

COVID-19 Living Evidence Profile #1

(Version 5: 16 March 2021)

Appendix 1: Methodological details

We use a standard protocol for preparing living evidence profiles (LEP) to ensure that our approach to identifying research evidence as well as experiences from other countries and from Canadian provinces and territories are as systematic and transparent as possible in the time we were given to prepare the profile.

Identifying research evidence

For each LEP, we search our continually updated [inventory of best evidence syntheses](#) and [guide to key COVID-19 evidence sources](#) for:

- 1) guidelines developed using a robust process (e.g., GRADE);
- 2) full systematic reviews;
- 3) rapid reviews;
- 4) guidelines developed using some type of evidence synthesis and/or expert opinion;
- 5) protocols for reviews or rapid reviews that are underway;
- 6) titles/questions for reviews that are being planned; and
- 7) single studies (when no guidelines, systematic reviews or rapid reviews are identified).

For the first version of this LEP, we also searched Health Systems Evidence (www.healthsystemsevidence.org) and HealthEvidence (www.healthevidence.org), to identify any relevant evidence documents that might have relevance to the COVID-19 vaccine roll-out, but were produced before the pandemic, given that the other sources searched were specific to COVID-19. In Health Systems Evidence, we searched for overviews of systematic reviews, systematic reviews of effects, systematic reviews addressing other questions, and protocols for systematic reviews, that may provide insights about vaccine-delivery systems by searching for ‘vaccine’ using the filters for ‘public health’ (under health-system sectors). In HealthEvidence, we searched using the categories for ‘Immunization’ and ‘Policy and Legislation’ under the intervention strategy filter combined with ‘Communicable Disease/Infection’ category under the topic filter.

Each source for these documents is assigned to one team member who conducts hand searches (when a source contains a smaller number of documents) or keyword searches to identify potentially relevant documents. A final inclusion assessment is performed both by the person who did the initial screening and the lead author of the rapid evidence profile, with disagreements resolved by consensus or with the input of a third reviewer on the team. The team uses a dedicated virtual channel to discuss and iteratively refine inclusion/exclusion criteria throughout the process, which provides a running list of considerations that all members can consult during the first stages of assessment.

During this process we include published, pre-print and grey literature. We do not exclude documents based on the language of a document. However, we are not able to extract key findings from documents that are written in languages other than Chinese, English, French or Spanish. We provide any documents that do not have content available in these languages in an appendix containing documents excluded at the final stages of reviewing.

Identifying experiences from other countries and from Canadian provinces and territories

For each LEP, we collectively decide on what countries to examine based on the question posed. For other countries we search relevant sources included in our continually updated guide to key COVID-19 evidence sources. These sources include government-response trackers that document national responses to the pandemic. In addition, we conduct searches of relevant government and ministry websites. In Canada, we search websites from relevant federal and provincial governments, ministries and agencies (e.g., Public Health Agency of Canada).

While we do not exclude countries based on language, where information is not available through the government-response trackers, we are unable to extract information about countries that do not use English, Chinese, French or Spanish as an official language.

Assessing relevance and quality of evidence

We assess the relevance of each included evidence document as being of high, moderate or low relevance to the question. We then use a colour gradient to reflect high (darkest blue) to low (lightest blue) relevance.

Two reviewers independently appraise the methodological quality of systematic reviews and rapid reviews that are deemed to be highly relevant. Disagreements are resolved by consensus with a third reviewer if needed. AMSTAR rates overall methodological quality on a scale of 0 to 11, where 11/11 represents a review of the highest quality. High-quality reviews are those with scores of eight or higher out of a possible 11, medium-quality reviews are those with scores between four and seven, and low-quality reviews are those with scores less than four. It is important to note that the AMSTAR tool was developed to assess reviews focused on clinical interventions, so not all criteria apply to systematic reviews pertaining to health-system arrangements or to economic and social responses to COVID-19. Where the denominator is not 11, an aspect of the tool was considered not relevant by the raters. In comparing ratings, it is therefore important to keep both parts of the score (i.e., the numerator and denominator) in mind. For example, a review that scores 8/8 is generally of comparable quality to a review scoring 11/11; both ratings are considered 'high scores.' A high score signals that readers of the review can have a high level of confidence in its findings. A low score, on the other hand, does not mean that the review should be discarded, merely that less confidence can be placed in its findings and that the review needs to be examined closely to identify its limitations. (Lewin S, Oxman AD, Lavis JN, Fretheim A. SUPPORT Tools for evidence-informed health Policymaking (STP): 8. Deciding how much confidence to place in a systematic review. *Health Research Policy and Systems* 2009; 7 (Suppl1):S8.

Preparing the profile

Each included document is hyperlinked to its original source to facilitate easy retrieval. For all included guidelines, systematic reviews, rapid reviews and single studies (when included), we prepare a small number of bullet points that provide a brief summary of the key findings, which are used to summarize key messages in the text. Protocols and titles/questions have their titles hyperlinked given that findings are not yet available. We then draft a brief summary that highlights the total number of different types

of highly relevant documents identified (organized by document), as well as their key findings, date of last search (or date last updated or published), and methodological quality.

Appendix 2a: Key findings from new evidence documents that address the question, organized by document type and sorted by relevance to the question and COVID-19

Type of document	Relevance to question	Key findings	Recency or status
Guidelines developed using a robust process (e.g., GRADE)	<ul style="list-style-type: none"> Administering vaccines in ways that optimize timely uptake <ul style="list-style-type: none"> With what explicit effort to leverage existing health-system arrangements Surveillance, monitoring and evaluation, and reporting <ul style="list-style-type: none"> Documenting vaccine status Documenting adverse events and follow-up Monitoring supply safety Identifying and measuring performance indicators (particularly those adjusted from standard vaccine programs) Infrastructure to enable surveillance, monitoring and evaluation 	<ul style="list-style-type: none"> This document on monitoring COVID-19 vaccination provides guidance about: <ul style="list-style-type: none"> Minimum and optional data to collect as vaccines are being rolled out and delivered Key performance indicators and the anticipated use of these to measure the performance of key components of the immunization system and to take corrective action when needed The use of information systems to collect, store, analyze and disseminate any relevant information This interim guidance is primarily directed at national authorities who are responsible for the management, implementation and monitoring of COVID-19 vaccine introduction and delivery in their countries, and may also be useful for any partners who provide the required support in countries or organizations that develop and deploy information systems to support vaccination programs This interim guidance presents different tools for recording and reporting COVID-19 vaccination data, including home-based records (vaccination cards), facility-based records (immunization registers), tally sheets, periodic reports, and dashboards This interim guidance presents different types of digital systems to collect, report and analyze COVID-19 vaccination data, including health-management information systems (HMIS), electronic immunization registries (EIR), digital vaccination cards and certificates, logistics- 	Published 3 March 2021

Type of document	Relevance to question	Key findings	Recency or status
		management information systems (LMIS), and geographical information systems (GIS) Source (World Health Organization)	
	<ul style="list-style-type: none"> Communicating vaccine-allocation plans and the safety and effectiveness of vaccines <ul style="list-style-type: none"> Content of messaging <ul style="list-style-type: none"> Information (for health workers) about vaccine-administration protocols Administering vaccines in ways that optimize timely uptake <ul style="list-style-type: none"> Where <ul style="list-style-type: none"> Community-based health settings With what reporting requirements and supporting immunization information systems and broader healthcare information systems With what safety monitoring requirements 	<ul style="list-style-type: none"> The checklist can help frontline health workers prepare and complete a COVID-19 vaccination session at a fixed post or outreach session Before a COVID-19 vaccination session, front-line health workers should conduct related calculations and the following tasks: <ul style="list-style-type: none"> Prepare tally sheets (or other reporting forms, depending on recommendation, including tracking for two doses) Develop a list with contact phone numbers (e.g., supervisor, focal person for adverse events following immunization (AEFI), ambulance driver) Prepare an AEFI kit and COVID-19 vaccine-specific AEFI reporting forms Prepare an infection prevention and control kit Provide a waste bin (or bag) and a properly labelled bag for infectious waste Source (World Health Organization)	Published 1 March 2021
	<ul style="list-style-type: none"> Communicating vaccine-allocation plans and the safety and effectiveness of vaccines <ul style="list-style-type: none"> Delivery of the intervention <ul style="list-style-type: none"> By whom Modality of delivery Content of messaging <ul style="list-style-type: none"> Data and evidence about safety and about effectiveness in terms of both protection against COVID-19 (including duration of protection) and protection against transmission (and other factors that may contribute to vaccine acceptance and hesitancy) 	<ul style="list-style-type: none"> The health worker communication for COVID-19 vaccination flow diagram supports health workers by outlining key steps and messages to communicate during a COVID-19 vaccination session <ul style="list-style-type: none"> Step 1: determine eligibility for vaccine Step 2: presume acceptance of a vaccine Step 3: share key messages about COVID-19 vaccines, including benefits of vaccination, common potential side effects and how to handle them Step 4: respond to questions and concerns with empathy, including using facts, stories, 	Published 1 March 2021

Type of document	Relevance to question	Key findings	Recency or status
	<ul style="list-style-type: none"> Information (for health workers) about vaccine-administration protocols Myths and misinformation about vaccines Risk-mitigation efforts (including complementary public-health measures used at time of vaccination) 	<p>and visual aids to provide information to debunk misinformation, rumours, and myths, or pointing to trusted resources or people in the community who support COVID-19 vaccination (e.g., village chief)</p> <ul style="list-style-type: none"> Step 5: request consent to vaccinate Step 6: vaccinate and provide information to take home, including reminding the vaccine recipient to continue to follow public-health and social measures (i.e., wear a mask, maintain physical distance, and practise hand hygiene and respiratory etiquette) These steps can be carried out prior to the vaccination event, in-person or via virtual platform, at a group educational session, community meeting, or one-on-one interaction <p>Source (World Health Organization)</p>	
	<ul style="list-style-type: none"> Surveillance, monitoring and evaluation and reporting <ul style="list-style-type: none"> Documenting vaccine-related opinions 	<ul style="list-style-type: none"> The assessment tool provides guidance to national and sub-national health authorities on rapidly assessing and responding to community health needs and perceptions around access and effective use of essential health services during the COVID-19 outbreak This assessment tool covers the following aspects: <ul style="list-style-type: none"> Unmet needs for essential health services Perceived barriers to use of essential health services, considering both supply and demand factors Attitudes towards COVID-19 vaccination Community assets and vulnerabilities Barriers to the provision of community-based services <p>Source (World Health Organization)</p>	Published 5 February 2021
Full systematic reviews	<ul style="list-style-type: none"> Surveillance, monitoring and evaluation and reporting <ul style="list-style-type: none"> Documenting vaccine-related opinions 	<ul style="list-style-type: none"> The review described the pharmacology, indications, contraindications, and adverse effects of the Pfizer-BioNTech and Moderna vaccines 	Published February 2021

Type of document	Relevance to question	Key findings	Recency or status
		<ul style="list-style-type: none"> Both vaccines are beneficial to provide immunity protection against SARS-CoV-2 infection <ul style="list-style-type: none"> The Pfizer-BioNTech is recommended to individuals 16 years and older, with a cost of US\$19.50 per dose, provides protection for at least 119 days, and is 95% effective in preventing SARS-CoV-2 infection Moderna is recommended to individuals 18 years and older, with a cost of US\$32-37 per dose, provides protection for at least 119 days, and is 94% effective Majority of the mild adverse effects include pain, redness or swelling at injection site, fever, fatigue, itching, joint pain, chills, and rarely anaphylactic shock Pfizer-BioNTech vaccines have been reported to have fewer adverse effects but more difficult to transport than Moderna vaccines (which have higher frequency of adverse effects but easier to transport since it is less temperature sensitive) <p>Source</p>	
Rapid reviews	<ul style="list-style-type: none"> Surveillance, monitoring and evaluation and reporting <ul style="list-style-type: none"> Documenting vaccine-related opinions Identifying sources of vaccine hesitancy 	<ul style="list-style-type: none"> This rapid review identified and summarized 135 studies on COVID-19 vaccination knowledge, attitudes, and behaviours of Canadian and global populations, consisting of OECD member countries, to understand the factors associated with vaccine uptake Research on vaccination knowledge, attitudes and behaviours was conducted in healthcare workers, post-secondary studies, high-risk populations, expert stakeholders, and the general public For Canadian context, the review identified that 54-75% of the population expressed intention to vaccinate, and the provinces expressing the highest intent being The Atlantic provinces and British Columbia 	Literature last searched 5 January 2021

Type of document	Relevance to question	Key findings	Recency or status
		<ul style="list-style-type: none"> For global context, the countries that have demonstrated the highest intention to vaccinate (79-87%) include Australia, Brazil, China, India, South Korea and the U.K. Common factors positively associated with intention to vaccinate in Canada and globally include: <ul style="list-style-type: none"> Male gender Older age Higher education Adequate knowledge or health literacy Trust in experts and the government Higher socio-economic status Factors associated with vaccine hesitancy or refusal include: <ul style="list-style-type: none"> Religious beliefs Vaccine safety and efficacy Belief that the COVID-19 vaccine is unnecessary As next steps in this research, longitudinal sampling and monitoring can demonstrate changes in vaccinate intention and uptake over time as vaccines come to market and progression of the roll-out <p>Source (AMSTAR rating 5/9)</p>	
Guidance developed using some type of evidence synthesis and/or expert opinion	<ul style="list-style-type: none"> Administering vaccines in ways that optimize timely uptake <ul style="list-style-type: none"> With what broader, complementary health interventions 	<ul style="list-style-type: none"> This guidance from the U.S. CDC provides updated healthcare infection prevention and control recommendations in response to the COVID-19 vaccination in the following aspects: <ul style="list-style-type: none"> Indoor visitation Work restriction for asymptomatic healthcare personnel and quarantine for asymptomatic patients and residents SARS-CoV-2 testing Use of personal protective equipment 	Published 10 March 2021

Type of document	Relevance to question	Key findings	Recency or status
		<ul style="list-style-type: none"> • This guidance is targeted for all healthcare personnel (HCP) while at work and all patients and residents while they are being cared for in healthcare settings • Indoor visitation for unvaccinated residents should be limited solely to compassionate care situations: <ul style="list-style-type: none"> ○ If the COVID-19 county positivity rate is >10% and <70% of residents in the facility are fully vaccinated ○ For vaccinated and unvaccinated residents with SARS-CoV-2 infection until they have met criteria to discontinue transmission-based precautions ○ For vaccinated and unvaccinated residents in quarantine until they have met criteria for release from quarantine ○ Unvaccinated residents who wish to be vaccinated should not start indoor visitation until they have been fully vaccinated • Updated recommendations about work restriction: <ul style="list-style-type: none"> ○ Fully vaccinated HCP with higher-risk exposures who are asymptomatic (except those who have underlying immunocompromising conditions) do not need to be restricted from work for 14 days following their exposure ○ Fully vaccinated inpatients and residents in healthcare settings should continue to quarantine following prolonged close contact with someone with SARS-CoV-2 infection ○ Quarantine is no longer recommended for residents who are being admitted to a post-acute-care facility if they are fully vaccinated and have not had prolonged close contact with 	

Type of document	Relevance to question	Key findings	Recency or status
		<p>someone with SARS-CoV-2 infection in the prior 14 days</p> <p>Source (Centers for Disease Control and Prevention)</p>	
	<ul style="list-style-type: none"> Administering vaccines in ways that optimize timely uptake <ul style="list-style-type: none"> With what broader, complementary health interventions 	<ul style="list-style-type: none"> This guidance provides the first set of public health recommendations for fully vaccinated people and will continue to be updated based on community levels of COVID-19, proportion of the population that is vaccinated, and the evolving evidence of COVID-19 vaccines For these recommendations, people are considered fully vaccinated for COVID-19 if it has been more than or equal to two weeks after they have received the second dose of the Pfizer-BioNTech or Moderna two-dose vaccine series, or if it has been more than or equal to two weeks after they have received the single-dose Johnson and Johnson vaccine The following recommendations apply to non-healthcare settings and state that fully vaccinated people can do the following: <ul style="list-style-type: none"> Indoor visits with other fully vaccinated people without wearing masks or physical distancing Indoor visits with unvaccinated people from a single household who are at low risk of severe COVID-19 symptoms without wearing masks or physical distancing Fully vaccinated people with COVID-like symptoms do not need to quarantine or be tested following exposure to someone with suspected or confirmed COVID-19 However, in public spaces fully vaccinated people should continue to follow public-health guidance such as wearing a mask, physical distancing, and other prevention measures when visiting unvaccinated people from multiple households 	Published 8 March 2021

