnerships were revealed, sporadic and incomplete disaggregated data reporting result in an absence of evaluations of their effectiveness. Gaps remain around the effectiveness, and costs of these initiatives, and there are few comparisons of approaches to engage with equity-deserving communities that would help to develop "best practices" for strengthening and sustaining community engagement post-pandemic. Finally, PH-CBO partnerships will benefit from standardized disaggregated data collection and reporting to overcome challenges when measuring pre-post intervention outcomes by race, socioeconomic status, and other important health equity indicators (39,113,114).

# References


1. Health Canada. Government of Canada. 2022 [cited 2022 Sep 23]. Archived 17: Recommendations on the use of COVID-19 vaccines [2021-07-22]. Available from: https://www.canada.ca/en/public-health/services/immunization/national-advisory-committee-on-immunization-naci/recommendations-use-covid-19-vaccines/september-28-2021.html
2. Government of Ontario. Government of Ontario. 2022 [cited 2022 Sep 23]. Archived - Ethical framework for COVID-19 vaccine distribution. Available from: http://www.ontario.ca/page/ethical-framework-covid-19-vaccine-distribution
3. Canadian Muslim COVID-19 Task Force. CMCTF | Canadian Muslim COVID-19 Task Force. 2022 [cited 2022 Sep 23]. How we are helping Canadians. Available from: https://www.cmcovidtf.com/how-we-help
4. Region of Peel. Overview Peel's Community Mass Vaccination Plan (MVP) [Internet]. 2021. Available from: https://www.peelregion.ca/coronavirus/vaccine/_media/community-mass-vaccination-plan-framework.pdf
5. Toronto Jewish Community COVID-19 Task Force. A resource for health & medical information regarding COVID-19 (novel coronavirus) [Internet]. KolHaCovid. 2021 [cited 2022 Sep 23]. Available from: https://kolhacovid.com/
6. O'Mara-Eves A, Brunton G, Oliver S, Kavanagh J, Jamal F, Thomas J. The effectiveness of community engagement in public health interventions for disadvantaged groups: a meta-analysis. BMC Public Health. 2015 Feb 12;15:129.
7. Yuan M, Lin H, Wu H, Yu M, Tu J, Lü Y. Community engagement in public health: a bibliometric mapping of global research. Arch Public Health [Internet]. 2021 Jan 12 [cited 2023 Apr 16];79(1):6. Available from: https://doi.org/10.1186/s13690-021-00525-3
8. IAP2 International Federation. IAP2 Spectrum of Public Participation [Internet]. IAP2 International Federation; 2018 [cited 2023 Apr 17]. Available from: https://cdn.ymaws.com/www.iap2.org/resource/resmgr/pillars/Spectrum_8.5x11_Print.pdf
9. South J. A guide to community-centred approaches for health and wellbeing [Internet]. London, England: Public Health England; 2015 Feb [cited 2023 Apr 17] p. 43. Available from: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/768979/A_guide_to_community-centred_approaches_for_health_and_wellbeing__full_report_.pdf
10. de Vries D, Kinsman J, Rios M, Takács J, Ciott M, Tsolova S. Community engagement for public health events caused by communicable disease threats in the EU/EEA. [Internet]. Stockholm: European Centre for Disease Prevention and Control (ECDC); 2020 Feb [cited 2023 Apr 17] p. 30. Available from: https://data.europa.eu/doi/10.2900/427139
11. Public Health Agency of Canada. Vaccine Community Innovation Challenge: Overview and funding recipients [Internet]. 2021 [cited 2022 Apr 14]. Available from: https://www.canada.ca/en/public-health/services/funding-opportunities/grant-contribution-funding-opportunities/vaccine-community-innovation-challenge.html

12. Truth and Reconciliation Commission of Canada. Truth and Reconciliation Commission of Canada: Calls to Action [Internet]. Winnipeg, Man., Canada; 2015 [cited 2023 Apr 17]. Available from: https://www2.gov.bc.ca/assets/gov/british-columbians-our-governments/indigenous-people/aboriginal-peoples-documents/calls_to_action_english2.pdf

13. AIMGA. COVID-19 / HealthHub for Newcomers [Internet]. 2021 [cited 2022 Sep 2]. Available from: https://aimga.ca/healthhub/

14. Dr. Peter AIDS Foundation. Dr. Peter Centre. 2021. COVID-19 Vaccine Community of Practice. Available from: http://www.drpeter.org/community-of-practice-programs/covid-19-rapid-access-grants

15. Windsor-Essex County Health Unit. Windsor-Essex County Health Unit. 2021. June 2021 Board of Health Meeting - Temporary Foreign Workers COVID-19 Vaccination Strategy Information Report. Available from: https://www.wechu.org/board-health-meeting-agendas-and-minutes/june-2021-board-health-meeting-temporary-foreign-workers

16. 19 to Zero. 19 to Zero. 2021. Mobile Vaccine Clinic Map. Available from: https://www.19tozero.ca/mobile-vaccine-clinic-map

17. This Is Our Shot. This Is Our Shot Canada [Internet]. 2021. Available from: https://thisisourshot.ca/

18. Allen S. COVID-19 Vaccine Intentions Among Black Communities in British Columbia [Internet]. BC Immunization Forum 2022; 2022 Mar 22. Available from: http://www.bccdc.ca/resource-gallery/Documents/Guidelines%20and%20Forms/Guidelines%20and%20Manuals/Immunization/Vaccine%20Safety/Allen%20final.pdf

19. Herring J. How Calgary's upper northeast achieved Canada's best COVID-19 vaccine rates. Calgary Herald. 2021 Nov 27;https://calgaryherald.com/news/local-news/how-calgarys-upper-northeast-achieved-canadas-best-covid-19-vaccine-rates.

