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Supplementary Tables 1-6

to

Comparison of COVID-19 Vaccination Rollout Approaches across Canada: Case Studies of Four Diverse Provinces

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Supplementary Table 1. Historic and contextual factors relevant to vaccination rollout

	British Columbia	Saskatchewan	Ontario	Nova Scotia
PANDEMIC EXPERIENCE¹				
<i>Date first confirmed case of COVID-19 identified</i>	28 January 2020	15 March 2020	25 January 2020	15 March 2020
<i>Date surpassed 100 confirmed cases</i>	16 March 2020	27 March 2020	14 March 2020	28 March 2020
<i>Cumulative incidence of confirmed COVID-19 cases, per 100,000 population (as of 15 December 2020)</i>	844	1,055	980	146
<i>Cumulative number of COVID-19-related deaths, per 100,000 population (as of 15 December 2020)</i>	13	8	27	7
<i>Vaccination willingness, % population ages 12+ (surveyed January – February 2021)²</i>	87%	84%	82%	87%
DEMOGRAPHIC CHARACTERISTICS³				
<i>Population, 2020 (millions)</i>	5.2	1.2	14.8	1.0
<i>% of population aged 65+</i>	19.2%	16.2%	17.7%	21.3%
<i>Population density (1,000 per km²)</i>	4.8	1.8	14.7	17.5
KEY HEALTH SYSTEM INSTITUTIONS				
<i>Level of centralization⁴</i>	Centralized	Centralized	Decentralized	Centralized
<i>Number of health authorities / public health units</i>	5 Regional Health Authorities (RHAs) and 1 First Nations Health Authority (FNHA)	1 Saskatchewan Health Authority (SHA)	34 Public Health Units (PHUs), plus additional networks overseeing the delivery of health care services	1 Nova Scotia Health Authority (NSHA)
<i>Health system leadership structures</i>	The Ministry of Health supports and funds the activities of all RHAs, including all public health programs and services in BC, and this is coordinated through the	Saskatchewan’s Cabinet and Ministry of Health provide direction to the one central health authority, the SHA, through acts, regulations, orders, and	Both public health and health care are under the Ministry of Health’s portfolio. Public Health Ontario (PHO) provides coordination and technical expertise	The Department of Health and Wellness (DHW) oversees the health authorities. The DHW determines the policy direction, priorities and

<p>Provincial Health Services Authority. These health authorities are responsible for health service delivery. Five RHAs deliver a broad range of health services, including public health services, to meet the needs of the populations within their regions (BC 2022).</p>	<p>directives (SHA 2018). The Ministry of Health and Cabinet also oversees public health in the province (Saskatchewan 2021a).</p>	<p>to the PHUs and Ontario Health provides leadership for health care services (Smith et al., 2021).</p>	<p>standards for health care and allocates funding (Nova Scotia 2022a). The NSHA serves all residents and is responsible for providing numerous health programs and services at more than 45 facilities across the province; some services (i.e., pediatrics, women and newborn health) are the primary responsibility of the IWK Health Centre (IWK 2019; Nova Scotia Health 2022).</p>	
<p><i>Legislated role of the CMOH⁵</i></p>	<p>“Everybody’s expert”</p>	<p>“Technical Officer”</p>	<p>“Everybody’s expert”</p>	<p>“Loyal executive”</p>

¹ Public Health Agency of Canada. 2021. COVID-19 daily epidemiology update. 15 December. <https://www.canada.ca/en/public-health/services/diseases/coronavirus-disease-covid-19.html>

² Statistics Canada. 2022. Canadians’ health and COVID-19 interactive dashboard. 2 March. <https://www150.statcan.gc.ca/n1/pub/71-607-x/71-607-x2021003-eng.htm>

³ Statistics Canada. 2 March 2022. Population and demography statistics. Available online: www.statcan.gc.ca/en/subjects-start/population-and-demography

⁴ Marchildon GP, Bossert TJ. 2018. *Federalism and decentralisation in health care: a decision space approach*. Toronto: University of Toronto Press.

⁵ As categorized by Fafard et al. (2018)

Supplementary Table 2. Vaccination and political governance structures

	British Columbia	Saskatchewan	Ontario	Nova Scotia
VACCINATION GOVERNANCE				
<i>How centralized was leadership?</i>	<ul style="list-style-type: none"> • Leadership was highly centralized. A small group of public health professionals spearheaded the campaign in close collaboration with key organizations including public health agencies, regional health authorities (RHAs), and communities (Snowdon et al. 2021). • Vaccine rollout was led by the RHAs at the direction of the BC Ministry of Health and Chief Provincial Health Officer (CPHO), i.e., the CMOH. 	<ul style="list-style-type: none"> • Leadership was centralized. It included mainly the Health Emergency Operations Centre, the Ministry of Health, and the Saskatchewan Health Authority (SHA) (Saskatchewan 2021b). 	<ul style="list-style-type: none"> • Leadership was decentralized. It involved myriad governmental actors (e.g., premier, CMOH, Minister of Health, etc.), task forces, guidance bodies, and entities from other sectors (Fitzpatrick et al. 2022). • Each of the 34 public health units (PHUs) had flexibility in implementation (Ontario 2020a). 	<ul style="list-style-type: none"> • Leadership was highly centralized. All key stakeholders—public health, health organizations (e.g., Doctors Nova Scotia, Pharmacy Association of Nova Scotia), government (e.g., Emergency Management Office) and advisory bodies (e.g., logistics specialists, community leaders)—were represented in the vaccine task force (Public Policy Forum 2021).
<i>Key leadership organizations/actors, including vaccine task forces</i>	<ul style="list-style-type: none"> • Premier John Horgan • Minister of Health, Adrian Dix • CPHO Dr. Bonnie Henry • Immunize BC Operations Centre (which includes BCCDC) Provincial Health Services Authority • FNHA • BC’s Immunization Committee and BC’s public health leadership committee (BC 2021a) • An Emergency Operations Centre is part of Emergency Management BC, although its involvement in the province’s 	<ul style="list-style-type: none"> • Premier Scott Moe • Minister of Health, Paul Merriman • CMOH, Dr. Saqib Shahab • SHA CEO Scott Livingstone • Medical Health Officer (MHO) Dr. Tania Diener • SHA • Clinical Expert Advisory Committee on Immunization • Multi-agency steering committee: MHOs, SHA, 	<ul style="list-style-type: none"> • Premier Doug Ford • Deputy Premier and Minister of Health Christine Elliot • CMOH, Dr. Kieran Moore (previously Dr. David Williams) • Ontario COVID-19 Vaccine Distribution Task Force • Ontario Science Table • Public Health Ontario • 34 PHUs, and their associated MOHs 	<ul style="list-style-type: none"> • Premier Tim Houston (formerly Iain Rankin and Stephen McNeil) • Minister of Health, Michelle Thompson • CMOH, Dr. Robert Strang • Tracey Barbrick, vaccine rollout lead • Vaccine Taskforce • Nova Scotia Health Authority • Department of Health and Wellness