Type of document	Relevance to question	Key findings	Recency or status
	<ul style="list-style-type: none"> Administering vaccines in ways that optimize timely uptake <ul style="list-style-type: none"> With what broader, complementary health interventions 	<p>Source (Centers for Disease Control and Prevention)</p> <ul style="list-style-type: none"> This scientific brief provides evidence for currently authorized COVID-19 vaccines and public-health recommendations for fully vaccinated people Current evidence shows that COVID-19 vaccines authorized in the United States are effective against symptomatic, lab-confirmed COVID-19, including severe forms of the virus. Growing evidence shows that COVID-19 vaccines may reduce asymptomatic infection and transmission Through modelling studies, it is highly advisable that public-health preventive measures such as mask use and physical distancing continue to be maintained Preliminary evidence suggests that authorized COVID-19 vaccines in the United States may offer some protection against emerging COVID-19 variant strains, with more promise for B.1.1.7 originally identified in the United Kingdom <p>Source (Centers for Disease Control and Prevention)</p>	Published 8 March 2021
	<ul style="list-style-type: none"> Allocating vaccines and ancillary supplies equitably <ul style="list-style-type: none"> Allocation rules <ul style="list-style-type: none"> People for whom vaccine safety and effectiveness has not yet been established 	<ul style="list-style-type: none"> This guideline consolidates guidance issued by the Centers for Disease Control and Prevention, the American College of Obstetricians and Gynecologists, and the Society for Maternal-Fetal Medicine on COVID-19 vaccine provision to pregnant persons There is a lack of data for pregnancy during vaccine clinical trials, however pregnant persons and their obstetricians will need to use the limited available data to weigh the risks and benefits of the COVID-19 vaccines Considerations to be taken when counselling pregnant persons on the COVID-19 vaccine include: 	Published 3 February 2021

Type of document	Relevance to question	Key findings	Recency or status
		<ul style="list-style-type: none"> ○ Data from animal studies ○ Timing of planned vaccination during pregnancy ○ Risks of vaccine reactogenicity ○ Risk of exposure to SARS-CoV-2 ● Obstetricians will need to keep up to date with the latest information as more data on vaccines for pregnant persons becomes available <p>Source (Centers for Disease Control and Prevention, American College of Obstetricians and Gynecologists, Society for Maternal-Fetal Medicine)</p>	
	<ul style="list-style-type: none"> ● Allocating vaccines and ancillary supplies equitably <ul style="list-style-type: none"> ○ People for whom vaccine safety and effectiveness has not yet been established ● Administering vaccines in ways that optimize timely uptake <ul style="list-style-type: none"> ○ With what explicit effort to leverage existing health-system arrangements ○ With what safety monitoring requirements 	<ul style="list-style-type: none"> ● A multidisciplinary panel of experts from three cancer centres in the United States recommend cancer screening to occur six weeks before or after the final vaccination dose to avoid any reactive adenopathy ● No other delay should occur for other planning and treatment (e.g., acute symptoms, monitoring) ● Vaccines should be administered on the side contralateral to the primary or suspected cancer and administered in the same arm ● Vaccination information (e.g., administration date, injection site, laterality, and type of vaccine) should be included in questionnaires and should be communicated clearly among patients, radiologists and other health team members <p>Source (Radiology Scientific Expert Panel)</p>	Published 24 February 2021
	<ul style="list-style-type: none"> ● Allocating vaccines and ancillary supplies equitably <ul style="list-style-type: none"> ○ People for whom vaccine safety and effectiveness has not yet been established ● Administering vaccines in ways that optimize timely uptake <ul style="list-style-type: none"> ○ With what explicit effort to leverage existing health-system arrangements 	<ul style="list-style-type: none"> ● Most patients with cancer should receive the usual dose and schedule for COVID-19 vaccines ● Particular attention should be given to patients with active cancer and to evaluate the efficacy and safety in the timing of vaccination with active cancer and immunosuppression treatments <p>Source (Fred Hutchinson Cancer Research Center)</p>	Published 18 February 2021

Type of document	Relevance to question	Key findings	Recency or status
	<ul style="list-style-type: none"> ○ With what safety monitoring requirements ● Allocating vaccines and ancillary supplies equitably <ul style="list-style-type: none"> ○ People for whom vaccine safety and effectiveness has not yet been established ● Administering vaccines in ways that optimize timely uptake <ul style="list-style-type: none"> ○ With what explicit effort to leverage existing health-system arrangements ○ With what safety monitoring requirements 	<ul style="list-style-type: none"> ● Patients with cancer should receive mRNA vaccines against COVID-19 as other types of vaccines (viral vector or inactivated virus) have not been sufficiently tested to give a recommendation on its use ● Patients with haematological malignancies, active cancer, or with a recent diagnosis of a solid tumor and healthcare workers caring for cancer patients should be prioritized for vaccination <p>Source (Infectious Diseases Working Party (AGIHO) of the German Society for Haematology and Medical Oncology)</p>	Published 10 February 2021
	<ul style="list-style-type: none"> ● Allocating vaccines and ancillary supplies equitably <ul style="list-style-type: none"> ○ Allocation rules <ul style="list-style-type: none"> ▪ People for whom vaccine safety and effectiveness has not yet been established ● Administering vaccines in ways that optimize timely uptake <ul style="list-style-type: none"> ○ With what broader, complementary health interventions 	<ul style="list-style-type: none"> ● This guideline proposes preliminary considerations on vaccination against COVID-19 in patients with autoimmune inflammatory rheumatic diseases (AIIRD) ● In general, non-live vaccines are recommended in patients with AIIRD (except for patients treated with high-dose corticosteroids or rituximab), with an acceptable safety profile and a sufficient humoral and cellular response ● In view of the COVID-19 pandemic, the possible adverse course of COVID-19 in AIIRD patients and the favourable safety profile of the mRNA vaccines in the general population, mRNA vaccines should be administered to patients with AIIRD ● During the COVID-19 pandemic, vaccination against influenza and streptococcus pneumonia should be highly encouraged and COVID-19 vaccine series should routinely be administered alone, with a minimum interval of 14 days before or after administration of any other vaccine ● Source (BMJ Public Emergency Collection) 	Published 24 February 2021

Type of document	Relevance to question	Key findings	Recency or status
Protocols for reviews that are underway	<ul style="list-style-type: none"> Surveillance, monitoring and evaluation, and reporting 	<ul style="list-style-type: none"> Exploring health beliefs around the public response to the COVID-19 pandemic, and the impact of those beliefs on adherence to public-health policies, and if there are any socio-economic factors associated with those beliefs Source	Anticipated completion date 27 May 2021
	<ul style="list-style-type: none"> Surveillance, monitoring and evaluation, and reporting 	<ul style="list-style-type: none"> Using a transmission dynamics model and economic evaluation to explore the effectiveness of COVID-19 vaccination against different prevention programs (no vaccination and quarantine) Source	Anticipated completion date 10 July 2021
	<ul style="list-style-type: none"> Surveillance, monitoring and evaluation, and reporting 	<ul style="list-style-type: none"> Exploring the differences in safety, effectiveness and antibody duration between the new COVID-19 vaccines Source	Anticipated completion date 05 June 2021
Single studies in areas where no reviews were identified	<ul style="list-style-type: none"> Allocating vaccines and ancillary supplies equitably <ul style="list-style-type: none"> Dosing rules 	<ul style="list-style-type: none"> The authors that published initial results on the efficacy of the ChAdOx1 nCoV-19 (Oxford-AstraZeneca vaccine) conducted a pooled analysis of three single-blind randomized controlled trials to determine single-dose efficacy and the efficacy when the timing of the second dose is prolonged from six weeks to 12 weeks The vaccine efficacy was 76% after one dose from 22 to 90 days after vaccination <ul style="list-style-type: none"> The modelling analysis indicated that protection did not wane during the initial three-month period with minimal waning of antibody levels by day 90 Among individuals who received two doses, the group with a longer prime-boost interval of 12 weeks reported a higher vaccine efficacy (81%) compared to the group with a shorter interval of six weeks (55%) <ul style="list-style-type: none"> Antibody response was two-fold higher after an interval of 12 weeks compared to six weeks 	Published 6 March 2021

Type of document	Relevance to question	Key findings	Recency or status
		<ul style="list-style-type: none"> The authors concluded that a three-month dose interval may be advantageous compared to a program with a short dose interval in order to protect a larger number of individuals as soon as possible when vaccine supplies are limited Source	
	<ul style="list-style-type: none"> Surveillance, monitoring and evaluation, and reporting <ul style="list-style-type: none"> Documenting adverse events and follow-up Infrastructure to enable surveillance, monitoring and evaluation 	<ul style="list-style-type: none"> Two COVID-19 vaccines that received Emergency Use Authorization (EUA) in the United States are undergoing safety monitoring during the initial implementation phases of the COVID-19 national vaccination program using the Vaccine Adverse Event Reporting System (VAERS), a spontaneous reporting system, and v-safe, an active surveillance system VAERS is a passive surveillance system for adverse events that accepts input from healthcare providers, vaccine manufacturers and the public V-safe was established by the Centres for Disease Control and Prevention (CDC) and has participants self-enroll and receive smartphone text messages to web surveys asking about local injection site and systemic reactions For both surveillance systems, local and systemic reactions were common, with reports of death coming from long-term care facilities and rare reports of anaphylaxis Providers are encouraged to promote v-safe enrollment and are required under EUA to report to VAERS any vaccination administration errors, serious adverse events, cases of multisystem inflammatory syndrome, and cases of COVID-19 that result in hospitalization or death after COVID-19 vaccination Source	Published 26 February 2021

Type of document	Relevance to question	Key findings	Recency or status
	<ul style="list-style-type: none"> Surveillance, monitoring and evaluation, and reporting <ul style="list-style-type: none"> Documenting vaccine-related opinions Identifying sources of vaccine hesitancy 	<ul style="list-style-type: none"> The findings from this cross-sectional study in Lebanon found that only 58.8% of participants would be open to receiving COVID-19 vaccines The Pfizer-BioNTech vaccine was ranked as the most trusted COVID-19 vaccine, garnering 73.4% of all respondents' votes The primary concern among respondents included possible adverse side effects caused by the vaccine 15.8% of participants would only be open to vaccinations if they were free of charge Source	Preprint (last edited 8 March 2021)
	<ul style="list-style-type: none"> Surveillance, monitoring and evaluation, and reporting <ul style="list-style-type: none"> Documenting vaccine-related opinions Identifying sources of vaccine hesitancy 	<ul style="list-style-type: none"> In Liverpool, the average staff vaccination rate per care home was found to be 51.4% <ul style="list-style-type: none"> Vaccination rates were found to be lower among care-home staff when compared to residents Concerns leading to vaccine hesitancy include: <ul style="list-style-type: none"> Insufficient research Possible effects on fertility Interventions to improve vaccine uptake among staff may consist of: <ul style="list-style-type: none"> One-on-one or staff meetings Distribution of educational resources Consultations with healthcare professionals Mandatory vaccinations Increased vaccinations of senior management It is reported that 26% of care-home managers were not open to receiving additional support to help improve staff vaccination rates Source	Preprint (last edited 8 March 2021)
	<ul style="list-style-type: none"> Securing and distributing a reliable supply of vaccines and ancillary supplies <ul style="list-style-type: none"> National purchasing Delivery to country 	<ul style="list-style-type: none"> The following study describes the challenges that Sub-Saharan Africa currently faces in terms of access to vaccines, therapeutics and diagnostics for COVID-19 	Published 3 March 2021

Type of document	Relevance to question	Key findings	Recency or status
	<ul style="list-style-type: none"> ○ Distribution within country and to administration sites ○ Storage and handling within country 	<ul style="list-style-type: none"> • Capacity- and infrastructure-building will be required to ensure that the region can meet demand for prevention and treatment needs related to COVID-19 Source	
	<ul style="list-style-type: none"> • Surveillance, monitoring and evaluation and reporting <ul style="list-style-type: none"> ○ Documenting vaccine-related opinions ○ Identifying sources of vaccine hesitancy 	<ul style="list-style-type: none"> • This study found that anti-vaccination supporters receive their information through Twitter “echo chambers” with large amounts of retweeted anti-vaccination information • Pro-vaccination supporters are less likely to engage with the broader pro-vaccination community on social media • While anti-vaccine Twitter accounts circulated scientific findings, they also shared conspiracy theories surrounding the COVID-19 pandemic and content with emotional language • The use of emotional language in pro-vaccine strategies was found to be valuable • The study authors proposed that anti-vaccine movements on Twitter are largely based on a strong sense of community, shared interests outside of vaccines, use of emotional language in anti-vaccination Tweets, and supporters’ personal beliefs • The World Health Organization was identified as the primary source of information for pro-vaccine supporters and Donald Trump as the primary source for anti-vaccine supporters Source	Published 3 March 2021
	<ul style="list-style-type: none"> • Surveillance, monitoring and evaluation and reporting <ul style="list-style-type: none"> ○ Documenting vaccine-related opinions ○ Identifying sources of vaccine hesitancy 	<ul style="list-style-type: none"> • This cross-sectional study investigated factors that have an impact on parents’ decision to vaccinate their children • Parents with higher levels of education, who were involved in the workforce, with children who were girls, and/or with children with chronic illnesses 	Published 3 March 2021

Type of document	Relevance to question	Key findings	Recency or status
		<p>other than asthma, were more likely to vaccinate their children with the COVID-19 vaccine</p> <ul style="list-style-type: none"> • Other factors which impact parents' decision to vaccinate their children include whether their children have been previously vaccinated with the influenza vaccine, parental anxiety and communication with a health professional during the pandemic • There was no correlation between parental sex, age or specific-COVID concerns and parents' decision to vaccinate their children • The study found a strong relationship between whether parents choose to get vaccinated themselves and whether they vaccinate their children <p>Source</p>	
	<ul style="list-style-type: none"> • Securing and distributing a reliable supply of vaccines and ancillary supplies (e.g., needles, diluents) <ul style="list-style-type: none"> ○ National purchasing 	<ul style="list-style-type: none"> • This study monitored 102 dark web marketplaces between 1 January 2020 and 26 February 2021 for activity related to COVID-19 vaccines • A total of 33 unique vaccine-related listings were identified and classified into one of three categories: approved vaccines, other vaccines, and proofs of vaccination • Seven listings of approved vaccines were identified and began appearing on 17 November 2020 and offered products at prices ranging from US\$300 to US\$2,400 • Twenty-three listings of other vaccines were identified and began appearing on 29 January 2020 and offered products at prices ranging from US\$2 to US\$15,000 • Three proof-of-vaccination listings were identified and began appearing on 15 January 2021 and offered products at prices ranging from US\$46 to US\$66 	Preprint (last edited 2 March 2021)

Type of document	Relevance to question	Key findings	Recency or status
		<ul style="list-style-type: none"> The listings of COVID-19 vaccine products on dark web markets closely followed major pandemic-related events The authors note that dark web marketplaces threaten to undermine public-health efforts Source	
	<ul style="list-style-type: none"> Surveillance, monitoring and evaluation and reporting <ul style="list-style-type: none"> Documenting vaccine-related opinions Identifying sources of vaccine hesitancy 	<ul style="list-style-type: none"> The following cross-sectional study explored reasons for vaccine hesitancy in the United States, characteristics of individuals who refuse COVID-19 vaccines, and healthcare settings where individuals would prefer to be immunized Individuals who had not received an influenza vaccine previously, identified as female, were Black, had less than a high school education, and/or associated with the Republican party, were found to be the most vaccine hesitant The study cited concerns about vaccine side effects, vaccine safety, doubts surrounding efficacy and need for more information as the greatest contributors to vaccine hesitancy Primary-care physician clinics were reported as the most preferred place to receive vaccinations by study participants, and pharmacies and COVID-19 vaccine specific locations were noted as the second most preferred places. Source	Published 2 March 2021
	<ul style="list-style-type: none"> Surveillance, monitoring and evaluation and reporting <ul style="list-style-type: none"> Documenting vaccine-related opinions Identifying sources of vaccine hesitancy 	<ul style="list-style-type: none"> The findings from this mixed methods study in Ethiopia found that 19.1% of participants would reject the opportunity to be vaccinated <ul style="list-style-type: none"> The two primary reasons for this include possible adverse side effects and the potential use of the vaccine as a biological weapon It is reported that 46.7% of participants displayed a poor knowledge base of COVID-19 and 51.8% 	Preprint (last edited 1 March 2021)

Type of document	Relevance to question	Key findings	Recency or status
		<p>of respondents held a negative attitude towards this infectious disease</p> <ul style="list-style-type: none"> Vaccine hesitancy was approximately twice as high in female participants when compared to their male counterparts <p>Source</p>	
	<ul style="list-style-type: none"> Surveillance, monitoring and evaluation and reporting <ul style="list-style-type: none"> Documenting vaccine-related opinions Identifying sources of vaccine hesitancy 	<ul style="list-style-type: none"> This study utilized a cross-sectional community survey in England as part of the REal-time Assessment of Community Transmission-2 (REACT-2) program, in which community respondents completed questionnaires to assess confidence in COVID-19 vaccines and prevalence of COVID-19 antibodies Out of 172,009 respondents, the overall prevalence of COVID-19 antibodies was higher in those who were vaccinated than those who were not, 13.9% and 9.8% respectively Vaccine uptake was highest in those aged 80 years or older (93.5) Vaccine confidence was high with 92.0% expressing that they have accepted or intend to take the vaccine, and this confidence varied by age and ethnicity, with lower confidence being expressed by young people and those of Black ethnicity <p>Source</p>	Preprint (last edited 1 March 2021)
	<ul style="list-style-type: none"> Surveillance, monitoring and evaluation and reporting <ul style="list-style-type: none"> Documenting vaccine-related opinions Identifying sources of vaccine hesitancy 	<ul style="list-style-type: none"> The purpose of this study was to assess the level of vaccine acceptance, as well as potential predictors of vaccine acceptance among pregnant women and mothers of young children (including both themselves and their children) The study utilized a cross-sectional design, in which a survey was administered (via the “Pregistry” platform) and advertised to individuals across 16 countries 	Published 01 March 2021