20. Warick J. Sask. efforts to promote COVID-19 vaccination for newcomers paying dividends. CBC News [Internet]. 2021 May 13; Available from: https://www.cbc.ca/news/canada/saskatoon/newcomers-covid-19-vaccination-1.6024562

21. City of Ottawa. Pop-up clinic in a church? Putting faith in community immunity. [Internet]. 2021 [cited 2022 Apr 28]. Available from: https://ottawa.ca/en/news/pop-clinic-church-putting-faith-community-immunity

22. Population Health Research Institute. Population Health Research Institute (PHRI). 2021. COVID CommUNITY - South Asian - Research Studies - PHRI - Population Health Research Institute of Canada. Available from: https://www.phri.ca/research/covid-community-south-asian/

23. South Asian COVID Task Force. SA COVID Task Force. 2021. HOME | South Asian COVID Task Force. Available from: https://www.southasiancovidtf.ca

24. CBC News. Building trust key to tackling vaccine hesitation among immigrants, say event organizers. CBC [Internet]. 2021 May 3; Available from: https://www.cbc.ca/news/canada/calgary/newcomers-calgary-covid-centre-for-newcomers-akram-jomaa-1.6010080

25. Regino A. How Calgary's settlement sector helped transform Canada's No. 1 Covid hotspot into a vaccine success story. The Toronto Star [Internet]. 2022 Apr 16; Available from:

https://www.thestar.com/news/canada/2022/04/16/how-calgarys-settlement-sector-helped-transform-canadas-no-1-covid-hotspot-into-a-vaccine-success-story.html

26. City of Toronto. Black Scientists' Task Force on Vaccine Equity [Backgrounder] [Internet]. 2021. Available from: https://www.toronto.ca/news/black-scientists-task-force-on-vaccine-equity/

27. Khenti A. Toronto's Black Community TownHall Unpacked. The Black Scientists' Taskforce oon Vaccine Equity [Internet]. 2021 Jun. Available from: https://www.toronto.ca/legdocs/mmis/2021/hl/comm/communicationfile-132894.pdf

28. AIMGA. AIMGA Newsletter Edition 3 [Internet]. AIMGA; 2021 Jul. Available from: https://aimga.ca/wp-content/uploads/documents/aimga-july-2021-newsletter.pdf

29. Effiong I. Community Vaccination Promotion (CVP) National Project: amplifying community action across Canada to address COVID-19 [Internet]. Canadian Association of Community Health Centres. 2021 [cited 2022 Apr 18]. Available from: https://www.cachc.ca/community-vaccination-promotion-cvp-national-project-amplifying-community-action-across-canada-to-address-covid-19/

30. Ontario Association of Children's Aid Societies. Max the Vax [Internet]. 2021 [cited 2022 Aug 24]. Available from: https://www.oacas.org/publications-and-campaigns/maxthevax/

31. IBoost Immunity. I Boost Immunity. 2021 [cited 2022 Jun 29]. COVID-19 vs. Influenza in Kids #1. Available from: https://iboostimmunity.com/node/49459/take/1

32. Syrian Canadian Foundation. SCF Aims To Empower Newcomers And People Of Diverse Backgrounds While Promoting Cross Cultural Exchanges Within Canadian Society. [Internet]. Programs - SCF. 2020. Available from: https://syriancanadianfoundation.ca/programs/

33. Region of Waterloo. YouTube. 2022 [cited 2022 Jul 2]. Hear Stories From Our Community - YouTube. Available from: https://www.youtube.com/playlist?list=PLRVDwi_WScLmhZuCCh4-oyd07nf4-kUZo

34. UHN Foundation. UHN Foundation. 2021. Leading the fight against COVID-19 in the Canadian Muslim community. Available from: https://uhnfoundation.ca/stories/leading-the-fight-against-covid-19-in-the-canadian-muslim-community/

35. Herring J. Pop-up "vaccine rodeo" aims to combat disparities in northeast Calgary. Calgary Herald [Internet]. 2021 Jun 2; Available from: https://calgaryherald.com/news/local-news/pop-up-vaccine-rodeo-aims-to-combat-disparities-in-northeast-calgary

36. Government of Manitoba. Manitoba, Let's Get Vaccinated! Vaccine outreach and hesitency [Internet]. 2021 Jun 3 [cited 2022 May 4]. Available from: https://www.gov.mb.ca/asset_library/en/covidvaccine/vaccine-expanded-outreach-06032021.pdf

37. Carefirst. Carefirst Connection [Internet]. 2022. Available from: https://carefirstontario.ca/wp-content/uploads/2022/04/20220423-newsletter.pdf

38. CBC News. Vancouver health authority rolls out COVID-19 vaccine on Downtown Eastside. CBC [Internet]. 2021 Jan 30; Available from: https://www.cbc.ca/news/canada/british-columbia/vancouver-health-authority-rolls-out-covid-19-vaccine-on-downtown-eastside-1.5895158

39. Feith J. Montreal public health, Black community partner to boost vaccination rates. Montreal Gazette [Internet]. 2021 Sep 17; Available from: https://montrealgazette.com/news/local-news/montreal-public-health-black-community-partner-to-boost-vaccination-rates

40. Fraser Health. Receive your first dose of COVID19 vaccine at EASI and neighbourhood clinics [Internet]. 2021. Available from: https://www.fraserhealth.ca/news/2021/Jun/receive-your-first-dose-of-covid19-vaccine-at-easi-and-neighbourhood-clinics

41. Riebe N. Vaccines on the go: Mobile clinic tours Alberta with COVID-19 shots. CBC News [Internet]. 2021 Aug 3; Available from: https://www.cbc.ca/news/canada/edmonton/covid-19-alberta-health-1.6128463

42. Latin-American Covid Task Force. Latin-American Task Force. 2021. Latin-American Covid Task Force. Available from: https://www.latinoscovid.org/news