	COVID-19 vaccine roll-out is unclear	Ministry, Saskatchewan Public Safety Agency, clinicians <ul style="list-style-type: none"> • Immunization Planning Oversight Committee • Indigenous Planning Committee 		<ul style="list-style-type: none"> • Canadian Armed Forces • Doctors Nova Scotia • Pharmacy Association of Nova Scotia • Community organizations and leaders
<i>Leadership role of public health officials in the rollout</i>	<ul style="list-style-type: none"> • Public health had a strong role in the management and governance, including the lead role involvement in decision-making around the rollout plan. 	<ul style="list-style-type: none"> • Public health had a strong local leadership role, but limited role in provincial decision-making. 	<ul style="list-style-type: none"> • Public health had a strong local leadership role, but limited role in provincial decision-making. • PHUs had flexibility in the delivery of local campaigns. • Ontario's COVID-19 Vaccine Distribution Task Force included no members with public health expertise (Ontario 2020b). 	<ul style="list-style-type: none"> • Public health played a strong role in the organization of vaccine distribution, allocation, and administration; communication; design and management of clinic prototypes; and decision-making.
PROVINCIAL GOVERNANCE				
<i>Provincial election during pandemic (date)</i>	No	Yes (26 October 2020)	No	Yes (17 August 2021)
<i>Political party forming government</i>	New Democratic Party	Saskatchewan Party (pre- and post-election)	Progressive Conservative	Liberal; Progressive Conservative (post-election)
<i>Significant changes in political or public health leadership</i>	None	<ul style="list-style-type: none"> • Minister of Health Paul Merriman was appointed on 9 November 2020; the position was previously held by Jim Reimer. • Dr. Cory Neudorf was appointed Interim Senior Medical Health Officer for SHA on 14 June 2021. 	<ul style="list-style-type: none"> • CMOH Dr. David Williams, retired and was succeeded by Dr. Kieran Moore on 26 June 2021 (Ontario 2021a). 	<ul style="list-style-type: none"> • Premier Stephen McNeil stepped down on 27 February 2021 and was replaced by Iain Rankin (Doucette 2021a). • Following the provincial election, on 17 August 2021, Tim

Houston was elected
Premier (Tutton 2021).

Supplementary Table 3. Principles underlying and communications regarding COVID-19 vaccination campaigns

	British Columbia	Saskatchewan	Ontario	Nova Scotia
PLANNING AND PRIORITIZATION				
<i>When was an official plan first released?</i>	<ul style="list-style-type: none"> • First mentioned: 9 December 2020 presser (BC Office of the Premier 2020) • Original plan published: 22 January 2021 (BC Office of the Premier 2021a) 	<ul style="list-style-type: none"> • Original plan and SHA presser released to media 9 December 2020 (Saskatchewan 2020a) 	<ul style="list-style-type: none"> • First announced: 7 December 2020 presser (Ontario 2020c) • Original plan published: 11 December 2020 (Ontario 2020a) 	<ul style="list-style-type: none"> • Original plan published: 8 December 2020 (Nova Scotia 2020a) • First phased plan released 5 January 2021 (Nova Scotia 2021a)
<i>Explicit goal outlined in vaccination plan</i>	Yes	Yes	No	Yes
<i>Goal (e.g., speed- or coverage-based goals)</i>	<ul style="list-style-type: none"> • Approach suggests goals were speed-based as eligibility expanded to new groups without the need for specific coverage targets to have first been met in previous eligibility groups. • Stated objective: protect the most vulnerable and the health care system and prevent outbreaks (BC Office of the Premier 2021b). 	<ul style="list-style-type: none"> • Approach suggests goals were speed-based as eligibility expanded to new groups without specific coverage targets to have first been met in previous eligibility groups (Saskatchewan 2021c). • Stated goals: protect high-risk and vulnerable populations, minimize illness and death, protect the health care system, limit transmission (Saskatchewan 2021b). 	<ul style="list-style-type: none"> • Approach suggests goals were speed-based as eligibility expanded to new groups without the need for specific coverage targets to have first been met in previous eligibility groups (Ontario 2021b). 	<ul style="list-style-type: none"> • Approach suggests goals were speed- and coverage-based: immunization strategy outlined a plan to immunize 75% of the population by the end of September 2021 (Nova Scotia Government 2021a).
<i>NACI guidance explicitly followed</i>	<ul style="list-style-type: none"> • Yes—BC’s Immunization Plan explicitly stated it was guided by NACI’s recommendations. 	<ul style="list-style-type: none"> • Yes—the CMOH reviewed and modified NACI’s guidance based on the applicability to the province’s demographics and logistical requirements (Saskatchewan 2021b). 	<ul style="list-style-type: none"> • NACI was not explicitly mentioned. • The sequencing of priority groups suggests NACI guidance informed the plan. Also, the Minister of Health stated the framework was informed by NACI’s 	<ul style="list-style-type: none"> • NACI recommendations were explicitly mentioned (Nova Scotia Health 2021a). • According to the CMOH, the province generally adhered to NACI guidance, but did not adopt all suggested

			recommendations (Ontario 2021c).	priority groups to better suit the Nova Scotia context (Nova Scotia Government 2021a).
<i>Deviations from NACI's suggested priority groups</i>	Visible minority groups (e.g., Black) were not prioritized (BC Office of the Premier 2021a).	Priority groups included those that were extremely clinically vulnerable, but not their family members (Saskatchewan 2021b).	Hot-spotting was an additional layer added on 13 April 2021 to ensure age-specific rollout happened faster in areas of higher disease transmission and within marginalized populations (e.g., Black) (Ontario 2021d).	At no point were pregnant women, individuals with underlying health conditions, teachers or grocery workers included in Nova Scotia's priority groups (Nova Scotia 2021b; Pace 2021; Stoodley 2021).
<i>Second dose strategy</i>	<ul style="list-style-type: none"> • 25 January 2021: second dose interval was delayed until 42 days as a result of limited supply (BC MOH 2021a). • 1 March 2021: delayed second dose interval to 16 weeks (i.e., following NACI's guidance) (BC MOH 2021b). • 27 May 2021: 8-week interval introduced (BC MOH 2021c). 	<ul style="list-style-type: none"> • 5 March 2021: delivery plan pivoted to administering first doses only, with second doses being administered at an interval of up to 16 weeks (i.e., following NACI's guidance) (Saskatchewan 2021d). • 6 May 2021: Interval shortened to 13 weeks or sooner (based on availability) (Saskatchewan 2021e). 	<ul style="list-style-type: none"> • Initially, doses were reserved to ensure second doses could be administered (DeClerq 2021). • 10 March 2021: a delayed second dose interval was implemented (i.e., following NACI's guidance) (Ministry of Health 2021). • June–August 2021: accelerated second dose interval on a “first-in, first-out” basis (as short as 2 months) (DeClerq 2021a; Ontario 2021e). 	<ul style="list-style-type: none"> • Initially, doses were reserved to ensure second doses could be administered (McPhee 2021; Nova Scotia Government 2021b). • 2 April 2021: implemented the NACI-recommended delayed second dose interval of 16 weeks; stopped reserving second doses (Ibid). • 7 July 2021: interval shortened to 28 days (Ibid).
<i>Regionalized prioritization?</i>	Yes—some regional differences were noted: <ul style="list-style-type: none"> • Remote and Northern communities were prioritized in Phase One 	Yes—some regional differences were noted: <ul style="list-style-type: none"> • Remote and Northern communities were 	Yes—there were substantial regionalized differences: <ul style="list-style-type: none"> • The province provided guidance, but PHUs had 	No—there were no regionalized differences (<i>CanCOVID Speaker Series</i> 2021).