Type of document	Relevance to question	Key findings	Recency or status
		<ul style="list-style-type: none"> Results of this survey indicated that the majority of pregnant woman intended to receive the COVID-19 vaccine should it have an efficacy of 90%; the same held true for mothers of young children, as most respondents in this group indicated that they and their child would receive the vaccine should it have an efficacy of 90% <ul style="list-style-type: none"> The top three reasons why pregnant woman were reluctant to receive the COVID-19 vaccine were: 1) concerns that their developing baby would be exposed to harmful side effects, 2) concerns that vaccine approval would be fast-tracked for political reasons, and 3) limited health and safety data The top three reasons why women with young children decided against receiving the vaccine were: 1) concerns that vaccine approval would be fast-tracked for political reasons, 2) limited health and safety data, and 3) concerns that the vaccine would have harmful side effects When stratifying the results of the survey by country, vaccine acceptance appeared to vary based on context The strongest predictors of vaccine acceptance for both pregnant and non-pregnant women were “confidence in COVID-19 vaccine safety and effectiveness, belief in the importance of vaccines/mass vaccination to their own country, confidence in routine childhood vaccines, worry about COVID-19, trust of public-health agencies and science, as well as compliance with face mask-wearing guidelines” The authors stressed the importance of tailored vaccination campaigns as a means of addressing context-specific variations in vaccine acceptance and predictors of vaccination 	

Type of document	Relevance to question	Key findings	Recency or status
		Source	
	<ul style="list-style-type: none"> • Surveillance, monitoring and evaluation and reporting <ul style="list-style-type: none"> ◦ Documenting vaccine-related opinions ◦ Identifying sources of vaccine hesitancy 	<ul style="list-style-type: none"> • Uncertainties impact health choices of individuals, especially in high-stress situations such as the COVID-19 pandemic • An online survey on hypothetical communications relating to COVID-19 vaccines was conducted with participants from the United Kingdom • In the online survey, the participants were instructed to read a vaccine announcement, which communicated the information with certainty or uncertainty, and then they were instructed to read information that conflicted the announcement • It was found that participants who were exposed to the certain announcement reported a greater loss of trust as well as greater vaccination intention than the participants who were exposed to the uncertain announcement • In summary, this study demonstrated that communicating information with unwarranted certainty may cause negative impacts, whereas exposing uncertainties upfront may protect people from negative impacts of receiving conflicting information 	Published 1 March 2021
	<ul style="list-style-type: none"> • Surveillance, monitoring and evaluation and reporting <ul style="list-style-type: none"> ◦ Documenting vaccine-related opinions ◦ Identifying sources of vaccine hesitancy 	<ul style="list-style-type: none"> • This cohort study enrolled 1,341,682 participants from the U.S. and the U.K., and aimed to investigate disparities in vaccine hesitancy and uptake among racial and ethnic minorities • A questionnaire was administered to participants, asking them whether they received the vaccine, or if they would be willing to receive it; those who indicated that they would not be willing to receive the vaccine were asked to provide a reason for their response 	Published 28 February 2021

Type of document	Relevance to question	Key findings	Recency or status
		<ul style="list-style-type: none"> • The results of this questionnaire indicated that racial and ethnic minorities in both study settings were “more likely to report being unsure or unwilling to undergo vaccination” compared to white participants • The most common reasons for vaccine hesitancy among study participants were concerns related to long-term side effects and adverse reactions; additionally, “Black and Hispanic individuals cited a lack of knowledge about the vaccine at a higher rate than White individuals” • With respect to vaccine uptake, the study concluded that Black individuals from the US. were less likely to receive the vaccine compared to white persons during the first vaccine roll-out. This disparity persisted even “among individuals who specifically endorsed a willingness to obtain a vaccine” • Overall, to promote equitable vaccine uptake, the authors stress the need for a more centralized system of vaccine delivery in the U.S., and this study highlights the “need to address long-standing systemic disparities in order to achieve the health equity required for population-scale immunity” <p>Source</p>	
	<ul style="list-style-type: none"> • Surveillance, monitoring and evaluation, and reporting <ul style="list-style-type: none"> ○ Infrastructure to enable surveillance, monitoring and evaluation 	<ul style="list-style-type: none"> • The purpose of this study was to understand the impact of vaccination on COVID-19 incidence rates among counties in the U.S. • The study determined that vaccination rate was associated with a decline in county-level COVID-19 incidence, “with stronger negative correlations in the Midwestern counties and Southern counties studied” 	Published 28 February 2021

Type of document	Relevance to question	Key findings	Recency or status
		<ul style="list-style-type: none"> The authors stressed the need for “real-time assessment of how factors such as vaccination rates impact community transmission of COVID-19 and localized outbreaks” Source	
	<ul style="list-style-type: none"> Surveillance, monitoring and evaluation and reporting <ul style="list-style-type: none"> Documenting vaccine-related opinions Identifying sources of vaccine hesitancy 	<ul style="list-style-type: none"> Among factory workers in China, the intent to vaccinate varied according to the cost and efficacy of the COVID-19 vaccine <ul style="list-style-type: none"> 53.5% of participants would be open to vaccinations if the vaccine was priced at the market rate (of US\$140) and exhibited 50% efficacy 66.6% of participants would be open to vaccinations if the vaccine was priced at the market rate (of US\$140) and exhibited 80% efficacy 75.6% of respondents would be open to vaccinations if the vaccine was free of charge and exhibited 50% efficacy 80.6 % of respondents would be open to vaccinations if the vaccine was free of charge and exhibited 80% efficacy It is reported that 66.4% of participants “sometimes and/or always” received positive information surrounding COVID-19 vaccines; this was associated with an elevated intent to vaccinate Source	Published 26 February 2021
	<ul style="list-style-type: none"> Surveillance, monitoring and evaluation and reporting <ul style="list-style-type: none"> Documenting vaccine-related opinions 	<ul style="list-style-type: none"> This study examined the opinions of healthcare workers on the prospective planning and decision-making of COVID-19 vaccine allocation, with regards to what is the fairest priority order of vaccines, and on which criteria the prioritization preferences of healthcare workers are implicitly based 465 healthcare workers completed an online survey and the results showed that almost all 	Published 25 February 2021

Type of document	Relevance to question	Key findings	Recency or status
		<p>respondents confirmed the need for transparency and prioritization of the COVID-19 vaccine for healthcare workers, and essential and law-enforcement workers</p> <ul style="list-style-type: none"> The groups identified as the first to be involved in vaccination are clinically vulnerable populations, those over 65 years and healthcare workers <p>Source</p>	
	<ul style="list-style-type: none"> Surveillance, monitoring and evaluation and reporting <ul style="list-style-type: none"> Documenting vaccine-related opinions Identifying sources of vaccine hesitancy 	<ul style="list-style-type: none"> This study examined the level of healthcare workers' acceptance of the COVID-19 vaccine in Pakistan Out of 5,237 responses, 70.25% healthcare workers expressed acceptance of the COVID-19 vaccine and 24.51% desired delays until more data becomes available; rejection of the COVID-19 vaccine was expressed by only 0.05% of the respondents Certain factors that were aligned with vaccine acceptance included: <ul style="list-style-type: none"> Young age Female gender Direct patient care providers <p>Source</p>	Preprint (last edited 24 February 2021)
	<ul style="list-style-type: none"> Surveillance, monitoring and evaluation and reporting <ul style="list-style-type: none"> Documenting vaccine-related opinions Identifying sources of vaccine hesitancy 	<ul style="list-style-type: none"> This study utilized a cross-sectional survey to examine the attitudes of 1,723 healthcare workers towards COVID-19 vaccination It was found that 67% of healthcare workers intended to be vaccinated, 23% of healthcare workers were not sure and 7% declared refusal to be vaccinated Factors associated with vaccine hesitancy were found to be using Facebook as the main information source and being a non-physician healthcare worker, and factors associated with vaccine acceptance were found to be younger age, 	Published 19 February 2021

Type of document	Relevance to question	Key findings	Recency or status
		<p>being in close contact with high-risk groups, and having received the flu vaccination during the 2019-2020 season</p> <ul style="list-style-type: none"> Reasons for vaccine hesitancy were found to include lack of trust in the safety of vaccines and receiving conflicting information about vaccines In summary, the findings of this study demonstrate that vaccine education for healthcare professionals is needed, especially amongst non-physicians <p>Source</p>	
	<ul style="list-style-type: none"> Surveillance, monitoring and evaluation and reporting <ul style="list-style-type: none"> Documenting vaccine-related opinions Identifying sources of vaccine hesitancy 	<ul style="list-style-type: none"> This cross-sectional study explored vaccine hesitancy in Cameroonians and factors that have an impact on hesitancy Vaccine misinformation on Facebook and other social media, concerns about ethics and conflict of interests in the pharmaceutical industry, concerns about the quality of vaccine, and cost of vaccine were cited as factors contributing to vaccine hesitancy Study participants also reported finding value in conducting clinical trials for the vaccine in Cameroon and involving Cameroonian scientists in clinical-trial processes <p>Source</p>	Published 19 February 2021
	<ul style="list-style-type: none"> Surveillance, monitoring and evaluation and reporting <ul style="list-style-type: none"> Documenting vaccine-related opinions Identifying sources of vaccine hesitancy 	<ul style="list-style-type: none"> This study sought to identify factors related to COVID-19 vaccine hesitancy in a sample of the Spanish population The researchers' survey received 731 valid responses, most of whom were aged 36 to 75 567 respondents (77.56%) indicated being in favour of getting vaccinated, and there was a slightly higher acceptance in older age groups 164 participants (22.43%) indicated that they would not be getting vaccinated 	Published 18 February 2021

Type of document	Relevance to question	Key findings	Recency or status
		<ul style="list-style-type: none"> Reasons for rejecting vaccination included doubts about effectiveness, safety concerns about the COVID-19 vaccines, general vaccine skepticism, not believing that COVID-19 exists, believing they have immunity due to prior infection, safety concerns due to the speed of vaccine development, having comorbidities for which vaccination is not recommended, and belief that the vaccines contain nanorobots In the sample, 81% of participating physicians indicated that they would be vaccinated, while 65% of nurses indicated that they would be vaccinated Source	
	<ul style="list-style-type: none"> Surveillance, monitoring and evaluation and reporting <ul style="list-style-type: none"> Documenting vaccine-related opinions Identifying sources of vaccine hesitancy 	<ul style="list-style-type: none"> This study uses survey data and three health-behaviour models to identify psychosocial factors influencing Americans' intention to receive a COVID-19 vaccine Participants generally perceived COVID-19 as a severe health risk, but participants perceived their own susceptibility to be low and were not very fearful of the disease <ul style="list-style-type: none"> Among risk-perception factors, only fear of COVID-19 was positively associated with intention to receive vaccination With respect to vaccine attitudes, participants generally had positive perceptions of vaccines and the potential for vaccines to have a positive impact on themselves and their communities <ul style="list-style-type: none"> Concerns about vaccine safety were more likely to prevent vaccination than cost concerns Positive perceptions about vaccines was positively associated with vaccination intention With respect to self-efficacy, participants felt confident about their ability to get a vaccine to 	Published 17 February 2021

Type of document	Relevance to question	Key findings	Recency or status
		<p>prevent infection, but there was no correlation between self-efficacy and intent to vaccinate</p> <ul style="list-style-type: none"> • Most participants had some knowledge of someone who had contracted COVID-19 and believed that people close to them would be getting vaccinated <ul style="list-style-type: none"> ○ Most participants also had positive perceptions of vaccine in general and had received at least one vaccine in the 18 months prior to the survey ○ Positive attitudes towards vaccination in general, having received a vaccine in the previous 18 months, and belief that people close to them would be vaccinated were associated with greater intention to receive a COVID-19 vaccine ○ Fear mediated the relationship between exposure to COVID-19 cases and intent to vaccinate ○ Attitudes towards COVID-19 vaccines mediated the relationship between attitudes to vaccines in general and intention to vaccinate <p>Source</p>	
	<ul style="list-style-type: none"> • Surveillance, monitoring and evaluation and reporting <ul style="list-style-type: none"> ○ Documenting vaccine-related opinions ○ Identifying sources of vaccine hesitancy 	<ul style="list-style-type: none"> • Ensuring vaccine uptake amongst the general population is of great importance to improve outcomes during the COVID-19 pandemic • This study utilized a survey to extend the health-belief model and examine the role of beliefs of 1,006 employees from Greece in predicting intentions to be vaccinated against COVID-19 • It was found that beliefs about the severity of COVID-19 had a stronger effect on intentions to be vaccinated when there was a perceived risk of getting infected by COVID-19 • Individuals trust in and perceived benefit and safety of the vaccines were also found to be 	Published 26 February 2021

Type of document	Relevance to question	Key findings	Recency or status
		<p>associated with greater intentions to receive the COVID-19 vaccination</p> <ul style="list-style-type: none"> In summary, this study demonstrated that reinforcing the perceived benefit of COVID-19 vaccines may help increase the uptake of vaccinations <p>Source</p>	
	<ul style="list-style-type: none"> Communicating vaccine-allocation plans and the safety and effectiveness of vaccines <ul style="list-style-type: none"> Target of intervention <ul style="list-style-type: none"> High-risk groups Delivery of the intervention <ul style="list-style-type: none"> Modality of delivery (e.g., text, email) 	<ul style="list-style-type: none"> This study used influenza as a model to identify high-risk patients and inform them of their risk status to increase influenza vaccine uptake 39,717 patients were enrolled into groups that were to be informed of their high-risk status, and a control group that was not informed and just received the standard vaccine promotion efforts such as SMS messages encouraging vaccination All those that were informed received messages via print letters, patient portal and SMS The findings showed that informing patients of their high-risk status increased their likelihood of getting vaccinated Using this influenza model, similar interventions might be effective in the COVID-19 vaccination context <p>Source</p>	Preprint (last edited 23 February 2021)
	<ul style="list-style-type: none"> Surveillance, monitoring and evaluation, and reporting <ul style="list-style-type: none"> Infrastructure to enable surveillance, monitoring and evaluation 	<ul style="list-style-type: none"> This study examined how immunization data from an electronic immunization registry in Pakistan can be leveraged for decision-making to help achieve the following outcomes: <ul style="list-style-type: none"> Improve performance management of vaccination programs to increase geographical coverage Evaluate and monitor provincial outreach activities Evaluate and monitor routine immunization coverage of COVID-19 vaccination 	Published 8 February 2021

Type of document	Relevance to question	Key findings	Recency or status
		<ul style="list-style-type: none"> The findings showed that with immunization data, high-risk areas can be targeted, and this can continually be used to shape the planning and implementation of the COVID-19 vaccine roll-out in Pakistan Source	

Appendix 2b: Key findings from highly relevant evidence documents identified in previous LEP versions that address the question, organized by document type and sorted by relevance to the question and COVID-19

Type of document	Relevance to question	Key findings	Recency or status
Guidelines developed using a robust process (e.g., GRADE)	<ul style="list-style-type: none"> Securing and distributing a reliable supply of vaccines and ancillary supplies <ul style="list-style-type: none"> National purchasing Delivery to country Distribution within country and to administration sites Storage and handling within country 	<ul style="list-style-type: none"> The COVID-19 vaccine introduction and deployment costing tool (CVIC tool) is intended to help governments, partners, and other stakeholders estimate the introductory and deployment cost of COVID-19 vaccine procurement and service delivery, before detailed planning can take place <ul style="list-style-type: none"> These costs include central activities, international and domestic logistics, service delivery, and demand generation and communications The tool focuses on operational costs and selected capital expenditures Countries can also use the tool to prepare budgets for vaccination beyond 2021 as COVID-19 vaccine is deployed Source (World Health Organization) 	Published 20 February 2021
	<ul style="list-style-type: none"> Surveillance, monitoring and evaluation, and reporting <ul style="list-style-type: none"> Documenting vaccine-related opinions Identifying sources of vaccine hesitancy 	<ul style="list-style-type: none"> This guidebook provides four tools to understand intentions for receiving the COVID-19 vaccine for prioritized groups in the population, based on WHO Strategic Advisory Group of Experts on Immunization (SAGE) Roadmap for prioritizing uses of COVID-19 vaccines in the context of limited supply that includes surveys and qualitative interviews of adults and health workers Intended users of this guidebook are immunization programme managers, researchers, and others involved in collecting, analyzing and using data for COVID-19 vaccine programme planning and evaluation There are three processes outlined in the guidebook that look at planning, investigating and acting of methods and best practices to support 	Published 3 February 2021