43. Saskatchewan Health Authority. Saskatchewan Health Authority COVID-19 Immunization delivery plan [Internet]. 2021. Available from: https://regroup-production.s3.amazonaws.com/documents/ReviewReference/490657155/COVID%252BVaccine%252BDelivery%252BPlan%252B-%252BOctober%252B2021%252BUpdate%20%281%29.pdf?X-Amz-Algorithm=AWS4-HMAC-SHA256&X-Amz-Credential=AKIAYSFKCAWY23RWESRS%2F20220824%2Fus-east-1%2Fs3%2Faws4_request&X-Amz-Date=20220824T220321Z&X-Amz-Expires=604800&X-Amz-SignedHeaders=host&X-Amz-Signature=f9da4fb3202ad99bfeb92e93ff245c3535e92f8c932b5f647f69150b69c0356a

44. Carter A, Noad LE. Update on Initiatives with the Black, African, and Caribbean Communities in Peel. Health System Integration Committee; 2022 May 5.

45. Public Health Agency of Canada. Government of Canada. 2021. Government of Canada funds five new projects to encourage COVID-19 vaccination in Canada. 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

46. Immunize Canada. Immunize canada. 2022. Preparing for your COVID-19 vaccine | immunizecanada. Available from: https://immunize.ca/preparing-your-covid-19-vaccine

47. NCCDH Webinar: Strengthening Community Connections [Internet]. 2022 [cited 2022 Jul 4]. Available from: https://www.youtube.com/watch?v=2jffAJA8X3w

48. City of Toronto. City of Toronto. City of Toronto; 2021 [cited 2022 Jul 11]. Toronto's Accessibility Task Force on COVID-19 Vaccines, Team Toronto and community partners host super supportive vaccine clinics November 5, 6, 7. Available from: https://www.toronto.ca/news/torontos-accessibility-task-force-on-covid-19-vaccines-team-toronto-and-community-partners-host-super-supportive-vaccine-clinics-november-5-6-7/

49. City of Toronto. City of Toronto. 2022. Team Toronto hosting super supportive and accessible COVID-19 vaccination clinic on January 31. Available from: https://www.toronto.ca/news/team-toronto-hosting-super-supportive-and-accessible-covid-19-vaccination-clinic-on-january-31/

50. Chatham-Kent Public Health. CK Public Health. 2021. COVID-19 Vaccine Communications Toolkit. Available from: https://ckphu.com/covid19toolkit/

51. Ontario Public Health Association. Ontario Public Health Association (OPHA). 2022. COVID-19 Vaccination Policy in Ontario. Available from: https://opha.on.ca/covid-19-vaccination-policy-in-ontario/

52. Lam AT, Bacani-Angus K, Richards K, Griffin R, Karachiwalla F. A Health Equity Lens Contributes to an Effective Pandemic Response: A Canadian Regional Perspective. Health Promot Pract [Internet]. 2022 Jan 29 [cited 2022 Apr 19];152483992110725. Available from: http://journals.sagepub.com/doi/10.1177/15248399211072530

53. Rexdale CHC. Rexdale. 2021. Northwest Toronto Vaccine Initiative | News. Available from: https://www.rexdalechc.com/about/news?resourceID=20&articleView=individual&articleID=52

54. Queens Health Sciences. Faculty of Health Sciences | Queen's University. 2022. Queen's Health Sciences receives funding for vaccination education project. Available from: https://healthsci.queensu.ca/stories/news-announcements/queens-health-sciences-receives-funding-vaccination-education-project

55. University of Alberta DJ. Department of Medicine Newsletter. 2021.

56. CIHI. Proposed Standards for Race-Based and Indigenous Identity Data Collection and Health Reporting in Canada. 2020;32.

57. Public Health Agency of Canada. COVID-19: A case for the collection of race data in Canada and abroad, CCDR 47(7/8) [Internet]. 2021 [cited 2022 Oct 13]. Available from: https://www.canada.ca/en/public-health/services/reports-publications/canada-communicable-disease-report-ccdr/monthly-issue/2021-47/issue-7-8-july-august-2021/covid-19-race-data-collection-canada.html

58. Thompson. COVID-19: A case for the collection of race data in Canada and abroad, CCDR 47(7/8) [Internet]. 2021 [cited 2022 Oct 12]. Available from: https://www.canada.ca/en/public-health/services/reports-publications/canada-communicable-disease-report-ccdr/monthly-issue/2021-47/issue-7-8-july-august-2021/covid-19-race-data-collection-canada.html

59. North Bay Parry Sound District Health Unit. North Bay Parry Sound District Health Unit COVID-19 Vaccination Strategy Playbook [Internet]. 2021 Apr p. 117. Available from: https://www.myhealthunit.ca/en/resources/Playbook-for-Website---2021-04-28.pdf

60. Avery S. Different Paths of Pandemic Protection: A comparative case study on vaccine rollouts in Nova Scotia, Quebec and Ontario [Internet]. Public Policy Forum. 2021. Available from: https://ppforum.ca/publications/different-paths-of-pandemic-protection-a-comparative-case-study-on-vaccine-rollouts-in-nova-scotia-quebec-and-ontario/

61. Riebe N. CBC. 2021 [cited 2023 Apr 17]. Edmonton coalition helps faith leaders preach the truth about COVID-19 vaccines. Available from: https://www.cbc.ca/news/canada/edmonton/covid-19-ecrrc-1.6218905

62. Chung H, Azimaee M, Bronskill SE, Cartagena R, Guttmann A, Ho MM, et al. Pivoting data and analytic capacity to support Ontario's COVID-19 response. Int J Popul Data Sci [Internet]. 2020;5(3):1682. Available from: https://ijpds.org/article/view/1682