	(BC Office of the Premier 2021a). • Targeted hot-spotting strategies were implemented throughout April and May 2021 (BC MOH 2021d).	prioritized (Saskatchewan 2021b).	flexibility to modify plans (Ontario 2020a; 2021b). • A broad hot-spotting strategy was introduced on 13 April 2021 (Ontario 2021d). • Remote and Northern communities were prioritized (Ornge 2021).	
<i>Equity, diversity, inclusion framework(s) used?</i>	Yes—NACI’s framework and the BCCDC’s <i>COVID-19 Ethical Decision-Making Framework</i> (BCCDC & BC MOH 2020).	Yes—NACI’s framework. The Clinical Expert Advisory Committee on Immunization in Saskatchewan, which advises the CMOH, included the provincial director for ethics as a member. This group tailored NACI’s guidelines to a Saskatchewan context (Saskatchewan 2021f). It was also explicitly stated that the rollout plan reflects Reconciliation (SHA 2021a).	Yes—NACI’s framework was not explicitly mentioned. Ontario’s COVID-19 Vaccine Distribution Task Force developed an ethical framework: <i>Ethical Framework for COVID-19 Vaccine Distribution</i> (Ontario COVID-19 Vaccine Distribution Task Force 2020).	Yes—NACI’s framework (Nova Scotia 2021c).
PUBLIC COMMUNICATION				
<i>Are decisions primarily reported to the public via news releases/pressers, or are there also formal reports?</i>	• Both. News releases and press briefs (pressers) shared online entitled ‘Joint Statement of BC’s COVID-19 Response, Latest Updates’ alongside attached reports (these usually provide further details to what is presented in the releases/pressers).	• Both. News releases/pressers and public briefings (were daily then phased to less frequent every 2-7 days) with key officials (e.g., Premier, CMOH, Minister of Health, SHA CEO, etc.).	• Both. Materials usually shared online ahead of or concurrently with pressers. • There were regular (e.g., daily) pressers with key officials (e.g., Premier, CMOH, Minister of Health, etc.).	• Pressers and news releases were used interchangeably as the primary communication method. • Televised pressers were hosted by the sitting Premier and the CMOH, with varied frequency (from daily to once a month). All pressers are

	<ul style="list-style-type: none"> • These Monday-Friday sessions were consistently attended by the Minister of Health and Provincial Health Officer, alongside other high-level government officials (in accordance with the information being presented). 	<ul style="list-style-type: none"> • Daily updates through COVID-19 Ministry of Health News Releases. 		<ul style="list-style-type: none"> • posted on the Nova Scotia Government YouTube channel. • News releases were available on the provincial government’s website.
<p><i>If reports are published, how does the timing of publication compare to news releases?</i></p>	<ul style="list-style-type: none"> • The same day: the COVID-19 vaccination rollout plan (22 January 2021) and the updated plan when it moved to Phase 2 (1 March 2021) were both published the same day the plan was mentioned in a presser. 	<ul style="list-style-type: none"> • Reports typically released on the same day of the news presser. For example, the COVID-19 Immunization Delivery plan was both announced and released on 9 February 2021. 	<ul style="list-style-type: none"> • Minimal lag—e.g., official plan was published 4 days after first mentioned in the presser; however, most documents were published on the same or next day. 	<ul style="list-style-type: none"> • Reports were released in the form of news releases. All news releases detailing major immunization plan updates were accompanied by same-day pressers.
<p><i>Other forms of information released to support the transparency of decision-making (e.g., advisory committee reports)</i></p>	<ul style="list-style-type: none"> • Many types of documents have been attached to the daily news releases/ pressers: public health officer orders and guidance; vaccine and outbreak info; updates, guidance, and information on COVID-19, and where to get tested; mental health support; COVID-19 exposure events, updates, and information by health authority; backgrounders. 	<ul style="list-style-type: none"> • Other government documents including public health orders, FAQs, guidance on vaccination, and COVID-19 resources. • Reports from the Clinical Expert Advisory Committee on Vaccination were not released and/or easily accessible. 	<ul style="list-style-type: none"> • No other governmental reports were published except for its official vaccine distribution plan. The Vaccine Task Force did not publish any other guidance materials. • Public Health Ontario published weekly epidemiologic situation reports. • The Council of MOHs has publicly released its recommendations/letters. 	<ul style="list-style-type: none"> • Other government documents including public health orders, FAQs, contract agreements, guidance on vaccination, COVID-19 resources. • Several advisory panel reports • The Vaccine Task Force did not publish any materials aside from several immunization plan updates.
<p><i>What types of vaccination data have been shared with the public?</i></p>	<ul style="list-style-type: none"> • BCCDC’s COVID-19 Dashboard provided daily updates on a number of indicators; for example, it 	<ul style="list-style-type: none"> • The Government of Saskatchewan’s COVID-19 dashboard included the following: total cases, 	<ul style="list-style-type: none"> • Detailed data was regularly reported on the province’s interactive dashboard, was updated 	<ul style="list-style-type: none"> • Detailed data was released Monday–Friday on the province’s dashboard: total doses and

<p>displayed vaccine administration and supply data graphically, including stratifications by RHA and vaccine type (BCCDC 2020).</p>	<p>seven-day average of daily new cases, deaths, active cases, daily new cases, hospitalized cases, recovered cases, daily new tests, total tests, new reported doses, total doses, total double-vaccinated (Saskatchewan 2020b).</p>	<p>daily, and could be freely downloaded. <ul style="list-style-type: none"> • Daily vaccination data provided by age, sex, and PHU; cases and hospitalizations was also reported by vaccination status (Ontario 2020d). </p>	<p>vaccination rates broken down by dose; vaccine uptake by age and health region; total, average age and sex breakdown of deaths; new lab confirmed cases overall and by health zone; total and daily tests completed; total, ICU and non-ICU hospitalizations, with median age, age range and length of stay of cases; hospitalizations and deaths by vaccination status (Nova Scotia 2020b). <ul style="list-style-type: none"> • Nova Scotia was the first province to report on breakthrough cases, a decision made in response to public requests and CMOH's desire to increase transparency (<i>CBC News</i> 2021a). </p>	
<p><i>Availability of translated materials</i></p>	<ul style="list-style-type: none"> • HealthLink BC's website provided information in 13 common languages. • Transcripts of the BC MOH's daily media briefings were also translated in Chinese (traditional), French, and Punjabi. • BC's COVID-19 Immunization Plan was available in 12 commonly- 	<ul style="list-style-type: none"> • Webpages and resources were available in Cree, Dene, Michif, Tagalog, and French (SHA 2021b). 	<ul style="list-style-type: none"> • There was a prominent link on the province's vaccine information webpage to materials in 30+ languages (Ontario 2021b). • PHUs offered services in multiple languages, targeted to the PHU's demographics. • Several community partners provided translation support—e.g., 	<ul style="list-style-type: none"> • Certain documents were available in multiple languages, although, these may be difficult to find without a basic understanding of English or French. • Interpretation services were available in over 125 languages for phone bookings and in over 240 languages at

spoken languages (BC
2021a).

the Canadian Muslim
COVID-19 Task Force
(CMCTF 2020).

appointments (Nova
Scotia 2020c).