Type of document	Relevance to question	Key findings	Recency or status
		<p>implementation of the surveys, interview guides, and the data collection and analysis</p> <ul style="list-style-type: none"> Regional and national vaccine roll-out plans should use this guidebook to routinely gather and use data that will offer insights into how to continually improve implementation strategies and tailor communication approaches Source (World Health Organization) 	
	<ul style="list-style-type: none"> Communicating vaccine-allocation plans and the safety and effectiveness of vaccines <ul style="list-style-type: none"> Delivery of the intervention <ul style="list-style-type: none"> By whom Modality of delivery Content of messaging <ul style="list-style-type: none"> Data and evidence about safety and about effectiveness in terms of both protection against COVID-19 (including duration of protection) and protection against transmission (and other factors that may contribute to vaccine acceptance and hesitancy) Myths and misinformation about vaccines 	<ul style="list-style-type: none"> This interim guidance provides an overview of key activities and considerations to achieve high acceptance and uptake of COVID-19 vaccines and it includes the following aspects: <ul style="list-style-type: none"> coordination and planning implementation of mass media plan social media monitoring and misinformation management crisis communications advocacy and stakeholder engagement community engagement and social mobilization capacity building monitoring, learning and evaluation Source (World Health Organization) 	Published 31 January 2021
	<ul style="list-style-type: none"> Communicating vaccine-allocation plans and the safety and effectiveness of vaccines <ul style="list-style-type: none"> Target of intervention <ul style="list-style-type: none"> General public 	<ul style="list-style-type: none"> The document provides tips and discussion points for service providers, health and community workers, volunteers and community networks to discuss vaccine delivery with the general public living within communities Specific details on communicating with older adults aged 65 years and older and people with comorbidities are provided Source (World Health Organization) 	Published 31 January 2021
	<ul style="list-style-type: none"> Communicating vaccine-allocation plans and the safety and effectiveness of vaccines <ul style="list-style-type: none"> Target of intervention General public 	<ul style="list-style-type: none"> The communication planning template provides countries with an outline of communication activities that should be considered when introducing COVID-19 vaccines, with relevant categories such as target 	Published 31 January 2021

Type of document	Relevance to question	Key findings	Recency or status
		<p>audience, budget breakdown, timelines, and responsibilities</p> <ul style="list-style-type: none"> • Source (World Health Organization) 	
	<ul style="list-style-type: none"> • Securing and distributing a reliable supply of vaccines and ancillary supplies <ul style="list-style-type: none"> ○ Delivery to country ○ Inventory management within country ○ Distribution within country and to administration sites ○ Storage and handling within country • Surveillance, monitoring and evaluation, and reporting <ul style="list-style-type: none"> ○ Documenting vaccine status • Documenting adverse events and follow-up 	<ul style="list-style-type: none"> • This guideline outlines the step-by-step process for National Deployment and Vaccination Plan for COVID-19 vaccines (NDVP) development, submission and review, which is a helpful resource for countries as they prepare and submit their NDVPs to the Partners Platform • This guideline should be used in conjunction with: <ul style="list-style-type: none"> ○ the Standard Review Form for NDVP, which enables countries to prepare their NDVPs for the review process and supports regions in conducting a consistent and uniform assessment of the submitted NDVPs ○ the Considerations for forming a regional COVID-19 review committee (RRC), which provides insight on how these committees can be established and conduct the review process for NDVPs • Source (World Health Organization) 	Published 29 January 2021
	<ul style="list-style-type: none"> • Securing and distributing a reliable supply of vaccines and ancillary supplies <ul style="list-style-type: none"> ○ Distribution within country and to administration sites • Allocating vaccines and ancillary supplies equitably <ul style="list-style-type: none"> ○ Allocation rules <ul style="list-style-type: none"> ▪ Residents in long-term care homes and other congregate-care settings • Essential workers (beyond front-line healthcare workers) and/or those in work environments that put them at elevated risk 	<ul style="list-style-type: none"> • This interim guidance is to provide guidance on infection prevention and control (IPC) in long-term care facilities (LTCFs) in the context of COVID-19 • WHO recommends that LTCFs should be a high priority for COVID-19 vaccine deployment, and clear plans should be made in advance <ul style="list-style-type: none"> ○ The initial high-priority targets for immunization should be health workers (including those working in LTCFs and the private sector), older people and those with underlying health conditions • Timely communications and plans between LTCFs and the local health authorities to determine the 	Published 8 January 2021

Type of document	Relevance to question	Key findings	Recency or status
		<p>logistics of how the COVID-19 vaccines will be deployed in their jurisdictions are important</p> <ul style="list-style-type: none"> ○ Considerations should include communications with residents and next of kin, consent needs, storage, administration, disposable supplies, waste management, management of side-effects, maintaining data and ensuring timely provision of second doses <p>Source (World Health Organization)</p>	
	<ul style="list-style-type: none"> • Communicating vaccine-allocation plans and the safety and effectiveness of vaccines <ul style="list-style-type: none"> ○ Delivery of the intervention <ul style="list-style-type: none"> ▪ By whom ○ Content of messaging <ul style="list-style-type: none"> ▪ Data and evidence about safety and about effectiveness in terms of both protection against COVID-19 (including duration of protection) and protection against transmission (and other factors that may contribute to vaccine acceptance and hesitancy) • Surveillance, monitoring and evaluation and reporting <ul style="list-style-type: none"> ○ Documenting adverse events and follow-up • Infrastructure to enable surveillance, monitoring and evaluation 	<ul style="list-style-type: none"> • The manual provides an overview of safety implications and immunization strategies, how to identify all relevant stakeholders, provide guidance on safety data collection, data elements of pharmacovigilance preparedness, developing surveillance systems, evidence-based programmatic decisions, and provide support for vaccine safety communication <p>Source (World Health Organization)</p>	Published 22 December 2020
	<ul style="list-style-type: none"> • Allocating vaccines and ancillary supplies equitably <ul style="list-style-type: none"> ○ Allocation rules <ul style="list-style-type: none"> ▪ People who have already had confirmed COVID-19 ▪ People for whom vaccine safety and effectiveness has not yet been established ▪ People at significant risk for severe allergic reaction 	<ul style="list-style-type: none"> • The Strategic Advisory Group of Experts (SAGE) provided recommendations on the use of Moderna mRNA-1273 vaccine against COVID-19 • Detailed information is provided on administration, considerations for modifications, co-administration with other vaccines, contraindications, vaccinations for specific populations, prioritizations, and other recommendations related to surveillance 	Last update 25 January 2021

Type of document	Relevance to question	Key findings	Recency or status
	<ul style="list-style-type: none"> Administering vaccines in ways that optimize timely uptake <ul style="list-style-type: none"> With what post-vaccination observation period and what physical distancing, personal protective equipment, sanitation and other public-health measures With what second-dose provisions 	<ul style="list-style-type: none"> There is no evidence for the need of a booster dose after the two-dose vaccine and interchangeability of this vaccine with other mRNA vaccines Individuals with a history of anaphylaxis to any component of the vaccine should not be administered the initial dose, and if anaphylaxis happens after the first dose, they should not receive the second dose WHO recommends against the use of mRNA-1273 in pregnancy (unless the benefit outweighs the risk), children and adolescents below the age of 18 years WHO recommends risk-benefit assessments for: extremely frail older adults, those over the age of 95, individuals who are immunocompromised or have autoimmune conditions WHO recommends vaccinations groups to include for lactating women, persons living with HIV, and persons with history of Bell's palsy (unless there is a contraindication to vaccination) WHO recommends delayed vaccination for individuals who currently or previously had SARS-CoV-2 infection, or received antibody therapy Source (World Health Organization's Strategic Advisory Group of Experts (SAGE)) 	
	<ul style="list-style-type: none"> Communicating vaccine-allocation plans and the safety and effectiveness of vaccines <ul style="list-style-type: none"> Target of intervention <ul style="list-style-type: none"> General public High-risk groups Individuals who are hesitant about or opposed to vaccination 	<ul style="list-style-type: none"> The risk communication and community engagement (RCCE) strategy was updated to cover COVID-19 related events from December 2020 to May 2021 The four objectives aim for people-centred and community-led approaches to improve trust, social cohesion, and reduce negative impacts of COVID-19, such as: 1) be community-led (reduce stigma, coordinate the management of the infodemic); 2) be data-driven (enhance social media monitoring, advocate for community priorities); 3) reinforce capacity and local solutions (facilitate capacity needs) 	Last update 23 December 2020

Type of document	Relevance to question	Key findings	Recency or status
		<p>assessments); and 4) be collaborative (include joint assessments and monitoring)</p> <ul style="list-style-type: none"> Anticipated challenges for the next six months include uncertainty, vaccines distribution and administration, pandemic fatigue, mistrust, increased economic pressure, increased stigma, and increased politicization <p>Source (World Health Organization)</p>	
	<ul style="list-style-type: none"> Allocating vaccines and ancillary supplies equitably <ul style="list-style-type: none"> Allocation rules (to priority populations, including those listed below, as well as to 'lower levels' in a federation and/or to providers who can reach priority populations) <ul style="list-style-type: none"> Front-line healthcare workers Residents in long-term care homes and other congregate-care settings People at increased risk of severe COVID-19 (e.g., older and/or frail adults, those with chronic health conditions) Essential workers (beyond front-line healthcare workers) and/or those in work environments that put them at elevated risk (e.g., food processing and transit) Communicating vaccine-allocation plans and the safety and effectiveness of vaccines <ul style="list-style-type: none"> Target of intervention <ul style="list-style-type: none"> High-risk groups 	<ul style="list-style-type: none"> The priorities for the COVID-19 vaccination program should be the prevention of COVID-19 mortality and the protection of health and social-care staff and systems Secondary priorities should include vaccination of individuals at increased risk of hospitalization and increased risk of exposure, and to maintain resilience in essential services Based on the proposed guidelines, the order of priority of COVID-19 vaccinations are as follows: <ul style="list-style-type: none"> Residents in a care home for older adults and their carers All those 80 years of age and over and front-line health and social-care workers All those 75 years of age or over All those 70 years of age and over and clinically extremely vulnerable individuals All those 65 years of age and over All individuals aged 16 years to 64 years with underlying health conditions which put them at higher risk of serious disease and mortality All those 60 years of age and over All those 55 years of age and over All those 50 years of age and over Immunization advice and communication programs should be tailored to mitigate inequalities. Specifically, programs should be tailored to Black, 	Published 6 January 2021

Type of document	Relevance to question	Key findings	Recency or status
		<p>Asian and minority ethnic groups who have higher rates of infection, morbidity and mortality</p> <p>Source (Department of Health & Social Care, Government of UK)</p>	
	<ul style="list-style-type: none"> Allocating vaccines and ancillary supplies equitably <ul style="list-style-type: none"> Allocation rules <ul style="list-style-type: none"> Front-line healthcare workers Residents in long-term care homes and other congregate-care settings People at increased risk of severe COVID-19 Essential workers and/or those in work environments that put them at elevated risk 	<ul style="list-style-type: none"> On December 1, the Advisory Committee on Immunization Practices (ACIP) in the U.S. recommended that healthcare personnel and long-term care facility residents be offered COVID-19 vaccination first (Phase 1a) On December 20, ACIP updated interim vaccine allocation recommendations <ul style="list-style-type: none"> In Phase 1b, COVID-19 vaccine should be offered to persons aged ≥ 75 years and non-healthcare frontline essential workers In Phase 1c, COVID-19 vaccine should be offered to persons aged 65–74 years, persons aged 16–64 years with high-risk medical conditions, and essential workers not included in Phase 1b Federal, state and local jurisdictions should use this guidance for COVID-19 vaccination program planning and implementation <p>Source (Advisory Committee on Immunization Practices, Centers for Disease Control and Prevention)</p>	Last update 1 January 2021
	<ul style="list-style-type: none"> Securing and distributing a reliable supply of vaccines and ancillary supplies (e.g., needles, diluents) <ul style="list-style-type: none"> National purchasing Delivery to country Inventory management within country Administering vaccines in ways that optimize timely uptake <ul style="list-style-type: none"> With what second-dose provisions 	<ul style="list-style-type: none"> This guideline describes the rationale and recommendations from the Advisory Committee on Immunization Practices (ACIP) on the use of Moderna COVID-19 vaccine for U.S. adults aged 18 years or older for the prevention of COVID-19 Engagement with community leaders and organizations will be needed to reduce barriers specific to vaccination uptake ACIP states that adults should complete their second vaccination with the same vaccine product as the first dose <p>Source (Advisory Committee on Immunization Practices, Centers for Disease Control and Prevention)</p>	Last update 20 December 2020

Type of document	Relevance to question	Key findings	Recency or status
	<ul style="list-style-type: none"> • Securing and distributing a reliable supply of vaccines and ancillary supplies <ul style="list-style-type: none"> ○ Inventory management within country ○ Distribution within country and to administration sites • Allocating vaccines and ancillary supplies equitably <ul style="list-style-type: none"> ○ Allocation rules • Communicating vaccine-allocation plans and the safety and effectiveness of vaccines <ul style="list-style-type: none"> ○ Target of intervention <ul style="list-style-type: none"> ▪ General public • Surveillance, monitoring and evaluation, and reporting <ul style="list-style-type: none"> ○ Documenting vaccine-related opinions ○ Documenting vaccine status ○ Documenting adverse events and follow-up • Infrastructure to enable surveillance, monitoring and evaluation 	<ul style="list-style-type: none"> • This guidance document outlined key elements and themes from vaccine strategy and deployment plans in the United Kingdom and countries within the European Union and European Economic Area • Within the interim recommendations of European countries, the top priority group for COVID-19 vaccines included older adults, healthcare workers, and individuals with select comorbidities <ul style="list-style-type: none"> ○ Due to the limited supply of vaccines, certain countries may be further prioritizing from within this group • Three key themes have been noted across the European countries: 1) the COVID-19 vaccine will be free of charge; 2) models will use pre-existing vaccination structures and delivery services for the roll-out of COVID-19 vaccines; and 3) electronic immunization registries will be used to help monitor vaccine safety, efficacy, coverage, and acceptance Source (European Centre for Disease Prevention and Control) 	Published 2 December 2020
	<ul style="list-style-type: none"> • Allocating vaccines and ancillary supplies equitably <ul style="list-style-type: none"> ○ Allocation rules 	<ul style="list-style-type: none"> • This report follows the process of an expert group established by the Norwegian Institute of Public Health in determining the order in which vaccines should be allocated during the first stage of the Norwegian Coronavirus Immunization Programme • Core values were established by the group for the first stage of the program and included, “equal respect, welfare, equity, trust, and legitimacy” • These five core values were then translated to the following key goals: “1) reduce the risk of death, 2) reduce the risk of severe illness, 3) maintain essential services and critical infrastructure, 4) protect employment and the economy, 5) re-open society” 	Published 15 November 2020

Type of document	Relevance to question	Key findings	Recency or status
		<ul style="list-style-type: none"> Through defining the aforementioned key values and goals, the following categories of prioritization were established: <ul style="list-style-type: none"> “Risk factors for severe illness and death The infection situation Occupation” The group recommends a dynamic approach to prioritization in accordance with a model published by the Norwegian government illustrating four possible scenarios for the COVID-19 pandemic. Each scenario varies based on severity of infection and is accompanied by recommendations for possible response measures. As an example, “Scenario 1a: Control” represents mild infection rates whereas “Scenario 2b: Widespread Transmission” represents more severe infection rates and societal closures are recommended <ul style="list-style-type: none"> The group recommends that risk groups and healthcare workers be given priority in pandemic scenarios 1-2a In pandemic scenario 2b, in which there is widespread transmission, the order of priority should be amended to: “1) health care workers, 2) risk groups, and 3) critical societal functions” <p>Source (Norwegian Institute of Public Health)</p>	
	<ul style="list-style-type: none"> Allocating vaccines and ancillary supplies equitably <ul style="list-style-type: none"> Distribution within country and to administration sites Communicating vaccine-allocation plans and the safety and effectiveness of vaccines <ul style="list-style-type: none"> Target of intervention <ul style="list-style-type: none"> General public Individuals who are hesitant about or opposed to vaccination 	<ul style="list-style-type: none"> This report published by the Health Information and Quality Authority was written with the purpose of advising the National Public Health and Emergency Team in Ireland on various factors which influence vaccine uptake as well as possible interventions and communication strategies that can combat these barriers The influenza vaccine was used as a surrogate for the COVID-19 vaccine, and a rapid review was conducted to identify factors (barriers and facilitators) that influence vaccine uptake 	Published 16 December 2020