63. Duchen R, Iskander C, Chung H, Paterson JM, Kwong JC, Bronskill SE, et al. The Role of a Resilient Information Infrastructure in COVID-19 Vaccine Uptake in Ontario. Healthc Q [Internet]. 2021 Jul 14 [cited 2022 Sep 27];24(2). Available from: https://www.longwoods.com/content/26553/the-role-of-a-resilient-information-infrastructure-in-covid-19-vaccine-uptake-in-ontario

64. Government of Ontario. Government of Ontario. 2020 [cited 2022 Feb 17]. Ontario Supporting High Priority Communities. Available from: https://news.ontario.ca/en/backgrounder/59793/ontario-supporting-high-priority-communities

65. Sadarangani M, Racey S, Pringle W, Leung J. Special Event Presented by CanCOVID & CAIRE: Building Community Partnerships in Immunization Research [Internet]. 2022 Jun 6. Available from: https://cancovid.ca/event/special-event-presented-by-cancovid-caire-building-community-partnerships-in-immunization-research/

66. Porcupine Health Unit. The Porcupine Health Unit is Ready to offer COVID- 19 Vaccines to Children 5-11 Years of Age [Internet]. 2021. Available from: https://www.porcupinehu.on.ca/en/your-health/infectious-diseases/novel-coronavirus/covid-vaccine/covid-vaccines-for-youth-page-to-youth-age/the-porcupine-health-unit-is-ready-to-offer-covid-vaccines-to-children-years-of-age.pdf

67. Island Health. Island Health COVID-19 booster campaign a group effort [Internet]. 2022. Available from: https://www.islandhealth.ca/news/stories/island-health-covid-19-booster-campaign-group-effort

68. Tong S. South Asian Health Institute (SAHI): Outreach & Delivery of COVID-19 Vaccines. BC Immunization Forum 2022; 2022 Mar 2.

69. City of Toronto. City of Toronto. 2022. COVID-19: Vaccine Engagement Teams Updates. Available from: https://www.toronto.ca/home/covid-19/covid-19-vaccines/covid-19-city-immunization-program/vaccine-engagement-teams-updates/

70. Hsiung S, Bhandari M, Pham J. Equity, Community and Trust: Building vaccine confidence with marginalized populations [Internet]. 2021 [cited 2022 Mar 29]. Available from: https://www.childrenshealthcarecanada.ca/vaccination-conversations-poster-hall2/2022/1/19/equity-community-and-trust-building-vaccine-confidence-with-marginalized-populations

71. Windsor-Essex County Health Unit. Windsor-Essex County Health Unit. 2021. News Release: Health Unit Reflects on a Year of Community COVID-19 Vaccinations. Available from: https://www.wechu.org/newsroom/news-release-health-unit-reflects-year-community-covid-19-vaccinations

72. Angus M. Nova Scotia Health. 2021. “Champions for immunization against COVID-19” African Nova Scotian communities and partners work together to create positive vaccine experience. Available from: https://www.nshealth.ca/news/champions-immunization-against-covid-19-african-nova-scotian-communities-and-partners-work

73. Nnorom DO, Prescod C, Robertson A. PUBLIC HEALTH 2.0: Black Health, COVID-19 & Vaccines [Internet]. 2021 Nov 16. Available from: https://www.publichealthontario.ca/-/media/Event-Presentations/2021/covid-19-rounds-black-health-vaccines.pdf?sc_lang=en

74. Sheridan College. Sheridan College. 2021. Get your shot at Sheridan: Pop-up COVID-19 vaccine clinic to open at Davis Campus in Brampton. Available from: http://www.sheridancollege.ca/newsroom/news-releases/2021/05/get-your-shot-at-sheridan

75. Sheridan College. Sheridan College. 2021. COVID-19 vaccine clinic pop-up at Sheridan's Brampton campus marks halfway point. Available from: http://www.sheridancollege.ca/newsroom/news-releases/2021/06/covid-19-vaccine-clinic-pop-up-at-sheridans-brampton-campus-marks-halfway-point

76. Case Study: Immunization Program Management - PPF Fall Dinner 2021 [Internet]. YouTube; 2021. Available from: https://www.youtube.com/watch?v=MFb3OYeaP7c

77. Region of Waterloo. Region of Waterloo. 2021 [cited 2022 May 13]. Mobile vaccination bus and more drive-thru clinics will make it easier to get the COVID-19 vaccine. Available from: https://www.regionofwaterloo.ca//en/Modules/News/index.aspx?newsId=24f47a3a-2e1f-49b8-9b17-0d0bef8eae79

78. Southwestern Public Health. COVID-19 Mass Vaccination Program Playbook [Internet]. 2021 Feb [cited 2022 Apr 29]. Available from: https://www.swpublichealth.ca/en/resourcesGeneral/COVID-19-Resources/Version-1.1-20210222---WRITTEN-PLAN-Public---COVID-19-PLAYBOOK---SWPH-.pdf

79. City of Toronto. City of Toronto. City of Toronto; 2021 [cited 2022 May 12]. City of Toronto clinics administer more than 1,000 doses as part of Saturday's #Vax25 COVID-19 vaccination push [News Release]. Available from: https://www.toronto.ca/news/city-of-toronto-clinics-administer-more-than-1000-doses-as-part-of-saturdays-vax25-covid-19-vaccination-push/

80. Hastings Prince Edward Public Health. Hastings Prince Edward Public Health. 2022 [cited 2022 May 17]. Media Release: HPEPH Committed to Addressing Anti-Black Racism in Public Health Practice. Available from: https://www.hpepublichealth.ca/media-release-hpeph-committed-to-addressing-anti-black-racism-in-public-health-practice/

81. Porcupine Health Unit. Porcupine Health Unit. 2021. COVID-19 Vaccine Bulletin - January 31, 2021. Available from: https://www.porcupinehu.on.ca/en/your-health/infectious-diseases/novel-coronavirus/covid-vaccine/covid-vaccine-newsletters/vaccine-bulletin-i/