Supplementary Table 4. Key activities taken to deliver and support access to COVID-19 vaccines

	British Columbia	Saskatchewan	Ontario	Nova Scotia
PERSONNEL AND INFRASTRUCTURE				
<i>Approaches taken to ensure sufficient personnel</i>	<ul style="list-style-type: none"> •23 February 2021: CMHO issued a public health order expanding the range of health professions legally allowed to administer COVID-19 vaccines (BC 2021b). •24 March 2021: Announced a new initiative to engage more than 1,400 hospitality and tourism workers at mass vaccination clinics across the province (BC Office of the Premier 2021c). •24 March 2021: CMHO issued a second public health order, which further expanded the list to include retired health professionals, students, and international medical graduates (not registered with the College of Physicians and Surgeons of British Columbia) (BC 2021c). 	<ul style="list-style-type: none"> •9 February 2021: The <i>COVID-19 Immunization Delivery Plan</i> included a long list of potential immunizers to bolster the supply of immunizers. These included individuals who already provide vaccinations and health care students. International medical graduates, retired or previously licensed health care professionals, and other health care professionals were also authorized as COVID vaccination providers in the plan (Saskatchewan 2021b). •Public Service Commission staff were deployed to help with data entry and other admin tasks. It is not clear when this redeployment began (Saskatchewan 2021b). 	<ul style="list-style-type: none"> •7 January 2021: To supplement the availability of immunizers, the Government of Ontario allowed nurses and other health care and allied health providers to return from retirement to administer vaccines or support other activities (e.g., contact tracing) to free-up immunizers. Interested health care providers able to administer vaccines could register and apply through Ontario’s Matching Portal (Ontario 2021f; 2022). •10 March 2021: Pharmacists began administering vaccines (Ontario 2021g). •Spring–Summer 2021: primary care providers and community paramedics began administering COVID-19 vaccinations to homebound residents (Patterson et al. 2020; Stall, Nakamachi, Chang 2021). 	<ul style="list-style-type: none"> •14 December 2020: The province released a care directive that granted health care workers from both acute care and public health the authority to administer COVID-19 vaccines: registered nurses (RNs), licensed practical nurses, advanced and critical care paramedics, and graduate practical nurses (under the supervision of an RN (Nova Scotia Health Authority and IWK Policy and Practice Committee 2020)). •21–22 January 2021: The Nova Scotia College of Nursing and the College of Physicians and Surgeons Nova Scotia began granting emergency licenses to former members who recently retired (in the last ten and three years, respectively) to aid with COVID-19 vaccine clinics (College of Physicians & Surgeons of Nova Scotia 2021).

				<ul style="list-style-type: none"> • Additional personnel were also recruited through Doctors Nova Scotia, the Pharmacy Association of Nova Scotia, the Red Cross, and the Canadian Armed Forces (Nova Scotia 2021d; Rhodes 2021).
<i>Role of pharmacies</i>	Pharmacies played an important role in the BC vaccine rollout, the program began on 10 April 2021, people could book vaccines at pharmacies through the centralized British Columbia Pharmacy Association website (BC MOH 2021e; BC Pharmacy Association 2021a; 2021b).	Pharmacists played an important role in the province’s vaccine rollout. Since 12 April 2021, select pharmacies across the province were permitted to distribute vaccines (Saskatchewan 2021g).	Pharmacists played an important role, particularly after Spring 2020. Pharmacies began administering vaccines starting 10 March 2021 (Ontario 2021g). Revisions were made to Ontario’s <i>Regulated Health Professions Act</i> in January 2021, which explicitly allowed pharmacists to administer COVID-19 vaccines (Ontario 2021h).	Pharmacists played an important role early on in the province's vaccine rollout. Prototype pharmacy-based vaccine clinics launched starting 9 March 2021; pharmacies were one of the primary administration sites in Nova Scotia thereafter (Nova Scotia 2021e).
<i>Role of family physicians</i>	Family physicians had an active role in administering vaccines in BC as they, uniquely, provided leadership for vaccination clinics; however, vaccination within family physician offices was limited (Mauer-Vakil et al. 2022).	Family physicians played a limited role, particularly early in the vaccination campaigns. Since October 2021, their role increased, with the Saskatchewan Medical Association allowing the option to regularly deliver COVID-19 vaccines in family physician offices (Saskatchewan 2021b).	Family physicians played a limited role, particularly early in the vaccination campaigns. Starting 13 March 2021, Ontario began allowing vaccine clinics to be held in physicians’ offices, after much advocacy from physicians (Bresge 2021; The Canadian Press 2021).	Family physicians played a limited role, particularly early in the vaccination campaigns. Starting 20 March 2021, Nova Scotia began allowing vaccine clinics to be held in physicians’ offices (Petracek and Kaiser 2021).
<i>Canadian Red Cross supported rollout</i>	Yes—the Red Cross provided non-clinical, administrative and	No—the Red Cross did not assist with vaccinations.	Yes—the Red Cross worked in partnership with the Ontario	Yes—the Red Cross operated a mass immunization clinic at the

	<p>leadership support specific to the COVID-19 vaccine rollout (BC MOH 2020). The Red Cross’s services supported BC’s vaccine rollout throughout the whole campaign (BC Office of the Premier 2020).</p>		<p>government, PHUs, and First Nations leadership throughout Ontario’s vaccine campaign to provide programs and services, such as operating mobile vaccination clinics and Operation Remote Immunity in Northern First Nations Communities (Ornge 2021). Specifically, the Red Cross provided both clinical and non-clinical assistance with COVID-19 vaccinations in several locations throughout the province, as determined by PHUs (Red Cross Canada n.d.).</p>	<p>Halifax Convention Centre (which was previously run by the Canadian Armed Forces) (Rhodes 2021).</p>
<p><i>Canadian Armed Forces supported rollout</i></p>	<p>Yes—the Canadian Armed Forces contributed to BC’s COVID-19 vaccine rollout in many ways including, but not limited to, logistical/planning support and the transportation of medical equipment/supplies to remote communities (Canada 2020).</p>	<p>No—evidence of support from the federal government or other provinces for administration of vaccinations. However, they provided support for Saskatchewan’s overwhelmed health system during a surge in cases (CAF 2022).</p>	<p>Yes—the Canadian Armed Forces were deployed to support vaccination efforts in 31 fly-in communities and Moosonee, dubbed Operation Remote Immunity (Ornge 2021).</p>	<p>Yes—the Canadian Armed Forces were involved in the Vaccine Taskforce and were deployed to run a mass immunization clinic at the Halifax Convention Centre in June 2021 (Rhodes 2021; Public Policy Forum 2021).</p>
<p><i>Health care workers vaccine mandates</i></p>	<ul style="list-style-type: none"> •12 August 2021: vaccinations were made mandatory and a condition of employment for individuals working in long-term care and 	<ul style="list-style-type: none"> •1 October 2021: SHA required proof of vaccination for all health care employees which was announced on 10 September 2021. Unvaccinated employees 	<ul style="list-style-type: none"> •17 October 2021: the CMOH issued a directive to all public hospitals, community, and home care service organizations to implement strict vaccination requirements 	<ul style="list-style-type: none"> •29 September 2021: Mandate introduced (Nova Scotia 2021f). •30 November 2021: Health care workers must have submitted proof of at least one dose or a