Type of document	Relevance to question	Key findings	Recency or status
	<ul style="list-style-type: none"> Surveillance, monitoring and evaluation, and reporting 	<ul style="list-style-type: none"> As a result of this rapid review, the following themes were identified as either barriers or facilitators to vaccine uptake, varying based on context: “perceived risks and benefits, knowledge, social influences, and patient-specific factors.” Additionally, “perceived benefits from vaccination” and “recommendations from healthcare professionals” were reported as factors which typically improve vaccine uptake The rapid review also concluded that multi-component interventions involving both individual- and system-level components are successful towards improving vaccine uptake in a variety of groups The group stressed the importance of ensuring equitable access to the vaccine by varying populations (i.e., taking into account the location of immunization centres, vaccination costs, etc.) as a means of improving uptake The following parties should be educated on the COVID-19 vaccine to ensure evidence-based information is being relayed to the general public: <ul style="list-style-type: none"> Healthcare professionals (who should be educated on the vaccine prior to the initiation of any vaccination program) Community opinion leaders A communication campaign with the purpose of combatting misconceptions about the COVID-19 vaccine should include the following key pieces of information: <ul style="list-style-type: none"> The mechanism of action of the vaccine Evidence related to the safety and efficacy of the vaccine The rigour of the scientific process used to evaluate the safety and effectiveness of the 	

Type of document	Relevance to question	Key findings	Recency or status
		<p>vaccine, as well as the fact that it is undergoing continuous evaluation</p> <ul style="list-style-type: none"> Finally, the team stressed that a vaccination campaign based on knowledge and consensus would be a more effective approach than making vaccination compulsory for citizens in Ireland To maintain a relationship of trust with the public, all surveillance information related to the safety and effectiveness of the vaccine should be made openly available <p>Source (Health Informant and Quality Authority)</p>	
	<ul style="list-style-type: none"> Securing and distributing a reliable supply of vaccines and ancillary supplies (e.g., needles, diluents) Allocating vaccines and ancillary supplies equitably <ul style="list-style-type: none"> Allocation rules (to priority populations, including those listed below, as well as to 'lower levels' in a federation and/or to providers who can reach priority populations) Ensuring equity (including whether and how access through private means can be achieved by those not initially prioritized) Communicating vaccine-allocation plans and the safety and effectiveness of vaccines Administering vaccines in ways that optimize timely uptake Surveillance, monitoring and evaluation, and reporting 	<ul style="list-style-type: none"> This document provides guidance on developing COVID-19 national deployment and vaccination plans Aspects of this plan include: <ul style="list-style-type: none"> Regulatory preparedness Planning and coordination Costing and funding Identification of target populations Vaccine-delivery strategies Preparation of supply chain and management of healthcare waste Human-resource management and training Vaccine acceptance and uptake (demand) Vaccine-safety monitoring, management of adverse effects following immunization (AEFI) and injection safety Immunization monitoring systems COVID-19 surveillance Evaluation of COVID-19 vaccine <p>Source (World Health Organization)</p>	Last update 16 November 2020
	<ul style="list-style-type: none"> Allocating vaccines and ancillary supplies equitably <ul style="list-style-type: none"> Allocation rules 	<ul style="list-style-type: none"> This document provides guidance on prioritizing limited supply of COVID-19 vaccines It provides a roadmap for priority uses of COVID-19 vaccines including: 	Last update 13 November 2020

Type of document	Relevance to question	Key findings	Recency or status
		<ul style="list-style-type: none"> ○ Staging priority groups in relation to group size and supply ○ Gender considerations ○ Addressing pregnant women ○ Addressing lactating women ○ Addressing children ○ Considering comorbidities in vaccine prioritization <p>Source (World Health Organization)</p>	
	<ul style="list-style-type: none"> • Allocating vaccines and ancillary supplies equitably <ul style="list-style-type: none"> ○ Approaches to developing and adjusting allocation rules ○ Ensuring equity (including whether and how access through private means can be achieved by those not initially prioritized) 	<ul style="list-style-type: none"> • The MMWR describes the Advisory Committee on Immunization Practices' ethical principles for the allocation of COVID-19 vaccine in the U.S. • The recommended approach for national, state, tribal, local and territorial levels is guided by four ethical principles: 1) maximize benefits and minimize harms; 2) promote justice; 3) mitigate health inequities; 4) promote transparency • Additional considerations include decisions based on science (e.g., safety and efficacy) and feasibility of implementation (e.g., storage and handling) <p>Source (Advisory Committee on Immunization Practices, Centers for Disease Control and Prevention)</p>	Last update November 2020
	<ul style="list-style-type: none"> • Communicating vaccine-allocation plans and the safety and effectiveness of vaccines <ul style="list-style-type: none"> ○ Target of intervention <ul style="list-style-type: none"> ▪ General public ▪ Individuals who are hesitant about or opposed to vaccination ○ Delivery of the intervention <ul style="list-style-type: none"> ▪ By whom (e.g., health worker, research expert, teacher, business leader, government leader, community leader, citizen champion, media) ▪ Frequency (e.g., daily, weekly) ▪ Duration (i.e., how much or for how long) 	<ul style="list-style-type: none"> • This guideline discusses behavioural insights related to drivers of vaccine acceptance and uptake • It provides a framework of drivers of vaccine uptake including: 1) an enabling environment, 2) social influences and 3) motivation <p>Source (World Health Organization)</p>	Last update 15 October 2020

Type of document	Relevance to question	Key findings	Recency or status
	<ul style="list-style-type: none"> ▪ Modality of delivery (e.g., social media, text, email, telephone, radio, television, face-to-face by video, face-to-face in person) ○ Content of messaging <ul style="list-style-type: none"> ▪ Data and evidence about safety and about effectiveness in terms of both protection against COVID-19 (including duration of protection) and protection against transmission (and other factors that may contribute to vaccine acceptance and hesitancy) ▪ Information about novel vaccine platforms (e.g., mRNA), current vaccine options (e.g., number of vaccines available in a country, number of doses required of any given vaccine), prioritized populations, and behaviours after vaccination ▪ Information (for health workers) about vaccine-administration protocols ▪ Myths and misinformation about vaccines ▪ Risk-mitigation efforts (including complementary public-health measures used at time of vaccination) ▪ Anticipated timing of when all those who want a vaccine will have been vaccinated 		
	<ul style="list-style-type: none"> • Communicating vaccine-allocation plans and the safety and effectiveness of vaccines <ul style="list-style-type: none"> ○ Target of intervention <ul style="list-style-type: none"> ▪ General public ▪ Individuals who are hesitant about or opposed to vaccination 	<ul style="list-style-type: none"> • This guideline highlights how countries can begin pre-planning for the introduction of COVID-19 vaccines by conducting a series of activities, including activities that focus on demand generation and communication <ul style="list-style-type: none"> ○ Design a demand plan (includes advocacy, communications, social mobilization, risk and safety communications, community engagement, and training) to generate confidence, acceptance and demand for COVID-19 vaccines 	Last update 21 September 2020

Type of document	Relevance to question	Key findings	Recency or status
		<ul style="list-style-type: none"> ○ The plan must include crisis-communications preparedness planning <p>Source (World Health Organization)</p>	
	<ul style="list-style-type: none"> • Securing and distributing a reliable supply of vaccines and ancillary supplies <ul style="list-style-type: none"> ○ National purchasing • Allocating vaccines and ancillary supplies equitably <ul style="list-style-type: none"> ○ Distribution within country and to administration sites ○ Distribution procedures • Communicating vaccine-allocation plans and the safety and effectiveness of vaccines <ul style="list-style-type: none"> ○ Target of intervention <ul style="list-style-type: none"> ▪ General public ▪ Individuals who are hesitant about or opposed to vaccination • Administering vaccines in ways that optimize timely uptake <ul style="list-style-type: none"> ○ With what partnerships to reach early populations of focus ○ With what reporting requirements, supporting immunization information systems, and broader healthcare information systems ○ With what safety-monitoring requirements • Surveillance, monitoring and evaluation, and reporting 	<ul style="list-style-type: none"> • The Vaccine Readiness Assessment Tool (VIRAT) is intended to be used by Ministries of Health as a roadmap for countries to plan for COVID-19 vaccine introduction • It also offers a structured framework for countries to self-monitor their readiness progress against key milestones, and a set of recommended indicators (coverage, acceptability, disease surveillance) for a COVID-19 vaccine • COVID-19 Vaccine Introduction Readiness Assessment Tool proposes additional activities that focus on demand generation and communication <ul style="list-style-type: none"> ○ Design a demand plan (includes advocacy, communications, social mobilization, risk and safety communications, community engagement, and training) to generate confidence, acceptance and demand for COVID-19 vaccines. The plan must include crisis-communications preparedness planning ○ Establish data-collection systems, including: 1) social media listening and rumour management; and 2) assessing behavioural and social data ○ Develop key messages and materials for public communications and advocacy that are aligned with the demand plan <p>Source (World Health Organization)</p>	Last update 21 September 2020
	<ul style="list-style-type: none"> • Allocating vaccines and ancillary supplies equitably <ul style="list-style-type: none"> ○ Allocation rules 	<ul style="list-style-type: none"> • This guidance document provides a values framework for COVID-19 vaccine allocation and prioritization • The values framework consists of six core principles: <ul style="list-style-type: none"> ○ Human well-being ○ Equal respect ○ Global equity 	Last update 13 September 2020

Type of document	Relevance to question	Key findings	Recency or status
		<ul style="list-style-type: none"> ○ National equity ○ Reciprocity ○ Legitimacy <p>Source (World Health Organization)</p>	
	<ul style="list-style-type: none"> • Allocating vaccines and ancillary supplies equitably <ul style="list-style-type: none"> ○ Allocation rules 	<ul style="list-style-type: none"> • This document describes the WHO Secretariat's proposal for the allocation of COVID-19 vaccines among countries, specifically in the context of the COVID-19 Vaccines Global Access (COVAX) Facility access mechanism, including: <ul style="list-style-type: none"> ○ An initial proportional allocation of doses to countries until all countries have enough doses to cover 20% of their population ○ A follow-up phase to expand coverage to other populations; if severe supply constraints persist, a weighted allocation approach would be adopted, taking account of a country's COVID threat and vulnerability <p>Source (WHO technical guidance)</p>	Last update 9 September 2020
	<ul style="list-style-type: none"> • Securing and distributing a reliable supply of vaccines and ancillary supplies <ul style="list-style-type: none"> ○ Distribution within country and to administration sites 	<ul style="list-style-type: none"> • In the context of the COVID-19 pandemic, this document outlines the decision-making framework for implementing mass-vaccination campaigns for the prevention of vaccine-preventable diseases and high-impact diseases (VPD/HID), including: <ul style="list-style-type: none"> ○ Step 1: assessing the potential impact of the VPD/HID outbreak using key epidemiological criteria ○ Step 2: assessing the potential benefits of a mass-vaccination campaign and the country capacity to implement it safely and effectively ○ Step 3: considering the potential risk of increased COVID-19 transmission associated with the mass-vaccination campaign ○ Step 4: determining the most appropriate actions considering the COVID-19 epidemiological situation 	Last update 22 May 2020

Type of document	Relevance to question	Key findings	Recency or status
		<ul style="list-style-type: none"> Step 5: if a decision is made to proceed with a mass-vaccination campaign, implementing best practice <p>Source (WHO technical guidance)</p>	
	<ul style="list-style-type: none"> Communicating vaccine-allocation plans and the safety and effectiveness of vaccines <ul style="list-style-type: none"> Delivery of the intervention <ul style="list-style-type: none"> By whom (e.g., health worker) Modality of delivery (e.g., social media, text, email, telephone, face-to-face in person) Content of messaging <ul style="list-style-type: none"> Myths and misinformation about vaccines 	<ul style="list-style-type: none"> This guideline indicates that people in eligible groups who understand why flu vaccination is particularly important for them are more likely to be vaccinated <ul style="list-style-type: none"> Thus, professionals need to explain the benefits of vaccination and address people's misconceptions about it The guideline proposes a multi-component approach to develop and deliver programs to increase flu-vaccination uptake, including raising awareness among health and social-care staff, and among eligible groups <p>Source (National Institute for Health and Care Excellence)</p>	Last update 22 August 2018
Full systematic reviews	<ul style="list-style-type: none"> Administering vaccines in ways that optimize timely uptake <ul style="list-style-type: none"> By whom and with what changes to remuneration 	<ul style="list-style-type: none"> This review aimed to estimate the effect of pharmacists administering vaccinations for influenza on overall vaccination rates, and to assess whether there is a difference in effect for at-risk sub-groups compared to the general population Findings revealed that: <ul style="list-style-type: none"> There appeared to be a small positive effect associated with allowing pharmacists to administer influenza vaccinations The largest increase in overall population vaccination rates associated with pharmacists vaccinating for influenza was 10% There was a graduated effect in that pharmacists with the most autonomy had the largest vaccination rate increases <p>Source (AMSTAR rating 5/10)</p>	Literature last searched July 2019
	<ul style="list-style-type: none"> Administering vaccines in ways that optimize timely uptake <ul style="list-style-type: none"> Where 	<ul style="list-style-type: none"> School and childcare centre-located vaccination programs are effective in increasing vaccination rates, 	Literature last searched February 2012

Type of document	Relevance to question	Key findings	Recency or status
	<ul style="list-style-type: none"> ▪ Other community settings 	<p>and decreasing rates of vaccine-preventable morbidity and mortality</p> <ul style="list-style-type: none"> • Key components of effective school and childcare centre-located vaccination programs include: <ul style="list-style-type: none"> ○ Vaccinations provided on site ○ Administration of programs by a wide range of providers including school health personnel, health-department staff, and other vaccination providers ○ Delivery in a variety of different school and organized childcare settings ○ Delivery of one or more of a range of vaccines recommended for children and adolescents ○ Inclusion of additional components such as education, reduced out-of-pocket costs, enhanced access to vaccination services • School and childcare centre-located programs may be most useful for improving immunization rates among children and adolescents for new vaccines, where background rates are likely to be very low <p>Source (AMSTAR rating 6/9)</p>	
	<ul style="list-style-type: none"> • Administering vaccines in ways that optimize timely uptake <ul style="list-style-type: none"> ○ Where <ul style="list-style-type: none"> ▪ Other community settings (e.g., schools) 	<ul style="list-style-type: none"> • There is strong evidence on the effectiveness of vaccination requirements for childcare, school, and college attendance in increasing vaccination rates and decreasing rates of vaccine-preventable disease and associated morbidity and mortality • Vaccination requirements could be: <ul style="list-style-type: none"> ○ Laws created by states, with the specific vaccines required established by the legislature and embodied in statutes or adopted as administrative rules by health or education departments ○ Additional vaccination policies established by institutions (such as colleges and private schools) for attendance or residence ○ Varied across jurisdictions <p>Source (AMSTAR rating 3/10)</p>	Literature last searched 2015

Type of document	Relevance to question	Key findings	Recency or status
	<ul style="list-style-type: none"> Communicating vaccine-allocation plans and the safety and effectiveness of vaccines <ul style="list-style-type: none"> Delivery of the intervention <ul style="list-style-type: none"> Modality of delivery (e.g., social media, text, and email) 	<ul style="list-style-type: none"> Vaccine uptake and coverage can be improved by implementing interventions that apply new media such as text messaging, internet promotions, and computerized standing orders and reminders for healthcare providers Computer-generated text messaging sent to parents of newborns and school-aged children were effective at increasing vaccination in these groups Immunization campaign websites and computerized reminders for patients have some influence on uptake of vaccine information, and patient attitudes and behaviours about vaccination There is uncertainty about how effective social-media networks, email communications and smartphone applications are on influencing vaccine uptake Vaccination rates are higher when computerized reminders to encourage providers to recommend vaccination and computer-based standing orders are in use <p>Source (AMSTAR rating 7/10)</p>	Date of literature search not reported (published January 2015)
	<ul style="list-style-type: none"> Communicating vaccine-allocation plans and the safety and effectiveness of vaccines <ul style="list-style-type: none"> Target of intervention <ul style="list-style-type: none"> General public High-risk groups Individuals who are hesitant about or opposed to vaccination Delivery of the intervention <ul style="list-style-type: none"> By whom (e.g., citizen champion) Modality of delivery (e.g., face-to-face in person) Content of messaging <ul style="list-style-type: none"> Myths and misinformation about vaccines Risk-mitigation efforts 	<ul style="list-style-type: none"> Findings about the structure of interventions revealed that: <ul style="list-style-type: none"> Engaging religious and other community leaders was a commonly used strategy to address contextual influences (e.g., religion, culture and gender) Across all regions, most interventions were multi-component Findings about the success (defined as either increase in vaccine uptake, or increase in knowledge and awareness) of interventions revealed that: <ul style="list-style-type: none"> Few interventions were found to have been evaluated for their success in vaccine uptake or their influence in increasing knowledge and awareness 	Literature last searched 2013