82. Sheridan College. Sheridan College. 2021. Significant increases in 1st dose uptake in L6Y postal code after 17-day clinic. Available from: http://www.sheridancollege.ca/newsroom/news-releases/2021/06/sheridan-vaccine-clinic-wrapup

83. Leeds, Grenville and Lanark District Health Unit. Leeds, Grenville and Lanark District Health Unit. 2021. Local Health Unit starts first Community Clinic in Westport. Available from: https://healthunit.org/media/2021-archive/local-health-unit-starts-first-community-clinic-in-westport/

84. Sherbourne Health. REAL Response - Annual Report 2020–2021. 2021;30.

85. National Collaborating Centre for Determinants of Health. "We were out ahead of public health": Leading COVID-19 vaccine equity for Black communities across Canada [Internet]. 2021 [cited 2022 May 16]. Available from: https://nccdh.ca/images/uploads/COVID-19_vaccine_equity_for_Black_communities_EN_Nov24.pdf

86. Loh L. Health Professionals Update - April 27, 2021 Vol.14, No.21 [Internet]. Region of Peel; 2021 Apr. Report No.: 21. Available from: https://www.peelregion.ca/health/professionals/tools/updates2021/2021-04-27-hpu-nCoV-update-vol-14-no-21.pdf

87. Island Health. Whole community team approach brings COVID-19 vaccines to rural and remote communities [Internet]. 2022 [cited 2022 May 2]. Available from: https://www.islandhealth.ca/news/stories/whole-community-team-approach-brings-covid-19-vaccines-rural-and-remote-communities

88. Government of Manitoba. Province of Manitoba. 2021 [cited 2022 May 4]. Covid-19 Vaccine Bulletin #122. Available from: https://news.gov.mb.ca/news/?archive=&item=52437

89. Niagara Region Public Health. Community Coordination Task Force for COVID-19 Vaccination - Niagara Region, Ontario [Internet]. 2021 [cited 2022 Apr 29]. Available from: https://niagararegion.ca/health/covid-19/vaccination-task-force/default.aspx

90. Region of Peel. 90% of eligible Peel residents 12 years and over are double vaccinated - Region of Peel [Internet]. 2022 [cited 2022 May 12]. Available from: https://peelregion.ca/news/archiveitem.asp?year=2022&month=0&day=25&file=2022025.xml

91. Vancouver Sun. COVID-19 update for May 16: Four drop-in immunization clinics coming to Surrey | Vaccine bookings opening to all B.C. adults | Women more likely to get vaccinated. The Vancouver Sun [Internet]. 2021 May 16 [cited 2022 Apr 28]; Available from: https://www.proquest.com/canadiannews/docview/2528201911/citation/2F802D4FA90F4223PQ/94

92. Wellington-Dufferin-Guelph Public Health. WDG Public Health. 2021. Media Release - Wellington-Dufferin-Guelph Public Health and partners ready to roll out COVID-19 vaccine to 5 to 11 year olds. Available from: https://wdgpublichealth.ca/news/media-release-wellington-dufferin-guelph-public-health-and-partners-ready-roll-out-covid-19

93. City of Toronto. City of Toronto. 2022. Happy Valentine's Day, Scarborough! Vax The East continues to show love with eight days of in-school COVID-19 vaccination clinics. Available from: https://www.toronto.ca/news/happy-valentines-day-scarborough-vax-the-east-continues-to-show-love-with-eight-days-of-in-school-covid-19-vaccination-clinics/

94. Government of British Columbia. BC Gov News - Health. 2021 [cited 2022 Apr 6]. Community partnerships provide new opportunities to get vaccinated in Surrey. Available from: https://news.gov.bc.ca/releases/2021HLTH0102-000927

95. Grey Bruce Health Unit. Grey Bruce Health Unit COVID-19 Vaccination Program Plan [Internet]. 2021 Jan p. 43. Available from: https://www.publichealthgreybruce.on.ca/Portals/0/Topics/InfectiousDiseases/COVID19/GBHU_COVID19_Vaccine_Distribution_Plan.pdf

96. Region of Waterloo. Region of Waterloo. 2021. Increased COVID-19 vaccine supply needed for priority populations. Available from: https://www.regionofwaterloo.ca/Modules/News/index.aspx?newsId=9dc89ba2-f562-492d-8dcd-47f300bd01b6

97. City of Toronto. City of Toronto. City of Toronto; 2022 [cited 2022 May 12]. Shop And Vax brings COVID-19 vaccination clinics to shopping centres and community clinics this weekend. Available from: https://www.toronto.ca/news/shop-and-vax-brings-covid-19-vaccination-clinics-to-shopping-centres-and-community-clinics-this-weekend/

98. Public Health Sudbury & Districts. Public Health Sudbury & Districts. 2021. Public Health Sudbury & Districts COVID-19 vaccine program transition planned, community organizations can request a COVID-19 vaccine team. Available from: https://www.phsd.ca/public-health-sudbury-districts-covid-19-vaccine-program-transition-planned-community-organizations-can-request-a-covid-19-vaccine-team/

99. Leeds, Grenville and Lanark District Health Unit. Leeds, Grenville and Lanark District Health Unit. 2022. Vaxi RV Clinics. Available from: https://healthunit.org/vaxi-taxi-clinics/

100. Hastings Prince Edward Public Health. Hastings Prince Edward Public Health. 2021 [cited 2022 May 17]. Media Release: Board of Health Update - October 2021. Available from: https://www.hpepublichealth.ca/media-release-board-of-health-update-october-2021/

101. Island Health. Island Health surpasses 500,000 first dose vaccine milestone [Internet]. 2021. Available from: https://www.islandhealth.ca/news/news-releases/island-health-surpasses-500000-first-dose-vaccine-milestone