	<p>assisted living settings in BC (BC 2021d).</p> <ul style="list-style-type: none"> • 13 September 2021: BC health officials declared that COVID-19 vaccination would be mandatory for all those working in health care settings across the province effective 26 October 2021 (Lindsay 2021). Workers who were not vaccinated by 26 October 2021 were to be placed on unpaid leave. 	<p>were required to provide a negative COVID-19 test 72 hours prior to each shift at an employee's own expense (Saskatchewan 2021h). News sources indicate this was not enforced (Vescera 2022).</p>	<p>for frontline health care workers; however, this was a hotly debated issue and a mandatory vaccination policy was not implemented for health care workers despite recommendations from the Science Table and professional organizations, such as the RNAO, in favour of such a mandate. Notably, several hospitals had previously implemented their own vaccination policies for health care workers (Canadian Medical Association 2021; Ontario Hospital Association 2021).</p>	<p>valid exemption letter. Those who failed to submit proof or an exemption letter prior to the deadline were required to participate in a mandatory education program. Individuals without one dose by the deadline, were placed on unpaid administrative leave. Proof of a negative test was not an option.</p>
<p><i>Examples of innovative approaches taken to increase vaccine supply</i></p>	<ul style="list-style-type: none"> • Strategic use of AstraZeneca vaccines to vaccinate younger individuals (ages 30+) in communities with high transmission, ahead of age-specific eligibility being rolled out provincially to this age group (<i>CTV News</i> 2021). 	<ul style="list-style-type: none"> • Extracted a sixth dose from a 5-dose Pfizer vial before Health Canada label change (Tasker 2021). 	<ul style="list-style-type: none"> • Strategic use of AstraZeneca vaccines to increase vaccination supply by lowering eligible age limit to allow individuals ages 40+ to receive AstraZeneca at a pharmacy or primary care clinic (Ontario 2021i). 	<ul style="list-style-type: none"> • Used real-time data to re-allocate vaccines in areas with a surplus (Nova Scotia Health 2021b). • Strategic use of AstraZeneca for individuals ages 40-64 at pharmacies or physician's offices (Nova Scotia 2021g). • The IWK Health Centre delivered vaccines to adults and hosted the prototype mass immunization community clinic, providing care outside its normally

				serviced populations (Luck 2021).
BOOKING				
<i>Centralized?</i>	Partially—The Get Vaccinated booking system, launched on 6 April 2021 (BC 2021f). Individuals could also book vaccines at pharmacies through the centralized British Columbia Pharmacy Association website (BC Pharmacy Association 2021a; 2021b). The province also offered drop-in, pop-up, and mobile clinics.	Partially—There was a centralized provincial booking system for SHA clinics. However, pharmacy booking was decentralized and booked through each individual pharmacy (Saskatchewan 2021g).	Partially—The province operated a central booking system, but it was limited to Ontarians with the newer, photo ID version of the provincial health card. Other residents had to contact their PHU to schedule an appointment or attend another vaccination venue (e.g., pop-up, drop-in, mobile clinics). Several PHUs also continued to use their own booking platforms after the province’s system was introduced. Pharmacies did not use the provincial booking system and each had its own scheduling process (Ontario 2021j).	Yes—All vaccine appointments, regardless of whether they were booked by phone or on the website, at a pharmacy or community clinic, were booked through CANImmunize. The province also offered walk-in appointments (Nova Scotia Health 2021c).
<i>Modes (e.g., telephone, web, in-person)</i>	Telephone, web, in-person	Telephone, web, in-person	Telephone, web, in-person	Telephone, web, in-person
<i>Degree of complexity</i>	Low—centralized booking systems for clinics (Get Vaccinated portal), and for pharmacies (BC Pharmacy Association 2021b).	Medium—some searching needed to call all pharmacies to find openings.	High—multiple booking platforms that varied by geography, vaccination eligibility, vaccination site, health card status, and time.	Low to medium—website was low complexity. Telephone was medium complexity.
<i>Scheduling based on # doses provinces already received or expected to receive?</i>	No information available	Posted tentative eligible dates based on expected to receive doses with possibility to change	Expected to receive	Confirmed shipment

ENTITLEMENT AND COVERAGE

<i>Residency requirements?</i>	No	Yes—minimum 2-weeks residency required to receive vaccination.	No	No
<i>ID requirements?</i>	A BC Personal Health Number was needed to register online, otherwise individuals could register by phone (BC 2021e).	A Saskatchewan Health Card was required to book online; anyone staying in the province for two weeks lacking a Saskatchewan health card could book via phone or go to a Saskatchewan Health Authority clinic (Saskatchewan 2021i). For individuals ages 18+, a valid health card and government-issued photo identification (or two pieces of alternate identification) were required. Those without a health card were encouraged to book via telephone (Saskatchewan 2021i).	An Ontario Health Insurance Plan card was required to book online; verbal attestation accepted for individuals without ID (i.e., for age or other eligibility requirements) (Ontario 2021k).	A Nova Scotia Medical Services Insurance card was required to book online through the CANImmunize website. Individuals without a NS Health card could still be vaccinated but must book by phone (Nova Scotia 2022b).
<i>Examples of reported access barriers</i>	<ul style="list-style-type: none"> • Barriers related to languages or lack of access to phone or internet connections that make it difficult for some individuals to find key information regarding vaccines and to register and book the service 	<ul style="list-style-type: none"> • Requirement of email address or phone number, as well as a Saskatchewan Health Card number to book online. If not, they needed to call the toll-free number. 	<ul style="list-style-type: none"> • Lack of clear communication regarding eligibility (varied by region, vaccination site, and rapidly changed over time) (Stone 2021). • Confusion regarding variable booking processes and lack of 	<ul style="list-style-type: none"> • Requirements of NS Health card and email to book online. • CANImmunize booking website only available in English. • An email address was required to book by phone. Must call from

(British Columbia's Office of the Human Rights Commissioner 2021).

- Undocumented and migrant workers were concerned about revealing their immigration status for fear of potential deportation (Ibid).
- Precarious or low-income earners with multiple jobs may lack the financial resources or time to prioritize reaching a vaccination site, even if provided leave from work (Ibid).

- If people did not have a Saskatchewan Health Card, they needed to be staying in the province for longer than two weeks.
- Travel barriers in remote and Northern locations.
- Barriers to booking vaccination appointment at pharmacies as each pharmacy had a different protocol/booking process (Saskatchewan 2021g).

trust in ability to get vaccinated in a timely manner once eligible. The booking process was referred to as "The Vaccine Hunger Games" (Mongu 2021).