Type of document	Relevance to question	Key findings	Recency or status
		<ul style="list-style-type: none"> ○ Interventions to increase uptake that have multiple components and/or have a focus on dialogue-based approaches tend to be more effective ○ Interventions that resulted in the largest increases in vaccine uptake were those which directly targeted unvaccinated or under- vaccinated populations, improved convenience and access to vaccination, aimed to increase vaccination knowledge and awareness, targeted specific populations (e.g., healthcare workers), mandated vaccinations, and engaged religious or other influential leaders ○ Interventions that resulted in the greatest increases in knowledge and awareness were education initiatives, especially where new knowledge was embedded into routine processes <p>Source (AMSTAR rating 7/10)</p>	
	<ul style="list-style-type: none"> ● Communicating vaccine-allocation plans and the safety and effectiveness of vaccines <ul style="list-style-type: none"> ○ Target of intervention <ul style="list-style-type: none"> ▪ General public ○ Delivery of the intervention <ul style="list-style-type: none"> ▪ Modality of delivery (e.g., text and telephone) ○ Content of messaging <ul style="list-style-type: none"> ▪ Risk-mitigation efforts 	<ul style="list-style-type: none"> ● This systematic review aimed to investigate whether interventions that present risk messages are able to increase risk appraisal, vaccine intention and vaccine uptake ● The findings from this review indicate that interventions involving risk messages had no effect on the intention of participants to vaccinate, their behaviour towards vaccines, and their perception of the severity of the disease ● This review identified very few behaviour-change techniques, though the additional inclusion of studies focusing on efficacy appraisal may increase intervention effectiveness <p>Source (AMSTAR rating 8/11)</p>	Literature last searched September 2017
	<ul style="list-style-type: none"> ● Administering vaccines in ways that optimize timely uptake <ul style="list-style-type: none"> ○ With what broader, complementary health interventions (e.g., flu vaccination and routine 	<ul style="list-style-type: none"> ● This review examined the effectiveness of process interventions (e.g., education for clinicians, parent presence, education of parents before and on day of vaccination, and education of patients on day of 	Date of literature search not reported

Type of document	Relevance to question	Key findings	Recency or status
	immunization, ongoing public-health measures)	<p>vaccination) on reducing vaccination pain, fear, and distress and increasing the use of interventions during vaccination</p> <ul style="list-style-type: none"> Findings revealed that: <ul style="list-style-type: none"> Clinicians should be educated about vaccine-injection pain management Parents should be present Parents should be educated before the vaccination day Parents should be educated on the vaccination day Individuals three years of age and above should be educated on the day-of-vaccination fear <p>Source (AMSTAR rating 6/10)</p>	(published in 2015)
	<ul style="list-style-type: none"> Communicating vaccine-allocation plans and the safety and effectiveness of vaccines <ul style="list-style-type: none"> Target of intervention <ul style="list-style-type: none"> High-risk groups Individuals who are hesitant about or opposed to vaccination 	<ul style="list-style-type: none"> Combinations of interventions should be used in efforts to increase vaccination rates in targeted populations At least one of the interventions should be focused on increasing demand using approaches found to be most effective, including client reminder and recall systems, clinic-based client education, and manual outreach and tracking One or more of the interventions should address either or both of the following: <ul style="list-style-type: none"> Enhancing access to vaccinations (e.g., through effective interventions such as expanded access in healthcare settings, reducing out-of-pocket costs, or home visits) Ensuring vaccination providers are reminded and supported to deliver vaccinations (e.g., through effective interventions such as reminders, standing orders and assessment and feedback) <p>Source (AMSTAR rating 6/9)</p>	Literature last searched February 2012
	<ul style="list-style-type: none"> Administering vaccines in ways that optimize timely uptake <ul style="list-style-type: none"> Where 	<ul style="list-style-type: none"> Use of an immunization information system (IIS) was an effective intervention to increase vaccination rates, and studies with benefit information focused on administrative efficiency of clinical vaccination 	Literature last searched March 2012

Type of document	Relevance to question	Key findings	Recency or status
	<ul style="list-style-type: none"> With what reporting requirements and supporting immunization information systems and broader healthcare information systems 	<p>activities and savings resulting from decreased over-vaccination</p> <p>Source (AMSTAR rating 4/9)</p>	
Rapid reviews	<ul style="list-style-type: none"> Allocating vaccines and ancillary supplies equitably <ul style="list-style-type: none"> Allocation rules <ul style="list-style-type: none"> People for whom vaccine safety and effectiveness has not yet been established 	<ul style="list-style-type: none"> Existing guidelines note the lack of clinical evidence on the safety or effectiveness of COVID-19 vaccines in women who are pregnant, breastfeeding, or attempting to conceive Two major U.S. specialty societies recommend shared decision-making to best balance the risks of vaccination with the risks of remaining unvaccinated, and they do not consider pregnancy or breastfeeding to be an absolute contraindication to COVID-19 vaccination <ul style="list-style-type: none"> Most U.S. medical centres that have taken a position on COVID-19 vaccination endorse the U.S. societies' recommendations for shared decision-making and will offer vaccination to women who are pregnant or breastfeeding Organizations in the United Kingdom consider pregnancy and breastfeeding to be contraindications to COVID-19 vaccination <p>Source (AMSTAR rating 1/9)</p>	Date of literature search not stated (published 24 December 2020)
	<ul style="list-style-type: none"> Communicating vaccine-allocation plans and the safety and effectiveness of vaccines <ul style="list-style-type: none"> Target of intervention <ul style="list-style-type: none"> General public Individuals who are hesitant about or opposed to vaccination Delivery of the intervention <ul style="list-style-type: none"> By whom Content of messaging <ul style="list-style-type: none"> Data and evidence about safety and about effectiveness in terms of both protection against COVID-19 (including duration of protection) and protection against 	<ul style="list-style-type: none"> This rapid review of over 100 surveys focused on comparing trends in public reception to COVID-19 vaccines over time, and analyzing factors related to vaccine perceptions, concerns and intentions during the COVID-19 pandemic Study results show that vaccine hesitancy is universal across countries and is typically manifested in the preference to wait to be vaccinated or to reject vaccination altogether The most cited reasons for vaccine hesitancy or refusal included fear of side effects, safety and effectiveness, as well as the expedited development of 	Last search 20 October 2020

Type of document	Relevance to question	Key findings	Recency or status
	transmission (and other factors that may contribute to vaccine acceptance and hesitancy)	<p>the COVID-19 vaccines, perceived political interference, and misinformation</p> <ul style="list-style-type: none"> • Survey participants from the U.S. and U.K. with higher skepticism had a lower perceived risk of trust in government or professionals, and therefore had more doubts and objections to being vaccinated • The authors recommend that confidence in the COVID-19 vaccines can be improved by emphasizing transparency and compliance with scientific standards throughout the vaccine-development and approval processes • Communication strategies could use positive cues to vaccinate through engagement with loved ones and family members, and trusted figures like doctors and religious leaders. Confidence can also be instilled through transparency in access and equitable distribution of the vaccines <p>Source (AMSTAR rating 7/9)</p>	
	<ul style="list-style-type: none"> • Administering vaccines in ways that optimize timely uptake <ul style="list-style-type: none"> ○ With what broader, complementary health interventions 	<ul style="list-style-type: none"> • There are three models for vaccination delivery in non-healthcare settings: social-distancing immunization clinics, drive-through clinics, and small mobile-team clinics • Social-distancing clinics were found to be effective, although monitoring social distancing was challenging • Drive-through immunization clinics allowed for greater social distancing, but with less efficiency and with greater risk of use of an improper vaccine-administration technique • Mini-mobile teams increase ability to monitor social distancing and decrease the risk of exposure, but have significant logistical challenges • Strict protocols for vaccination sites to manage patient flow and duration of time at site must be established 	Date of literature search not reported (published 27 August 2020)

Type of document	Relevance to question	Key findings	Recency or status
		<ul style="list-style-type: none"> Staff must be screened and appropriately trained to manage the vaccination site Source (AMSTAR rating 3/9)	
	<ul style="list-style-type: none"> Administering vaccines in ways that optimize timely uptake <ul style="list-style-type: none"> With what explicit effort to leverage existing health-system arrangements (e.g., vaccination systems and primary-care practices/community health centres) With what partnerships to reach early populations of focus 	<ul style="list-style-type: none"> Hard-to-reach groups may be reached by vaccine-delivery programs by setting up vaccination sites in familiar and accessible population-specific spaces Community-based teaching methods and community partnerships may be leveraged to enable greater vaccination uptake by hard-to-reach populations Additional considerations must also be made to overcome language and cultural barriers Source (AMSTAR rating 3/9)	Date of literature search not reported (published 27 August 2020)
	<ul style="list-style-type: none"> Administering vaccines in ways that optimize timely uptake <ul style="list-style-type: none"> By whom and with what changes to remuneration 	<ul style="list-style-type: none"> Individuals with or without backgrounds in medicine can be recruited to deliver vaccinations through several avenues In-person immunization trainings and just-in-time trainings were not found to be more effective than distant or traditional training methods, respectively Source (AMSTAR rating 3/9)	Date of literature search not reported (published 27 August 2020)
	<ul style="list-style-type: none"> Surveillance, monitoring and evaluation, and reporting <ul style="list-style-type: none"> Identifying sources of vaccine hesitancy 	<ul style="list-style-type: none"> This rapid review includes 18 surveys on individuals' willingness to receive a COVID-19 vaccine The percentage of respondents inclined towards receiving a vaccine ranged from 58% in a U.S.-based sample to 93% in an Indonesian sample Greater perceived risk of COVID-19, characteristics such as being older, male, more educated and having higher income, and valuing healthcare providers' recommendations, were positively associated with willingness to receive a COVID-19 vaccine Willingness to receive a COVID-19 vaccine was negatively associated with being of Latino or Black racial/ethnic background, and concerns about vaccine safety Communication strategies to improve willingness to receive a COVID-19 vaccine might consider 	Literature last searched December 2020

Type of document	Relevance to question	Key findings	Recency or status
		behaviour-change techniques such as information about health consequences, prompts and cues, and support or encouragement Source – not yet available online (AMSTAR rating 3/9)	
	<ul style="list-style-type: none"> Communicating vaccine-allocation plans and the safety and effectiveness of vaccines <ul style="list-style-type: none"> Target of intervention <ul style="list-style-type: none"> General public Individuals who are hesitant about or opposed to vaccination Content of messaging <ul style="list-style-type: none"> Data and evidence about safety and about effectiveness in terms of both protection against COVID-19 and protection against transmission Information about novel vaccine platforms, current vaccine options, prioritized populations, and behaviours after vaccination Myths and misinformation about vaccines Risk-mitigation efforts Anticipated timing of when all those who want a vaccine will have been vaccinated 	<ul style="list-style-type: none"> This brief aimed to support decision-makers in planning and implementing vaccine-communication strategies Communication strategies with the public about vaccines should aim to: <ul style="list-style-type: none"> Identify concerns and misconceptions about the vaccine Provide information that is perceived to be trustworthy Make information about how the vaccine was developed, what it contains, its effects and safety, and the background for its recommendation easily accessible Provide transparent, timely, consistent, accessible and easily understandable information, including to hard-to-reach groups Include practical information about where to get the vaccine and what the procedure is <p>Source (AMSTAR rating 4/9)</p>	Date of literature search not stated (published October 2020)
	<ul style="list-style-type: none"> Allocating vaccines and ancillary supplies equitably <ul style="list-style-type: none"> Allocation rules Ensuring equity (including whether and how access through private means can be achieved by those not initially prioritized) Communicating vaccine-allocation plans and the safety and effectiveness of vaccines <ul style="list-style-type: none"> Content of messaging <ul style="list-style-type: none"> Anticipated timing of when all those who want a vaccine will have been vaccinated 	<ul style="list-style-type: none"> To maintain public support among non-priority groups, it is critical that key stakeholders effectively communicate all evidence-informed decisions clearly To uphold ethical integrity, COVID-19 vaccines must be administered in accordance with the priority groups that have been established <p>Source (AMSTAR rating 4/9)</p>	Date of literature search not reported (published 27 August 2020)

Type of document	Relevance to question	Key findings	Recency or status
	<ul style="list-style-type: none"> • Communicating vaccine-allocation plans and the safety and effectiveness of vaccines <ul style="list-style-type: none"> ○ Target of intervention <ul style="list-style-type: none"> ▪ High-risk groups ▪ Individuals who are hesitant about or opposed to vaccination ○ Delivery of the intervention <ul style="list-style-type: none"> ▪ By whom (e.g., health worker, research expert, teacher, business leader, government leader, community leader, citizen champion, media) 	<ul style="list-style-type: none"> • This review provides an overview of implementation considerations related to communication between healthcare workers and older adults about vaccines • Communicating the aim of vaccine communication with older adults and their role in the decision-making process in relation to patient rights legislation or other standards and policies in the local setting • Planners and implementers should consider healthcare workers' views and attitudes about communication and decision-making in terms of <ul style="list-style-type: none"> ○ Older adults' rights and preferences ○ Communication training ○ Awareness around influence ○ Healthcare workers' vaccine uptake • Additional considerations related to the relationships healthcare workers have with older adults <ul style="list-style-type: none"> ○ Do healthcare workers view communication about vaccination as part of their role? ○ Is it their responsibility to initiate the conversation about vaccination? ○ Do healthcare workers receive support and guidance to facilitate communication with older adults who do not have the capacity to make their own decisions? ○ Do healthcare workers receive support and guidance when communicating with older adults who speak a minority language? • Practical issues encountered by healthcare workers related to communicating with older adults about vaccination include: <ul style="list-style-type: none"> ○ Sufficient time ○ Lack of appropriate context and preparation to facilitate informed decision-making ○ Limited knowledge of disease vaccine aims to prevent 	<p>Date of last search or publication not stated (listed as forthcoming)</p>

Type of document	Relevance to question	Key findings	Recency or status
		<ul style="list-style-type: none"> ○ Unable to provide information to address questions, concerns and fears about vaccines ○ Limited or no access to patient data necessary to discuss vaccines with older adults ○ Lack of agreement with current recommendations <p>Source (AMSTAR rating 1/9)</p>	
	<ul style="list-style-type: none"> • Communicating vaccine-allocation plans and the safety and effectiveness of vaccines <ul style="list-style-type: none"> ○ Delivery of the intervention <ul style="list-style-type: none"> ▪ Modality of delivery (e.g., social media, text, email, telephone, radio, television, face-to-face by video, face-to-face in person) 	<ul style="list-style-type: none"> • This brief provides policy- and decision-makers and operational staff insights about how digital interventions can promote vaccine uptake • Evidence on the effectiveness of digital interventions to promote vaccine uptake is mixed and fragmented • Mobile reminders may encourage people to vaccinate; online prompts from health providers make little or no difference to adolescent vaccine uptake; the effects of vaccination reminders via online patient portal systems or of educational videos for parents are uncertain • Start-up and ongoing costs, acceptability and feasibility of digital interventions should be considered before implementing an intervention in a specific setting • Given the limited evidence available, large scale implementation of digital interventions for vaccine uptake should be carefully evaluated, including for unintended consequences and equity impacts • Operational staff and decision-makers should consider context, including health-system arrangements, constraints and on-the-ground realities that might shape the feasibility and acceptability of digital interventions <p>Source (AMSTAR rating 4/9)</p>	Date of literature search not stated (published October 2020)
	<ul style="list-style-type: none"> • Administering vaccines in ways that optimize timely uptake <ul style="list-style-type: none"> ○ With what appointment/scheduling and screening support, changes to physical spaces 	<ul style="list-style-type: none"> • A separate waiting area must be established to allow patients to be monitored post-vaccination for 15 minutes 	Date of literature search not reported

Type of document	Relevance to question	Key findings	Recency or status
	<ul style="list-style-type: none"> and patient flows through these spaces, and changes to hours of operation ○ With what post-vaccination observation period and what physical distancing, personal protective equipment, sanitation and other public-health measures ○ With what safety monitoring requirements 	<ul style="list-style-type: none"> • Training staff to identify signs of adverse vaccine reactions, respond to adverse reactions, and enable quick access to emergency medical supplies are central to mitigating risks associated with vaccination • Ensuring patients are aware of how to get help in drive-through clinic models (i.e., through honking) and administering vaccines in-clinic for patients with a known history of adverse reactions are also critical to safety • For in-clinic vaccine administration, patient flow and clinic layout must be strictly monitored <p>Source (AMSTAR rating 3/9)</p>	(published 27 August 2020)
	<ul style="list-style-type: none"> • Communicating vaccine-allocation plans and the safety and effectiveness of vaccines <ul style="list-style-type: none"> ○ Target of intervention <ul style="list-style-type: none"> ▪ Individuals who are hesitant about or opposed to vaccination ○ Delivery of the intervention <ul style="list-style-type: none"> ▪ By whom 	<ul style="list-style-type: none"> • Barriers to the uptake of vaccinations include: limited trust in vaccine effectiveness; limited knowledge; unhealthy lifestyle; low concern about disease; and safety concerns about immunizations • Reliable, frequent and tailored information about vaccines must be shared with community members through multiple platforms, including social media, traditional media and providers • Providers must be educated about vaccines and provided with appropriate training to increase provider vaccine recommendations to patients <p>Source (AMSTAR rating 4/9)</p>	Date of literature search not reported (published 27 August 2020)
	<ul style="list-style-type: none"> • Administering vaccines in ways that optimize timely uptake <ul style="list-style-type: none"> ○ With what explicit effort to leverage existing health-system arrangements ○ With what partnerships to reach early populations of focus ○ With what broader, complementary health interventions ○ With what reporting requirements and supporting immunization information systems and broader healthcare information systems 	<ul style="list-style-type: none"> • The Global Routine Immunization Strategic Plan (GRISP) is a useful framework for operationalizing programs to increase vaccine coverage in countries where early COVID-19 mitigation measures have had an impact • To maximize reach, services should be designed to reach all equitably, vaccinator capacity and training should be increased, and immunization services should be re-integrated as synergistically as possible • Efforts should be made to engage communities and create demand for immunization through culturally 	Literature last searched June 2020