102. Porcupine Health Unit. COVID-19 Vaccine Bulletin - July 8, 2021 [Internet]. 2021 [cited 2022 May 16]. Available from: https://www.porcupinehu.on.ca/en/your-health/infectious-diseases/novel-coronavirus/covid-vaccine/covid-vaccine-newsletters/vaccine-bulletin-xxiii/

103. Region of Peel. Region of Peel. Region of Peel Hot Spot Communities - COVID-19 Immunization Strategy Protecting Our Most Vulnerable. Available from: https://www.peelregion.ca/coronavirus/vaccine/_media/hot-spot-community-strategy.pdf

104. Region of Waterloo. Region of Waterloo. 2022. KidsAbility and Public Health partnership supported children with special needs to get the COVID-19 vaccine. Available from: https://www.regionofwaterloo.ca//en/Modules/News/index.aspx?newsId=dcc3f3a5-fe8b-4d80-837b-66b6383d659c

105. City of Toronto. City of Toronto. City of Toronto; 2021 [cited 2022 May 12]. COVID-19 Vaccine Engagement Teams Grants [Backgrounder]. Available from: https://www.toronto.ca/news/covid-19-vaccine-engagement-teams-grants/

106. City of Toronto. City of Toronto. City of Toronto; 2022 [cited 2022 May 12]. Team Toronto shifting to a hyper-local, equity-focused COVID-19 vaccination approach. Available from: https://www.toronto.ca/news/team-toronto-shifting-to-a-hyper-local-equity-focused-covid-19-vaccination-approach/

107. Access Alliance. Community organizations collaborate to get residents vaccinated against COVID-19 [Internet]. Access Alliance. 2021. Available from: https://accessalliance.ca/blog/a-massive-undertaking-how-community-organizations-are-collaborating-to-get-east-toronto-residents-vaccinated-against-covid-19/

108. Nunatsiaq News. Nunavut premier calls community health reps ‘heroes’ of pandemic [Internet]. Nunatsiaq News. 2021 [cited 2023 Apr 17]. Available from:

https://nunatsiaq.com/stories/article/nunavut-premier-calls-community-health-reps-heroes-of-pandemic/

109. City of Hamilton. Hamilton's COVID-19 vaccination program prioritizes Black and other racialized populations/people of colour ages 18+ in priority neighbourhoods [Internet]. 2021. Available from: https://sjb.hwcdsb.ca/361087--Hamiltons-COVID-19-vaccination-program-prioritizes-Black-and-racialized-populations-18-in-priority-neighbourhoods?fileID=499683

110. Peel County Public Health. Peel County Public Health: community mass vaccination plan framework [Internet]. Region of Peel: Region of Peel; 2021 Mar p. 14. Available from: https://www.peelregion.ca/coronavirus/vaccine/_media/community-mass-vaccination-plan-framework.pdf

111. Alliance for Healthier Communities. Alliance for Healthier Communities. 2022 [cited 2022 Mar 29]. Community Vaccination Promotion - Ontario (CVP-ON) | Alliance for Healthier Communities. Available from: https://www.allianceon.org/Community-Vaccination-Promotion-In-Ontario

112. Health Commons Solutions Lab. Health Commons Solutions Lab. [cited 2022 Sep 2]. Community Ambassador Training. Available from: https://www.healthcommons.ca/community-ambassador-training

113. Kamal A, Hodson A, Pearce JM. A Rapid Systematic Review of Factors Influencing COVID-19 Vaccination Uptake in Minority Ethnic Groups in the UK. Vaccines [Internet]. 2021 [cited 2022 Aug 22];9(10):1121. Available from: https://www.mdpi.com/2076-393X/9/10/1121

114. Rosen B, Waitzberg R, Israeli A, Hartal M, Davidovitch N. Addressing vaccine hesitancy and access barriers to achieve persistent progress in Israel's COVID-19 vaccination program. Isr J Health Policy Res. 2021;10(1):1–20.

# Appendix A. Detailed Methodology

Our search included five main sources: 1) Published journal articles, 2) government documents, websites, media releases, and announcements, 3) mainstream media (e.g., news media sites), 4) NGO and university-led (.edu) reports and news releases, and 5) online media content (i.e., webinars, social media posts).

For academic literature, we conducted a search in databases (Ovid MEDLINE, Web of Science, Google Scholar, CINAHL, and SCOPUS). For grey literature, we conducted Google searches and searched the websites of federal, provincial, and regional immunization authorities (e.g., the Government of Canada's "Ongoing initiatives on COVID-19" webpage, ImmunizeBC.ca (Provincial), Public Health Ontario Immunization Portfolio (provincial), and the Ontario Public Health Libraries Association (regional)). Documents and published reports from NGOs, INGOs, and EDUs were collected from the National Collaborating Centres for Public Health (NCCPH), the equity-informed responses to COVID-19 database maintained by the National Collaborating Centre for Determinants of Health (NCCDH), COVID-END at McMaster University, the Canadian Vaccination and Evidence Exchange Resource Centre (CANVax), CanCOVID.ca. Mainstream news, online media content was collected via Google Search. We refined the Google search strategy and scanned the first 11 pages of results because any content beyond that were irrelevant.

Searches were performed between April 10 and May 20, 2022 to capture initiatives focused on COVID-19 vaccine delivery in Canada. We used keywords based on five main concepts: 1) community interventions, 2) public health partnership, 3) COVID-19 vaccine uptake, 4) hard-to-reach populations, and 5) equity. Sample search terms included: ["community engagement" OR "public health interventions" AND "COVID-19" AND (vaccin* OR immuniz*)] AND (race OR ethnicity OR immigrant OR equity OR equitable) AND [exp Canada/ or Canad* OR "British Columbia" OR "Colombie Britannique" OR Alberta* OR Saskatchewan OR Manitoba* OR Ontario OR Quebec OR "Nouveau Brunswick" OR "New Brunswick" OR "Nova Scotia" OR "Nouvelle Ecosse" OR "Prince Edward Island" OR Newfoundland OR Labrador OR Nunavut OR NWT OR "Northwest Territories" OR Yukon OR Nunavik OR Inuvialuit>].