- Travel, especially for remote residents and individuals relying on public transit (Ontario 2021l).
- Long wait times were common for pop-up clinics (Stone 2021).
- Social inequities in access, such that more affluent and lower risk individuals were better resourced to navigate the booking system, identify available appointments, and travel to attend appointments (including those outside their region) (Borden King 2021).
- Long telephone wait times for individuals without the newer photo ID version of the health card and who required translation services (Wilson 2021a).
- For several weeks, pharmacies only administered AstraZeneca; the pause

Canada using a Canadian phone number to book through the toll-free line (Nova Scotia 2021h).

- One toll-free line was used to book COVID-19 vaccinations and request interpretations services, leading to long waits.
 - Those without NS Health cards had to use the toll-free line to access their proof of vaccination receipt, or know in advance to request a print-out at the vaccine appointment (and have the English skills to do so) (Nova Scotia 2021h).
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			on administering first doses of AstraZeneca meant many regions (particularly rural communities without regular mass immunization sites) were left with no vaccination sites in their community (<i>CBC News</i> 2021b).	
<i>Activities taken to overcome barriers</i>	<p>Many activities were introduced by the province to reduce these barriers including:</p> <ul style="list-style-type: none"> • Overnight clinics to reach shift workers were implemented as a method to reduce barriers to access for some vulnerable or hard to reach populations (Fraser Health 2021). • Initiatives undertaken that saw teams travel door-to-door to register individuals for COVID-19 vaccination, in addition to providing them with the means of getting to clinics (Hinks 2021; <i>Vancouver Sun</i> 2021). 	<p>Many activities were introduced by the province to reduce these barriers including:</p> <ul style="list-style-type: none"> • Walk-in clinics, mobile/pop up clinics in the north • Door-to-door campaign in the north (SHA 2021c) • Targeted clinics held at locations to reach vulnerable populations— e.g., soup kitchens, shelters, correctional facilities (Biber 2021; James 2021) • Use of a health bus for disadvantaged neighborhoods and clinics at refugee settlement agencies (Warick 2021) 	<p>Many activities were taken to overcome these barriers; however, most were led by community groups (with some provincial activities). For example:</p> <ul style="list-style-type: none"> • No ID, residency, or health insurance requirements to receive vaccination in the province • Use of the existing provincial Northern Ontario Travel Grants Program to cover travel-related costs for remote residents (Ontario 2021); • Development of a central booking website to replace the prior network of PHU booking platforms (however not all PHUs came onboard and pharmacies were not included) (Gillis 2021); • PHUs brought vaccines to the people by mobilizing pop-up, mobile, workplace 	<p>Many activities were introduced by the province to reduce these barriers including:</p> <ul style="list-style-type: none"> • Reduce booking barriers: walk-in clinics • Reduce access barriers: use of mobile units (pop-up clinics) to reach isolated/hard-to-reach communities, shelters, correctional facilities, etc.; at-home vaccination service (Nova Scotia 2021h) • Reduce mobility/sensory barriers: drive-through clinics • Reduce transportation barriers: \$5 Rural Rides project (Rural Transportation Association 2020)

and other vaccine clinics to reach workers and individuals experiencing homelessness (City of Toronto 2022; Ontario 2021j)

- Door-to-door efforts by PHUs and community organizations to sign residents up for vaccines and administer vaccines, particularly in high-risk populations (City of Toronto 2021a)
 - The volunteer group Vaccine Hunters Canada played an important role in notifying Ontarians about available vaccination appointments in real-time through social media (Pope 2021);
 - Community groups (e.g., Toronto's Crossroads Refugee Clinic) provided translation support and other targeted supports to help vulnerable residents book and travel to their vaccination appointments and combat misinformation (Paperny 2021)
 - Pop-up clinics at sporting and other events. Vaccination is a requirement to attend all major sports events (e.g.,
-

Blue Jays, Maple Leafs)
(Ontario 2021m)

- Peel Region operated “Doses after dark” overnight vaccination clinics to reach shift workers and other vulnerable populations (Peel 2022).
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Supplementary Table 5. Activities taken to improve the uptake of vaccinations

	British Columbia	Saskatchewan	Ontario	Nova Scotia
PROOF OF VACCINATION POLICIES				
<i>Introduced</i>	23 August 2021	16 September 2021	1 September 2021	8 September 2021
<i>Implemented</i>	13 September 2021	1 October 2021	22 September 2021	4 October 2021
<i>Any exemptions?</i>	A 10 September 2021 public health order included an option of requesting “reconsideration for proof of vaccine” on the basis of a “medical contraindication” (Brend 2021).	Proof of a recent negative COVID-19 test was allowed as an alternative to vaccination (Saskatchewan 2021j).	Medical letters confirming medical contraindication were accepted for exemptions. Certain activities were also exempt—e.g., for restaurants vaccination was required to eat indoors, but not outdoors and patrons could use washrooms or pick-up orders inside without proof of vaccination (Ontario 2021n).	Those with specific underlying medical conditions had to request an exemption letter signed by a physician or nurse practitioner. Clinical trial participants for a COVID-19 vaccine that was not yet approved by Health Canada automatically received an exemption letter from the DHW (Nova Scotia 2021i).
<i>What services were included? Were they mandatory or opt-in?</i>	<ul style="list-style-type: none"> •The full listing of settings included: “indoor ticketed sporting events; indoor concerts, theatre, dance and symphony events; licensed restaurants, and those that offered table service (indoor and outdoor dining); pubs, bars and lounges (indoor and outdoor dining); night clubs, casinos, movie theatres; fitness centres/gyms/adult sports (indoor); indoor group exercise activities; organized indoor events with 50 or more people 	<ul style="list-style-type: none"> •Essential services, such as religious ceremonies, hotels, and health care, were exempt. •The non-essential services under the proof of vaccination policy included indoor dining at restaurants; nightclubs, bars, taverns, and other licensed establishments; event and entertainment venues which included conference centres, casinos, movie theatres, concert venues, live-music venues, museums; and indoor facilities 	<ul style="list-style-type: none"> •Proof of vaccination was required for individuals ages 12 and older for certain non-essential facilities/activities (with limited exceptions): food and drink establishments (both indoor and outdoor areas of these establishments with dancing facilities); indoor and outdoor meeting and event spaces; indoor and outdoor sports and recreational fitness facilities; indoor areas of gaming and betting establishments; indoor 	<ul style="list-style-type: none"> •Proof of vaccination was mandatory in the following indoor and outdoor non-essential settings: food and drink establishments (restaurants, fast food, bars, wineries, distillery tasting rooms); casinos and gaming establishments; leisure activities (e.g., go-carting); festivals and special events; sports practices, games, competitions and tournaments; extracurricular school-