Type of document	Relevance to question	Key findings	Recency or status
		<p>specific education campaigns and engagement of stakeholders and community partners</p> <ul style="list-style-type: none"> Vaccination progress should be continuously monitored to ensure availability of vaccine stock and plan for catch-up vaccination <p>Source (AMSTAR rating 3/9)</p>	
	<ul style="list-style-type: none"> Communicating vaccine-allocation plans and the safety and effectiveness of vaccines <ul style="list-style-type: none"> Target of intervention <ul style="list-style-type: none"> General public Delivery of the intervention <ul style="list-style-type: none"> Modality of delivery (e.g., social media, text, email, telephone, radio, television, face-to-face by video, face-to-face in person) Content of messaging <ul style="list-style-type: none"> Data and evidence about safety and about effectiveness in terms of both protection against COVID-19 (including duration of protection) and protection against transmission (and other factors that may contribute to vaccine acceptance and hesitancy) Anticipated timing of when all those who want a vaccine will have been vaccinated 	<ul style="list-style-type: none"> This rapid review focuses on understanding how the public responds to vaccination messages during a pandemic or epidemic, to inform messaging campaigns that encourage the uptake of new vaccines Messages found to improve vaccine uptake include those that provide information about virus risks and vaccine safety, address vaccine misunderstandings, offer vaccination reminders (including vaccination clinic details), and deliver mixed-media campaigns in communities and hospitals Behavioural influences were improved when shorter risk-framing messages were used, concerns among target populations were addressed, and the benefits of vaccination were described Higher acceptability was found to be associated with clear, credible messages that incorporated personal accounts of people who were previously vaccinated Future messaging campaigns should ensure that communication is clear about vaccine eligibility and availability, and that target groups are involved in the campaign planning, information dissemination and relationship building <p>Source (AMSTAR rating 8/10)</p>	Literature last searched May 2020
Guidance developed using some type of evidence synthesis and/or expert opinion	<ul style="list-style-type: none"> Securing and distributing a reliable supply of vaccines and ancillary supplies <ul style="list-style-type: none"> Inventory management within country Allocating vaccines and ancillary supplies equitably <ul style="list-style-type: none"> Allocation rules 	<ul style="list-style-type: none"> All 30 EU/EEA countries have initiated national vaccination campaigns, with 26 countries declaring that vaccination is not mandatory Most of the EU/EEA countries are administering Pfizer-BioNTech, Cormirnaty, and Moderna 	Last updated 1 February 2021

Type of document	Relevance to question	Key findings	Recency or status
	<ul style="list-style-type: none"> • Administering vaccines in ways that optimize timely uptake <ul style="list-style-type: none"> ◦ With what explicit effort to leverage existing health-system arrangements • Surveillance, monitoring and evaluation, and reporting • Infrastructure to enable surveillance, monitoring and evaluation 	<ul style="list-style-type: none"> • Most countries will not extend the time between the first and second dose (14 countries), while other countries are still undecided • As of 29 January 2021, 21.5 to 100% of doses distributed have been administered across the EU countries • All EU/EEA countries prioritized population groups with a higher chance of developing severe disease (e.g., healthcare and front-line workers, elderly people, residents and personnel in long-term care facilities, persons with multiple chronic conditions, social care personnel), with some including other essential public workers such as police, firefighters, and teachers • Most of the countries have adequate storage and management of vaccines, with 20 countries stating that health authorities are leading and coordinating the deployment of vaccines • Electronic immunization registries to monitor both individual and population-level vaccine uptake are used in 21 countries, with five countries utilizing an ad-hoc electronic system, four countries using electronic immunization cards, and one country recording them manually • Information on which vaccine product and when it was administered are important data elements, in addition to recording any adverse event following immunization • Challenges to roll-out include: shortage of equipment (e.g., needles and syringes), misinformation, monitoring systems with consolidating data, logistical challenges, and limited vaccine supply • Extensive coordination between national and local authorities and multidisciplinary participation is required 	

Type of document	Relevance to question	Key findings	Recency or status
		Source (European Centre for Disease Prevention and Control)	
	<ul style="list-style-type: none"> • Surveillance, monitoring and evaluation, and reporting • Infrastructure to enable surveillance, monitoring and evaluation 	<ul style="list-style-type: none"> • The report provides an update on vaccine distribution within EU/EEA countries as of 21 February 2021 • Germany and France have highest number of doses distributed by manufacturers • Malta, Denmark, and Finland have the highest percentage of vaccine uptake of the first dose among their populations (6.3 to 10.6%), with an overall median of 5.2% from 29 reported EU/EEA countries • Full vaccination of EU/EEA countries range from 0.5 to 4.5%, with an overall median of 2.5% from 29 reported EU/EEA countries • Uptake of the first dose among individuals aged 80 years or older is at a median of 25.1% (range: 0.4 to 77.2%) • Source (European Centre for Disease Prevention and Control) 	Last updated 21 February 2021
	<ul style="list-style-type: none"> • Surveillance, monitoring and evaluation, and reporting • Infrastructure to enable surveillance, monitoring and evaluation 	<ul style="list-style-type: none"> • EU/EEA countries described their deployment plans albeit they are all in various stages of vaccine administration • Most of the countries described that cross-government arrangements were made, such as establishing a task force and electronic systems for logistics management and vaccine registries • Vaccination communication campaigns are in progress or launched, which includes the use of social media to support roll-out • Countries had the opportunity to compare their vaccination roll-out with an ideal vaccine deployment ("stress test") in order to identify gaps and the robustness of their current efforts 	Published 3 February 2021

Type of document	Relevance to question	Key findings	Recency or status
		Source (European Centre for Disease Prevention and Control)	
	<ul style="list-style-type: none"> Administering vaccines in ways that optimize timely uptake <ul style="list-style-type: none"> With what safety monitoring requirements Surveillance, monitoring and evaluation and reporting <ul style="list-style-type: none"> Documenting adverse events and follow-up 	<ul style="list-style-type: none"> The guideline from the allergy centres in Germany provides guidance on allergological risk assessment regarding COVID-19 vaccination and suggests a standardized, resource-oriented diagnostic and therapeutic procedure <ul style="list-style-type: none"> The allergological diagnostic work-up includes, after a thorough history, the determination of basal tryptase, total IgE, and sIgE (depending on the history e.g. of latex, ethylene oxide, α-Gal or gelatine, CCD) If all tests are negative, vaccination can be provided under controlled conditions (e.g., with emergency medication and trained personnel available, and monitoring for at least 30 minutes after vaccination) If a positive result is received (e.g., if polyethylene glycol is found in the skin test), another vaccine can be considered for vaccination, provided that the vaccine is available (within a reasonable time) Reports of severe allergic reactions in the context of COVID-19 vaccination can be made via www.anaphylaxie.net using an online questionnaire Source (Allergy centres in Germany)	Last update 26 January 2021
	<ul style="list-style-type: none"> Allocating vaccines and ancillary supplies equitably <ul style="list-style-type: none"> Allocation rules <ul style="list-style-type: none"> People for whom vaccine safety and effectiveness has not yet been established Communicating vaccine-allocation plans and the safety and effectiveness of vaccines <ul style="list-style-type: none"> Target of intervention <ul style="list-style-type: none"> High-risk groups Delivery of the intervention <ul style="list-style-type: none"> By whom 	<ul style="list-style-type: none"> ACOG recommends that COVID-19 vaccines should not be withheld from pregnant individuals who meet criteria for vaccination based on ACIP (the Advisory Committee on Immunization Practices)-recommended priority groups ACOG recommends that COVID-19 vaccines should be offered to lactating individuals similar to non-lactating individuals when they meet criteria for receipt of the vaccine based on prioritization groups outlined by the ACIP 	Last update 27 January 2021

Type of document	Relevance to question	Key findings	Recency or status
	<ul style="list-style-type: none"> ▪ Modality of delivery ○ Content of messaging <ul style="list-style-type: none"> ▪ Data and evidence about safety and about effectiveness in terms of both protection against COVID-19 and protection against transmission ▪ Risk-mitigation efforts • Administering vaccines in ways that optimize timely uptake <ul style="list-style-type: none"> ○ Where <ul style="list-style-type: none"> ▪ Community-based health settings ▪ Other community settings ▪ Primary-care settings 	<ul style="list-style-type: none"> • A conversation between the patient and their clinical team may assist with decisions regarding the use of vaccines approved under Emergency Use Authorization (EUA) for the prevention of COVID-19 by pregnant patients, and the important considerations include: <ul style="list-style-type: none"> ○ The level of activity of the virus in the community ○ The potential efficacy of the vaccine ○ The risk and potential severity of maternal disease, including the effects of disease on the fetus and newborn ○ The safety of the vaccine for the pregnant patient and the fetus • A conversation with a clinician should not be required prior to vaccination, as this may cause unnecessary barriers to access • Regardless of their decision to receive or not receive the vaccine, these conversations provide an opportunity to remind patients about the importance of other prevention measures such as hand washing, physical distancing, and wearing a mask • Vaccination of pregnant individuals with a COVID-19 mRNA vaccine may occur in any clinical setting and non-clinical community-based vaccination sites such as schools, community centres, and other mass-vaccination locations, and pregnancy testing should not be a requirement prior to receiving any EUA-approved COVID-19 vaccine Source (The American College of Obstetricians and Gynecologists, ACOG) 	
	<ul style="list-style-type: none"> • Allocating vaccines and ancillary supplies equitably <ul style="list-style-type: none"> ○ People at significant risk for severe allergic reaction 	<ul style="list-style-type: none"> • The European Academy of Allergy and Clinical Immunology (EAACI) recommends the administering of COVID-19 vaccines to patients with allergies who do not have a history of allergic reactions to vaccine components 	Published 16 January 2021

Type of document	Relevance to question	Key findings	Recency or status
		<ul style="list-style-type: none"> The EAACI highlights that anaphylaxis after vaccination can occur in the absence of a history of allergic reaction and recommends that an observation time of 15 minutes is allotted after vaccination Patients who had a severe allergic reaction to the first dose of COVID-19 vaccine should be referred to allergist to determine the cause of the allergic reaction (if it is due to the COVID-19 vaccine, they should not receive the second dose) Source (The European Academy of Allergy and Clinical Immunology) 	
	<ul style="list-style-type: none"> Communicating vaccine-allocation plans and the safety and effectiveness of vaccines <ul style="list-style-type: none"> Target of intervention <ul style="list-style-type: none"> General public High-risk groups Individuals who are hesitant about or opposed to vaccination Delivery of the intervention <ul style="list-style-type: none"> By whom Content of messaging <ul style="list-style-type: none"> Data and evidence about safety and about effectiveness in terms of both protection against COVID-19 and protection against transmission Risk-mitigation efforts Myths or misinformation about vaccines Administering vaccines in ways that optimize timely uptake <ul style="list-style-type: none"> Where With what broader, complementary health interventions 	<ul style="list-style-type: none"> A 23-person <i>Working Group on Readyng Populations for COVID-19 Vaccine</i> released a set of recommendations and best practices for improving COVID-19 vaccine acceptance and addressing hesitancy <ul style="list-style-type: none"> Value social science (involve research funding to include social, behavioural and communication science, and develop active partnerships) Inform public expectations about COVID-19 vaccination benefits, risks and supply (forecast range of scenarios, temper expectations, provide transparency of vaccine safety systems, seek input from marginalized populations) Communicate in meaningful ways (public well-being at the centre of communication, reject political tensions, conduct qualitative studies to understand local and community needs and concerns, conduct surveys on attitudes and beliefs across sub-groups, engage network of trusted champions and spokespersons to deliver a unified message) Earn public trust and confidence in allocation and distribution (develop strategies that take marginalized populations into consideration, 	Published 20 October 2020

Type of document	Relevance to question	Key findings	Recency or status
		<p>implement guidelines that are consistent across providers and locations)</p> <ul style="list-style-type: none"> ○ Make vaccination available in safe, familiar places (use schools, pharmacies, places of worship, workplaces, grocery stores, health departments, senior centres, home visits; prepare educational materials and train individuals tasked with vaccination; develop hesitancy campaign plans; foster partnerships with government, health departments, media) ○ Establish an independent body to instil public ownership (establish public committees to review and report on public understanding, access and acceptance) <p>Source (Johns Hopkins Center for Health Security and Texas State University Department of Anthropology)</p>	
	<ul style="list-style-type: none"> ● Surveillance, monitoring and evaluation, and reporting <ul style="list-style-type: none"> ○ Documenting adverse events and follow-up ○ Identifying and measuring performance indicators ○ Infrastructure to enable surveillance, monitoring, and evaluation 	<ul style="list-style-type: none"> ● This guideline describes the post-implementation surveillance strategy that Public Health England (PHE) will be implementing to monitor and evaluate the COVID-19 vaccination program ● PHE aims to identify any safety signals of potential adverse events from COVID-19 vaccination by using specified sequential testing methods and by comparing the number of signal reports to the expected number of signals for the specific condition absent of vaccination ● PHE has established vaccination in pregnancy (VIP) surveillance for COVID-19 vaccination of pregnant women (inadvertently or intentional) that includes collecting background information on the pregnant woman's medical history, and follow-up information 10 weeks post estimated delivery date and at the baby's first birthday ● The effectiveness of COVID-19 vaccines will be monitored by PHE against several outcomes 	Last update 11 January 2021

Type of document	Relevance to question	Key findings	Recency or status
		<ul style="list-style-type: none"> ○ The Second Generation Surveillance System (SGSS), which collects routine COVID-19 testing data, will be linked to vaccination data from the National Immunisation Management System (NIMS) to provide a dataset for monitoring vaccine effectiveness against symptomatic disease by sub-group (e.g., age and clinical risk group) ○ Routine reporting of vaccine effectiveness against symptomatic disease, hospitalization with COVID-19, and COVID-19 mortality will be conducted by the Royal College of General Practitioners Research and Surveillance Centre (RCGP RSC) in collaboration with academic partners ○ To monitor vaccine effectiveness against infection, the data from a number of studies involving repeat asymptomatic PCR testing or antibody testing of healthcare workers, care-home residents and staff, and the population at large will be evaluated by the PHE on an ongoing basis ○ A sample of cases from these studies will also be recruited to monitor the effect of vaccination on their risk of onward transmission ● Possible vaccine failure assessments will include viral whole genome sequencing, identifying patient and program delivery factors, and monitoring disease outcomes ● It is expected that the earliest estimates of vaccine effectiveness will be reported in the first quarter of 2021 <p>Source</p>	
	<ul style="list-style-type: none"> ● Allocating vaccines and ancillary supplies equitably <ul style="list-style-type: none"> ○ Allocation rules ● Administering vaccines in ways that optimize timely uptake 	<ul style="list-style-type: none"> ● Vaccines should be provided to individuals in accordance with the government-identified priority groups ● Adverse events and safety concerns following COVID-19 vaccine administration should be 	Last update 11 January 2021

Type of document	Relevance to question	Key findings	Recency or status
	<ul style="list-style-type: none"> ○ By whom (e.g., nurses, public-health workers, retired health workers) and with what changes to remuneration (e.g., increased vaccine-administration fee code) • Surveillance, monitoring and evaluation, and reporting <ul style="list-style-type: none"> ○ Documenting adverse events and follow-up 	<p>reported using the established Coronavirus Yellow Card reporting scheme</p> <ul style="list-style-type: none"> • To ensure that there is a sufficient workforce to deliver the vaccination program, changes to the Human Medicines Regulations now permit non-registered healthcare professionals to administer the COVID-19 vaccine • All individuals administering COVID-19 vaccines are required to complete assigned training <p>Source (Public Health England)</p>	
	<ul style="list-style-type: none"> • Securing and distributing a reliable supply of vaccines and ancillary supplies <ul style="list-style-type: none"> ○ National purchasing ○ Ordering within country ○ Storage and handling within country • Administering vaccines in ways that optimize timely uptake <ul style="list-style-type: none"> ○ With what post-vaccination observation period and what physical distancing, personal protective equipment, sanitation and other public-health measures ○ By whom and with what changes to remuneration ○ With what reporting requirements and supporting immunization information systems and broader healthcare information systems ○ With what safety monitoring requirements • Surveillance, monitoring and evaluation, and reporting <ul style="list-style-type: none"> ○ Documenting vaccine status ○ Documenting adverse events and follow-up ○ Monitoring supply safety 	<ul style="list-style-type: none"> • This guidance is for the administration of COVID-19 Vaccine AstraZeneca (ChAdOx1-S [recombinant]) to individuals in accordance with the national COVID-19 vaccination program • This guidance is separated into the four operational stages of vaccination activity (assessment, preparation, administration and record-keeping), and defines the criteria and required characteristics of persons undertaking the assigned stage(s) • In the assessment stage, the staff should assess the individual presenting for vaccination against the inclusion and exclusion criteria; consider any relevant cautions, interactions or adverse drug reactions; provide advice to the individual; obtain and record patient-informed consent; and ensure vaccinator, if another person, is informed of the vaccine product to be administered • In relation to the stage of vaccine preparation, the guidance focuses on vaccine presentation, supplies, preparation and disposal • In relation to the stage of vaccine administration, the staff should ensure individual assessment and consent before administering the vaccine, administer COVID-19 Vaccine AstraZeneca, and provide any post-vaccination advice 	Last update 10 January 2021