To ensure that these search terms were comprehensive, we applied snowballing for secondary terms for each of the five concepts. For instance, for public health partnerships, we included terms for faith-based organizations, sample search terms include 1) faith-inspired organizations *[(religious*, faith leaders, faith-based engagements, cultural partnership*)],(2*) place of worship: *[(church*, synagogue*, mosque*, gurdwara*, temple*),* 3) religion: *[(Christian*, Angelic*, Protestant*, Orthodox*, Muslim*, Islam*, Buddhis*, Hindu*)],* 4) minoritized ethnic and cultural groups/populations*: [(Black*, South Asian*, Asian*, immigrant**)]. The asterisk *(*)* the search term to include derivatives following the alphabet, for instance, Christian* would include the term Christians, Christianity, Christian faith, etc.

Searches were limited to studies and sources published in English between December 2020 and May 2022. Results were saved to Zotero, a cloud-based reference management software. These search results were subsequently imported to COVIDENCE, a cloud-based review management tool to perform title/abstract and full-text screening. Team members first underwent a training session and piloted the first screening stage with ten title/abstracts to ensure the inclusion and exclusion criteria were applied consistently (see **Table 2**); this was also applied for full-text screening.

# Appendix B. Examples of Public Health and Community Partners

| Category | Examples |
|---|---|
| **PHAs** | • **Federal:** PHAC<br>• **PT:** PHO (Public Health Ontario), INSPQ (Institut National de Santé Publique du Quebec), BCCDC (British Columbia Centre for Disease Control), and PT health authorities (e.g., AHS).<br>• **Local/regional**: PHUs, local/regional health authorities.<br>• **INGOs**: GAVI (Global Alliance for Vaccines and Immunization), UNICEF, EPI-WIN WHO (Information Network for Epidemics, World Health Organization). |
| **Community Partners** | • **Non-profit/non-governmental and/or charitable:** The Nonprofit Coalition, Canadian Red Cross, Doctors without Borders, Health Association of African Canadians (HAAC), African Caribbean Black Network, African Canadian Association of Waterloo Region and Area, African Family Revival Organization (AFRO), Canadian Arab Women' Association (CAWA), Congress of Black Women, Kitchener Waterloo Multicultural Centre Community Groups, Somali Canadian Association of Waterloo Region, The Caribbean Canadian Association of Waterloo Region, Waterloo Region Chinese Association, Newmarket African Caribbean Canadian Association, Parents of Black Children, Black Foundation of Community Network, Black Lives for Change, Sickle Cell Association of Ontario, S.U.C.C.E.S.S, Black North Initiative (BNI), Black Opportunities Fund, The Black Health Alliance, The Canadian Multicultural Inventors Museum, JCA, The Walnut Foundation, The Wellesley Institute, South Asian COVID Task Force, Black COVID-19 Task Force.<br>• **Faith-based/religiously affiliated organizations**: The Salvation Army, Canadian Muslim COVID-19 Task Force, Coalition of Muslim Women Kitchener-Waterloo, Muslim Women of Cambridge, Waterloo Kitchener United Mennonite Church, Canadian Black Clergy and Allies (CBCA), parochial schools and separate schools.<br>• **Publicly funded schools.**<br>• **CHCs:** Women's Health in Women's Hands, Black Creek Community Health Centre. |
| **FPT partners** | • **Federal**: Health Canada<br>• **PT Ministries of health, health departments**: The Government of Ontario, Ontario Ministry of Health, Ontario Health, Alberta Health, Nunavut Department of Health, Yukon Department of Health and Social Services, Newfoundland & Labrador Department of Community and Health Services |
| **Other Partners** | Health sector partners and advocacy groups, policy-oriented advocacy, research institutions, political parties, municipal and city services, and business coalitions:<br>• **Higher education institutions:** University of Calgary, BC Children's Hospital Institute, Simon Fraser University, University of BC (UBC)<br>• **Places of business and business coalitions:** Business Coalition of Alberta, the Industry for Vaccination coalition (IVF).<br>• **Health providers/organizations:** Local Health Integration Networks, hospitals and academic Family Health Teams, emergency medical services (including paramedics), long-term care homes (LTC), pharmacies, primary care centres.<br>• **Municipal and city services sector**: municipal transit systems, municipal employment and social services<br>• **Research institutions and working groups:** Immunize Canada, The Centre for Addiction and Mental Health (CAMH), South Asian Research Council, COVID-19 Community Task Force Vaccine Surveillance Reference Group (VSRG), Research Institute for Aging (RIA)'s Waterloo Wellington Older Adult Strategy<br>• **Professional associations:** Ontario Public Health Association (OPHA) and other physicians' associations (e.g., Black Physicians of Canada, Black Physicians of Ontario).<br>• Health teams stemming from research initiatives: HELPinKids&Adults |

# Appendix C. Indigenous Vaccine Confidence Collaboratives in Canada

Examples of Indigenous vaccine confidence collaboratives not included in the extraction of this rapid review:


1. Alberta Health Services. (2021). Pop-up clinic at mall reaches Indigenous families. (Retrieved September 1, 2022, from Alberta Health Services website).
2. Artelle, K. A., Brown, K., Chan, D. E., & Silver, J. J. (2020). A community-led approach to COVID-19. *Science*, *369*(6502), 385–386. doi: 10.1126/science.abd2107
3. BC Assembly of First Nations. (2021a). Emergency—COVID-19 Pandemic. (Retrieved September 1, 2022, from BCAFN website).
4. BC Assembly of First Nations (Director). (2021b). *Protecting our communities*. [YouTube video]
5. BCCDC, & Provincial Health Services Authority. (2021). Indigenous Community Resources. (Retrieved September 1, 2022, from BCCDC website).
6. CAMH. (2021). Maad'ookiing Mshkiki—Sharing Medicine: Connecting Indigenous Communities with Culturally Relevant COVID-19 Vaccine Information. Retrieved September 1, 2022, from CAMH website: https://www.camh.ca/en/camh-news-and-stories/maadookiing-mshkiki-sharing-medicine
7. Fleury, K. (2021, Fall). COVID-19 Pandemic Responses and Programs in Canada's Northern and Indigenous Communities: Understanding Implementation and Implications. doi: 10.7939/r3-xpws-yt06
8. Fraser Health. (2021). Fraser Health hosting immunization clinics in Aldergrove and Chilliwack. (Retrieved September 1, 2022, from Fraser Health Authority website).
9. Funnell, S., Hayes, T., & Stout, R. (2021). Promoting vaccine confidence amongst First Nations, Inuit and Métis peoples during the time of COVID-19. *NCCIH*, 16.
10. Government of Canada. (2022). COVID-19 vaccines and Indigenous peoples. (Retrieved September 1, 2022, from Government of Canada website).
11. Government of Manitoba. (2021a). COVID-19 Infections in Manitoba: Race, Ethnicity, and Indigeneity—External report. *Government of Manitoba*, 10.
12. Government of Manitoba. (2021b). *Indigenous and Northern Relations—2020-2021 annual report*. Minister of the Indigenous and Northern Relations. (Retrieved from Minister of the Indigenous and Northern Relations website).
13. Government of Manitoba. (2021c). *Protecting Manitobans, Advancing Manitoba: Budget 2021*. Government of Manitoba. (Retrieved from Government of Manitoba website).
14. Island Health. (2021a). More than 100,000 first doses of the COVID-19 vaccine administered within Island Health. (Retrieved September 1, 2022, from Island Health Authority).
15. Island Health. (2021b, March 7). Community clinics throughout Island Health support largest immunization rollout in B.C.'s history. (Retrieved September 1, 2022, from Island Health Authority website).
16. King, K. D., Bartel, R., James, A., & MacDonald, S. E. (2022). Practice report: An Alberta Métis model for COVID-19 vaccine delivery. *Canadian Journal of Public Health*, *113*(1), 81–86. doi: 10.17269/s41997-021-00603-7
17. Kliem, T. (2021, April 2). "Wellness warriors" host clinics, provide support to get elders vaccinated. CBC News. (Retrieved September 1, 2022).

18. Nunatsiaq News. (2022, January 27). Nunavut health minister calls out 'dangerous' COVID-19 misinformation. (Retrieved September 1, 2022).
19. Pottie, E. (2021, June 29). N.S. Indigenous health consultant working on Mi'kmaw translation service. CBC News. (Retrieved September 1, 2022).
20. Prairie Mountain Health. (2022). COVID-19 vaccine clinics wrap up at Makaday Ginew Memorial Centre. (Retrieved September 1, 2022).
21. Province of Manitoba. (2021). Manitoba Supports Expanded Role of Urban Indigenous COVID-19 Vaccine Clinics. (Retrieved September 1, 2022).
22. Robinson, K. (2021). B.C. First Nation offers $1,000 cash to fully vaccinated members. Global News. (Retrieved September 1, 2022).
23. Soprovich, A. L., Wozniak, L. A., Lee, C., Sharma, V., Samanani, S., & Eurich, D. T. (2022). Appropriateness of COVID-19 public health guidelines for an Alberta First Nations community. *Canadian Journal of Public Health*, *113*(1), 67–80. doi: 10.17269/s41997-021-00579-4
24. Thunder Bay Health Unit. (2021). Thunder Bay Urban Indigenous Vaccination Clinic. (Retrieved September 1, 2022).
25. Yun, T. (2021, September 24). "Protecting our youth": Indigenous-led vaccination event in Alberta aims to boost inoculation rates. CTV News. (Retrieved September 1, 2022)

Examples of Indigenous vaccine confidence collaboratives included in the extraction of this rapid review:

1. Canadian Red Cross. (2022, August 11). *How Red Cross is responding to COVID-19 in British Columbia & Yukon—British Columbia and Yukon—Canadian Red Cross*.
2. City of Toronto. (2022, May 9). *COVID-19: Vaccine Engagement Teams Updates*.
3. Communication Nova Scotia. (2021, May 13). *Vaccine Plan on Track, 400,000 Doses Administered*. News Releases.
4. Grey Bruce Health Unit. (2021). *Grey Bruce Health Unit COVID-19 Vaccination Program Plan* (p. 43).
5. Island Health. (2022, February 3). *Island Health COVID-19 booster campaign a group effort*.
6. Middlesex-London Health Unit. (2021). *Middlesex-London COVID-19 Vaccination Plan*.
7. Porcupine Health Unit. (2021, January 31). *COVID-19 Vaccine Bulletin 2021-01*.
8. Region of Waterloo. (2021, March 19). Coordinated COVID-19 Response Newsletter.
9. Saskatchewan Health Authority. (2021). *Saskatchewan Health Authority COVID-19 Immunization delivery plan*.
10. Southwestern Public Health. (2021). *COVID-19 Mass Vaccination Program Playbook*.
11. The Canadian Press. (2022, February 12). *Ottawa invests $672,000 in vaccine outreach in Nova Scotia, Atlantic Canada*. CTV News Atlantic.

Additional examples of Indigenous tools and resources can be found in Table 4 of the following resource: Public Health Physicians of Canada. (2022). Public Health Lessons Learned from the COVID-19 Pandemic. https://www.phpc-mspc.ca/resources/Documents/PHPC_Public%20Health%20Lessons%20Learned%20from%20the%20COVID-19%20Pandemic.pdf

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