	(e.g., wedding receptions, organized parties, conferences, workshops); and discretionary organized indoor group recreational classes and activities” (BC 2021f).	hosting ticketed sporting events, indoor fitness centres, and gyms (Saskatchewan 2021j). • The Saskatchewan Roughriders required vaccination to attend their final three home games.	and outdoor concert venues, theatres and cinemas; bathhouses, sex clubs and strip clubs; commercial film and TV productions where there was a studio audience; and outdoor areas that had a normal capacity of 20,000 or more people. Individuals unable to be double-vaccinated for a medical reason, needed to provide written proof from a physician or nurse practitioner (Ontario 2021n).	based activities; receptions, social events, training, conferences, weddings and funerals, hosted by a business or organization. • Other settings where proof of vaccination was required: fitness centres and recreation facilities; bus, boat and walking tours; museums, Art Gallery of Nova Scotia and public library programs; community meetings held in rental spaces or where the public may be present; activities and events hosted by a faith organization (not including regular faith services) (Nova Scotia 2021i).
<i>Any important contextual factors?</i>	Fully supported by the premier and MOH (BC MOH 2021f; BC Office of the Premier 2021d); however, the CMOH was initially (in May 2021) not in favour of the use of proof of vaccination policies beyond their use for travel-related purposes (Bennett 2021).	Introduced in the middle of the fourth wave that was hitting hard at the time. Highly politicized topic. Premier Moe initially said no vaccine mandates would be introduced (Hunter 2021).	The introduction of a proof of vaccination policy was a highly politicized topic in Ontario. After publicly resisting their use, Premier Ford eventually turned to support them. However, Premier Ford suggested the federal government should support such a system but the Federal election had impeded implementation	Former Premier Rankin promised voluntary proof-of-vaccination policies during his election campaign (dubbed the “ScotiaPass”); however, Premier Houston did not make a similar promise (Doucette 2021b). CMOH Dr. Strang was initially hesitant to implement proof-of-vaccination for non-essential services (Halef 2021); however, the

			to date (DeClerq et al. 2021b).	province ultimately decided to implement the policy as a consequence of the fourth wave (Nova Scotia Government 2021c).
OTHER				
<i>Financial incentives</i>	No—the Government of BC did not offer financial incentives. However, this was done by a Lower Mainland First Nation (the Matsqui First Nation) who gave \$1,000 to any member aged 12 and older who provided proof of full vaccination (Robinson 2021).	No	No	No
<i>Workplace policies</i>	<ul style="list-style-type: none"> • Apart from the health care sector, the province of BC had not announced any additional mandates for other workplaces (Samfiru Tumarkin LLP 2021). 	<ul style="list-style-type: none"> • Several workplaces implemented mandatory vaccination policies (Saskatchewan 2021j). 	<ul style="list-style-type: none"> • Several private workplaces implemented mandatory vaccination policies or have introduced incentives to encourage vaccination (e.g. paid leave, hourly bonus pay, etc.) (Jones 2022). • The province did not implement any workplace vaccination policies; however, on 4 October 2021, a directive from the Speaker of the Legislative Assembly required vaccination for anybody seeking entry into the legislative assembly. No medical exemptions were permitted; all 	<ul style="list-style-type: none"> • Government employees in certain sectors (e.g., health care, education, correctional services) had to show proof of at least one dose by 30 November 2021 (Nova Scotia 2021j). • Notably, Nova Scotia delayed in planning relaxation of public health measures (i.e., Phase 5 of its reopening plan, which would allow restaurants, gyms, and other workplaces to drop capacity limits) until after its 75% coverage target was achieved (Nova Scotia 2021k).

			unvaccinated persons had to present proof of a recent negative rapid antigen test (D’Mello 2021).	
<i>Provincially mandated paid work leave policies for vaccination</i>	Up to three hours of paid leave was provided, retroactive to 19 April 2021, for COVID-19 related reasons, including vaccination (BC Ministry of Labour 2021).	The province introduced paid leave for the specific purposes of receiving COVID-19 vaccination, entitling all workers to three consecutive hours leave (Saskatchewan 2021f).	The province mandated a paid leave policy for COVID-19 reasons, including vaccination, for up to three days leave; this <i>Worker Income Protection Benefit program</i> was introduced in April 2021 and planned to remain in place until at least 31 July 2022 (Ontario 2021o).	A paid provincial sick leave program, that included vaccination, was provided between May and June 2021 and December 2021 and March 2022 (Nova Scotia 2021i); workers were entitled up to four days of paid leave up to \$20/hour (\$640 total per worker) if they missed more than 50% of their scheduled work in a single week and could not work remotely (Nova Scotia 2021i).
<i>Activities to bring clinics to the people</i>	Mobile clinics have been employed to reach individuals who are homebound due to mobility issues and/or reside in rural communities (BC Office of the Premier 2021e). Door-to-door activities were also taken to register individuals for vaccination, in addition to providing them with the means of getting to clinics (Hinks 2021; <i>Vancouver Sun</i> 2021).	The province used a door-to-door campaign in Northern communities, as well as mobile and pop-up clinics in popular areas (e.g., Saskatchewan Roughrider football game stadium) (SHA 2021c; Skjerven 2021).	The province used mobile, pop-up, and door-to-door clinics. Several PHUs were innovative—e.g., Peel’s overnight clinics to reach shift workers. Pop-up clinics also happened at sporting and other events (e.g., amusement parks) (Ontario 2021m).	The province used mobile, pop-up, and at-home clinics in both remote and urban areas. Pop-up clinics in high-traffic areas, such as libraries, also occurred (Halifax Public Libraries 2021).

<i>Promotion of vaccination by experts and celebrities (examples)</i>	<ul style="list-style-type: none"> • BC-born celebrities, Ryan Reynolds and Michael Bublé, actively promoted the “This is our Shot” campaign. • In January and February 2021, a well-known Vancouver emergency physician, Dr. Navdeep Grewal, worked with the South Asian Task Force to help with “mythbusting” some misinformation on COVID-19 vaccines (Collins 2021). • Beginning on 27 July 2021, the province launched its “Vax for BC” campaign, which consisted of community events, vax vans and mobile clinics in dozens of communities (BC MOH 2021g). 	<ul style="list-style-type: none"> • Dr. Alexander Wong actively engaged with the media and Twitter followers. • Dr. Nazeem Muhajarine took part in several media interviews. • Dr. Emily Sullivan actively engaged with Instagram followers. • Dr. Evan Adams (Indigenous Canadian Actor and medical doctor) • Dr. Victoria McKinney. • The province ran the “Stick It To COVID” Saskatchewan advertising campaign featuring 11 Saskatchewan people sharing their stories (Saskatchewan 2021k). 	<ul style="list-style-type: none"> • Celebrity Ryan Reynolds actively engaged with Ottawa Public Health on some viral Twitter exchanges focused on combating misinformation and vaccination (Woods 2021). • Politicians actively supported vaccinations; e.g., posting pictures/ videos of being vaccinated to social media (Doug Ford 2021). 	<p>This was fairly limited outside government personnel; however, one example includes Dr. Tiffany Richards, who engaged with her African Nova Scotian community members on social media to answer questions, ease hesitancy and provide up-to-date COVID-19 vaccine information (Angus 2021).</p>
<i>Definition of an essential worker, as used in vaccine eligibility guidance</i>	<ul style="list-style-type: none"> • A long list of essential workers was provided, including: first responders; K-12 educational and child care staff; grocery store and wholesale retail; manufacturing, postal, bylaw and quarantine officers; staff living in congregate housing (e.g., ski hills), correctional facilities, and cross- 	<ul style="list-style-type: none"> • Prioritized essential workers initially included long-term care and personal care home staff; health care workers in emergency, ICU, and COVID-19 wards; COVID-19 testing and assessment staff; respiratory therapists; code blue and trauma teams; EMS; and road and air transport teams 	<ul style="list-style-type: none"> • A long list of essential workers was provided, including those in the following sectors: health care, emergency services, retail, manufacturing and natural resources, utilities and waste management, childcare, veterinary, communications, financial, social work and justice, and 	<p>Prioritized essential workers initially included: Department of Community Services facilities workers (e.g., adult residential centres), correctional facilities, shelters and temporary workers’ quarters; food preparation workers where social distancing protocols could not be maintained; frontline police officers;</p>

border transport (BC MOH 2021h).

(Rowein et al. 2022). However, educational staff, grocery store workers and staff in a facility with a participating pharmacy, first responders, police officers/RCMP, firefighters, correction staff, border security officers, deputy sheriffs, and allied health workers were later added to the prioritization list in late April 2021 (Rowein et al. 2022).

transportation (Ontario 2021p).

and cross-border travel workers (e.g., truck drivers and rotational workers) (Nova Scotia 2021c); however, truck drivers, rotational workers, and food-processing plant workers were later removed from the prioritization list in early April 2021 (Nova Scotia Government 2021d).

Supplementary Table 6. Activities taken to reach key groups

	British Columbia	Saskatchewan	Ontario	Nova Scotia
ACTIVITIES TO REACH KEY GROUPS				
<i>Essential workers</i>	No targeted activities were identified in the literature.	Vaccination clinics were held at workplaces.	Pop-up clinics were held at workplaces. Several workplaces also implemented mandatory vaccination policies.	Health care workers were vaccinated at dedicated health care worker clinics (often in hospitals). Efforts to reach other essential workers (such as temporary foreign workers) are unclear.
<i>Vulnerable populations (e.g., persons experiencing homelessness)</i>	Four new vaccination clinics were specifically designed for individuals experiencing homelessness and residents of shelters, single room occupancy hotels or supported housing (Correia 2021).	Held vaccination clinics at homeless shelters, soup kitchens, correctional facilities, as well as mobile/pop-up clinic locations around major cities (Biber 2021; James 2021).	Targeted clinics were operated at shelters and other locations to reach hard-to-reach populations. (Ontario 2021q).	Mobile units were largely responsible for delivering and administering vaccinations in isolated/hard-to-reach communities, shelters, correctional facilities, and long-term care facilities (Grant 2021).
<i>New/recent immigrants</i>	<ul style="list-style-type: none"> • No ID, residency, or health insurance requirements • Legal concerns among undocumented workers appear particularly salient • No evidence of any vaccination efforts targeted towards recent immigrants; however, there are community and local- 	<ul style="list-style-type: none"> • No ID or health insurance requirements • The Regina Open Door Society and SHA partnered to organize vaccination clinics for newcomers (Bell 2021). • SHA deployed a “health bus” to neighborhoods and held drop-in clinics at refugee resettlement agencies (Vescera 2021). 	<ul style="list-style-type: none"> • No ID, residency, or health insurance requirements • Targeted mobile clinics • Community groups have supported this group in accessing vaccines (e.g., booking, transportation), answering questions, providing translation services, etc. (City of Toronto 2021b). 	<ul style="list-style-type: none"> • No ID, residency, or health insurance requirements • Vaccine clinic at the Newcomer Clinic in Halifax (Nova Scotia 2021m) • Immigrant Services Association of Nova Scotia directly reached out to newcomers to help them receive

	led efforts (BC Refugee Hub 2022).			vaccinations (Nova Scotia 2021m).
<i>Children and youth</i>	<ul style="list-style-type: none"> • Children (ages 5-11) and those getting third doses (starting with people most at risk) took place in parallel. • Clinic options for children: 5-11 (family clinic), 12+ clinic, all-ages clinic (BC 2021g). 	<ul style="list-style-type: none"> • Children (ages 5-11) not prioritized for vaccinations, with a limited paralleled rollout of third doses. • Métis Nation Saskatchewan offered educational scholarship to Indigenous youth to win if they get vaccinated (Kliem 2021). 	<ul style="list-style-type: none"> • Children (ages 5-11) and those getting third doses (starting with people most at risk) took place in parallel. • Targeted clinics have been used to reach adolescents; details for Ontario’s vaccination plan for younger children (i.e., 5-11 years) were still being determined at the time of writing but it was likely that schools would be an important location for these vaccinations. • Other efforts included PHUs providing children with colourful vaccination activity books, stamp cards, or certificates to promote vaccinations (Neufeld 2021). 	<ul style="list-style-type: none"> • Children (ages 5-11) and those getting third doses (starting with people most at risk) took place in parallel.; there were no dedicated pediatric vaccine clinics. • IWK Health released a COVID-19 Comfort Promise toolkit for parents/caregivers, health care providers, educators and pharmacy clinics to help prepare children for their COVID-19 vaccines (IWK Health 2021).
<i>Primary and secondary school vaccine mandates</i>	No province-wide mandate for educators or school staff; no school boards introduced their own policies until 2022. Specifically, on 17 January 2022, the Vancouver-area Delta School District began	No province-wide mandate for educators or school staff; however, many school divisions introduced their own policies. For example, the two largest school divisions in Saskatchewan required their staff to show proof	No province-wide mandate for educators or school staff; however, many school boards introduced their own policies. For example, the Toronto District School Board placed more than 300 staff members on administrative leave for	The Government of Nova Scotia implemented a proof of vaccination policy for all elementary and secondary school teachers and staff, as part of a mandatory vaccination policy that applied to various government and

	requiring all school staff be vaccinated; regular rapid testing or unpaid leave were options for unvaccinated individuals (Delta 2021).	of vaccination or provide regular COVID-19 test results after November 2021 (Regina Public Schools 2021; Saskatoon Public Schools 2021).	failing to be vaccinated by their required deadline (Wilson 2021b).	essential workers (Nova Scotia 2021f). Testing in lieu of vaccination was not an option; unvaccinated staff were placed on unpaid leave and could face termination.
<i>Post-secondary school vaccine mandates</i>	There was no provincial level mandate, most post-secondary institutions introduced some sort of vaccine policy. The specifics of these policies varied by institution.	There was no provincial level mandate, though most post-secondary institutions introduced some sort of vaccine policy. The specifics of these policies varied by institution (University of Regina 2021; University of Saskatchewan 2021).	There was no provincial level mandate, though most post-secondary institutions introduced some sort of vaccine policy. The specifics of these policies varied by institution (COMOH 2021).	There was no provincial level mandate (Nova Scotia 2021n); however, proof-of-vaccination policies were implemented in all post-secondary institutions except for Saint Francis Xavier University and Acadia University. The specifics of these policies varied across institutions (Acadia University 2021; Atlantic School of Theology 2021; Cape Breton University 2021; Dalhousie University 2021; Mount Saint Vincent University 2021; Nova Scotia College of Art and Design (NSCAD) 2021; NSCC 2020; Saint Mary's University 2021; Université Sainte-Anne 2021; University of King's College 2021).

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