Type of document	Relevance to question	Key findings	Recency or status
		<ul style="list-style-type: none"> The staff should complete a vaccination record, including individual information, vaccinator and related professionals, name and brand of vaccine, date of administration, dose, form and route of administration of vaccine, quantity administered, batch number and expiry date, anatomical site of vaccination, advice given, and details of any adverse drug reactions and actions taken <p>Source (Public Health England)</p>	
	<ul style="list-style-type: none"> Securing and distributing a reliable supply of vaccines and ancillary supplies <ul style="list-style-type: none"> National purchasing Ordering within country Storage and handling within country Administering vaccines in ways that optimize timely uptake <ul style="list-style-type: none"> With what post-vaccination observation period and what physical distancing, personal protective equipment, sanitation and other public-health measures By whom and with what changes to remuneration With what reporting requirements and supporting immunization information systems and broader healthcare information systems With what safety monitoring requirements Surveillance, monitoring and evaluation, and reporting <ul style="list-style-type: none"> Documenting vaccine status Documenting adverse events and follow-up Monitoring supply safety 	<ul style="list-style-type: none"> This guidance is for the administration of COVID-19 mRNA vaccine BNT162b2 to individuals in accordance with the national COVID-19 vaccination program This guidance is separated into four operational stages of vaccination activity (assessment, preparation, administration and record-keeping), and defines the criteria and required characteristics of persons undertaking the assigned stage(s) In the assessment stage, the staff should assess the individual presenting for vaccination against the inclusion and exclusion criteria, consider any relevant cautions, interactions or adverse drug reactions, provide advice to the individual, obtain and record patient-informed consent, and ensure vaccinator, if another person, is informed of the vaccine product to be administered In relation to the stage of vaccine preparation, the guidance focuses on vaccine presentation, supplies, preparation and disposal In relation to the stage of vaccine administration, the staff should ensure individual assessment and consent before administering the vaccine, administer CCOVID-19 mRNA Vaccine BNT162b2, and provide any post-vaccination advice 	Last update 10 January 2021

Type of document	Relevance to question	Key findings	Recency or status
		<ul style="list-style-type: none"> The staff should complete a vaccination record, including individual information, vaccinator and related professionals, name and brand of vaccine, date of administration, dose, form and route of administration of vaccine, quantity administered, batch number and expiry date, anatomical site of vaccination, advice given, and details of any adverse drug reactions and actions taken Source (Public Health England)	
	<ul style="list-style-type: none"> Allocating vaccines and ancillary supplies equitably <ul style="list-style-type: none"> Allocation rules Communicating vaccine-allocation plans and the safety and effectiveness of vaccines <ul style="list-style-type: none"> Content of messaging <ul style="list-style-type: none"> Data and evidence about safety and about effectiveness Myths and misinformation about vaccines 	<ul style="list-style-type: none"> The equitable allocation of vaccines where there is limited supply needs to take into account who is most at risk of exposure and severe outcomes, feasibility and acceptability of the vaccine and ethical considerations, and should also ensure flexibility in vaccine-delivery methods Efforts to maintain trust in government throughout the pandemic are key to ensuring vaccine uptake, as well as proper communication to counter misinformation and disinformation related to vaccines, through the development of tailored messages for specific contexts and groups, working with community leaders, media-literacy experts, community organizations and other key influencers Source (The Chief Public Health Officer of Canada, Government of Canada)	Published October 2020
Protocols for reviews that are underway	<ul style="list-style-type: none"> Surveillance, monitoring and evaluation and reporting <ul style="list-style-type: none"> Identifying sources of vaccine hesitancy 	<ul style="list-style-type: none"> Pooled hesitancy rate for COVID 19 vaccine uptake globally Source	Anticipated completion date 31 March 2021
	<ul style="list-style-type: none"> Surveillance, monitoring and evaluation and reporting <ul style="list-style-type: none"> Identifying sources of vaccine hesitancy 	<ul style="list-style-type: none"> Factors associated with the uptake of COVID-19 vaccines among the general population Source	Anticipated completion date 1 April 2021
	<ul style="list-style-type: none"> Surveillance, monitoring and evaluation and reporting <ul style="list-style-type: none"> Identifying sources of vaccine hesitancy 	<ul style="list-style-type: none"> Exploring the barriers to vaccine acceptance in racial and ethnic minorities Source	Anticipated completion

Type of document	Relevance to question	Key findings	Recency or status
			date 28 March 2021
Titles/questions for reviews that are being planned	<i>No highly relevant titles/questions found</i>		
Single studies that provide additional insight	<ul style="list-style-type: none"> • Securing and distributing a reliable supply of vaccines and ancillary supplies <ul style="list-style-type: none"> ○ National purchasing ○ Delivery to country ○ Inventory management within country ○ Storage and handling within country • Allocating vaccines and ancillary supplies equitably <ul style="list-style-type: none"> ○ Ensuring equity • Surveillance, monitoring and evaluation and reporting <ul style="list-style-type: none"> ○ Documenting vaccine-related opinions • Identifying sources of vaccine hesitancy 	<ul style="list-style-type: none"> • The study describes key characteristics of 26 candidate COVID-19 vaccines, including efficacy levels, dosing regimens, storage requirements, prices, production capacities in 2021, and stocks reserved for LMIC countries • The four dimensions of effective global immunization include development and production, affordability, allocation, and deployment • The vaccines produced by Johnson & Johnson are likely easier to deploy in LMIC countries and resource-restrained settings given that it only needs to be refrigerated and is one-dose only • The diverse options of vaccines are likely needed to control the pandemic <p>Source</p>	Published 21 February 2021
	<ul style="list-style-type: none"> • Allocating vaccines and ancillary supplies equitably <ul style="list-style-type: none"> ○ Approaches to developing and adjusting allocation rules 	<ul style="list-style-type: none"> • This study employed a large-scale online public opinion survey in 13 countries (Australia, Brazil, Canada, Chile, China, Colombia, France, India, Italy, Spain, Uganda, UK and US) to identify and understand preferences and opinions regarding the allocation of a COVID-19 vaccine • 15,536 survey respondents made binary choices on hypothetical vaccine recipients that varied on five attributes that included occupation, age, transmission status, risk of death from COVID-19, and income • It was found that the respondents prioritized people based on factors that were directly related to contracting COVID-19 or developing severe symptoms, such as age, vulnerability and risk of transmission 	Preprint (last edited 2 February 2021)

Type of document	Relevance to question	Key findings	Recency or status
		<ul style="list-style-type: none"> Prioritization was also identified for factors related to socioeconomic statuses, such as low-income groups and non-health related key occupations and workers Source	
	<ul style="list-style-type: none"> Communicating vaccine-allocation plans and the safety and effectiveness of vaccines <ul style="list-style-type: none"> Target of intervention <ul style="list-style-type: none"> High-risk groups 	<ul style="list-style-type: none"> A national cross-sectional survey on COVID-19 vaccine uptake of 1,058 healthcare workers showed that only 33.3% had either registered or received the vaccine within three weeks of its availability in Saudi Arabia The low vaccine uptake reported in this study, together with earlier studies reporting healthcare workers preference to delay getting vaccinated, should warrant scaling up public health communication efforts targeted towards healthcare workers to enhance vaccine confidence and acceptance Source	Preprint (last edited 1 February 2021)
	<ul style="list-style-type: none"> Communicating vaccine-allocation plans and the safety and effectiveness of vaccines <ul style="list-style-type: none"> Target of intervention <ul style="list-style-type: none"> General public 	<ul style="list-style-type: none"> A cross-sectional longitudinal study of 9,000 respondents to explore changes in COVID-19 vaccine hesitancy, attitudes to the priorities of U.K. government administration, and the emergence of new variants shows that there is a reduction in COVID-19 vaccine hesitancy, particularly attributable to an increased willingness for vaccination upon news of a variant strain. Findings showed that there was a 15% increase in vaccine acceptance in the critical 50 days of case escalation leading to the UK government-mandated new year lockdown, but not enough to achieve herd immunity Respondents raised concerns for the priority list of vaccine allocation, referencing the lack of representation for Black, Asian, and Minority Ethnic groups 	Preprint (last edited 1 February 2021)

Type of document	Relevance to question	Key findings	Recency or status
		<ul style="list-style-type: none"> Considering preferences and concerns raised by the public could help build trust and community engagement in wider public health strategies Source	
	<ul style="list-style-type: none"> Communicating vaccine-allocation plans and the safety and effectiveness of vaccines <ul style="list-style-type: none"> Target of intervention <ul style="list-style-type: none"> General public Content of messaging <ul style="list-style-type: none"> Myths and misinformation about vaccines 	<ul style="list-style-type: none"> A study exploring exposure to online misinformation around COVID-19 vaccines and its effects on intent to get vaccinated in the UK and USA showed that the treatment of misinformation led to a greater decrease in the number of respondents who had previously reported that they would definitely accept the vaccine relative to those who had received factual information The exposure to misinformation had reduced the respondents' intent to accept a vaccine relative to exposure to factually correct information Before treatment, 54.1% of 3000 U.K. respondents and 42.5% of 3001 U.S. respondents reported that they would definitely accept the COVID-19 vaccine Exposure to misinformation resulted in a decrease in the number of respondents who had previously reported that they would definitely accept the vaccine relative to the control group by 6.2% in the U.K. and 6.4% in the U.S. Effective public-health communication strategies should be tailored to counter vaccine misinformation Source	Published 5 February 2021
	<ul style="list-style-type: none"> Communicating vaccine-allocation plans and the safety and effectiveness of vaccines <ul style="list-style-type: none"> Target of intervention <ul style="list-style-type: none"> General public 	<ul style="list-style-type: none"> This study explored Chinese adults' attitudes and intention to get the COVID-19 vaccine and showed that components of persuasive messaging such as message framing, outcome uncertainty and number formats have no significant effects on vaccination attitudes and intention Messaging framing involves gain- and loss-framing, in which when the perceived risk is low, gain-framed messaging has the potential to result in better 	Published 27 January 2021

Type of document	Relevance to question	Key findings	Recency or status
		<p>persuasive outcomes, whereas loss-framed messaging is more effective when the perceived risk is high</p> <ul style="list-style-type: none"> • Perceived low risk is considered certain and perceived high risk is considered uncertain • Number format to communicate risk and uncertainty was used through proportions, usually through a percentage format that is more understandable for people • Findings showed that age, education and situational factors were more positively correlated with attitudes and intention <p>Source</p>	
	<ul style="list-style-type: none"> • Securing and distributing a reliable supply of vaccines and ancillary supplies <ul style="list-style-type: none"> ○ National purchasing ○ Distribution within country and to administration sites ○ Storage and handling within country • Allocating vaccines and ancillary supplies equitably <ul style="list-style-type: none"> ○ Approaches to developing and adjusting allocation rules • Communicating vaccine-allocation plans and the safety and effectiveness of vaccines <ul style="list-style-type: none"> ○ Delivery of the intervention <ul style="list-style-type: none"> ▪ Modality of delivery • Administering vaccines in ways that optimize timely uptake <ul style="list-style-type: none"> ○ With what explicit effort to leverage existing health-system arrangements ○ By whom 	<ul style="list-style-type: none"> • Israel's vaccination campaign had achieved a great deal both in absolute terms and relative to other countries and the study identified and analyzed the factors contributing to the success of Israel's vaccine rollout in its initial phase, which can be divided into three major groups <ul style="list-style-type: none"> ○ The first group of factors consists of long-standing characteristics of Israel which are extrinsic to health care, including: <ul style="list-style-type: none"> ▪ Israel's small size, in terms of both area and population, its relatively young population, and its relatively warm weather in December 2020 ▪ Israel's centralized national system of government (as opposed to a federal system of government) ▪ Israel's experience in, and infrastructure for, planning and implementing prompt responses to large-scale national emergencies ○ The second group of factors relates to long-standing health-system features, including: <ul style="list-style-type: none"> ▪ The organizational, IT and logistic capacities of Israel's community-based healthcare providers (the four health plans), which are all large and national in scope 	Published 26 January 2021

Type of document	Relevance to question	Key findings	Recency or status
		<ul style="list-style-type: none"> ▪ The availability of a cadre of well-trained, salaried, community-based nurses who are employed directly by the health plans ▪ The tradition of effective cooperation between government, health plans, hospitals, and emergency care providers (particularly during national emergencies) and the frameworks for facilitating that cooperation ▪ The existence of well-functioning frameworks for making decisions about vaccinations and support tools for assisting in the implementation of vaccination campaigns ○ The third group consists of factors that are more recent and are specific to the COVID-19 vaccination effort, including: <ul style="list-style-type: none"> ▪ The rapid mobilization of special government funding for vaccine purchase and distribution ▪ Timely contracting for a large amount of vaccines relative to Israel's population ▪ The use of simple, clear and easily implementable criteria for determining who had priority for receiving vaccines in the early phases of the distribution process ▪ A creative technical response that addressed the demanding cold storage requirements of the Pfizer-BioNTech COVID-19 vaccine ▪ Well-tailored outreach efforts to encourage the population to sign up for vaccinations • While many of these facilitating factors are not unique to Israel, part of what made the Israeli rollout successful was its combination of facilitating factors (as opposed to each factor being unique separately) and the synergies it created among them <p>Source</p>	
	<ul style="list-style-type: none"> • Communicating vaccine-allocation plans and the safety and effectiveness of vaccines 	<ul style="list-style-type: none"> • A cross-sectional online survey of 2,650 people showed that the majority of respondents (86%) are 	Published 20 January 2021

Type of document	Relevance to question	Key findings	Recency or status
	<ul style="list-style-type: none"> ○ Target of intervention <ul style="list-style-type: none"> ▪ General public ○ Delivery of the intervention <ul style="list-style-type: none"> ▪ Modality of delivery ○ Content of messaging <ul style="list-style-type: none"> ▪ Data and evidence about safety and about effectiveness in terms of both protection against COVID-19 and protection against transmission ▪ Myths and misinformation about vaccines 	<p>using traditional media to obtain information on the COVID-19 vaccine and that the use of traditional media sources (both local and national television, national newspaper sources) was found to increase the likelihood of vaccination</p> <ul style="list-style-type: none"> • The survey also showed that those who are less likely to get the vaccine are exclusively using social media as their source of information • There appeared to be no significant effects of interaction between the type of media or source of information and trust, and this level of analysis was conducted to determine if trust in a source was a potential mediator of the relationship between the channel of information and vaccine hesitancy • Perceived credibility of the sources being cited in traditional media to public-health expertise could be a driving force of these channels for vaccine acceptability • There is an opportunity for social-media platforms to consider how to contribute positively to vaccine hesitancy <p>Source</p>	
	<ul style="list-style-type: none"> • Communicating vaccine-allocation plans and the safety and effectiveness of vaccines <ul style="list-style-type: none"> ○ Target of intervention <ul style="list-style-type: none"> ▪ General public ▪ Individuals who are hesitant about or opposed to vaccination ○ Content of messaging • Data and evidence about safety and about effectiveness in terms of both protection against COVID-19 and protection against transmission 	<ul style="list-style-type: none"> • The study examined the casual effect of exposure to distinct pro- and anti-vaccination message frames on individuals' intentions to get vaccinated <ul style="list-style-type: none"> ○ Several types of message content were focused on the safety and efficacy of the vaccine itself, the likelihood that others will take the vaccine, and the possible role of politics in promoting the vaccine • Respondents who received information about the safety/efficacy of the vaccine were more likely to report that they would take the vaccine • Respondents who received information that others were reluctant to take the vaccine were more likely to 	Pre-print (last edited 6 January 2021)

Type of document	Relevance to question	Key findings	Recency or status
		<p>report that they themselves would not take it, that other Americans would not take it, and that it was not important to get the vaccine</p> <ul style="list-style-type: none"> • Respondents who received information about political influences on vaccine development expressed hesitancy to take the vaccine <p>Source</p>	
	<ul style="list-style-type: none"> • Securing and distributing a reliable supply of vaccines and ancillary supplies <ul style="list-style-type: none"> ○ National purchasing ○ Delivery to country • Allocating vaccines and ancillary supplies equitably <ul style="list-style-type: none"> ○ Allocation rules <ul style="list-style-type: none"> ▪ Front-line healthcare workers ▪ Residents in long-term care homes and other congregate-care settings ▪ People at increased risk of severe COVID-19 (e.g., older and/or frail adults, those with chronic health conditions) ▪ Essential workers (beyond front-line healthcare workers) and/or those in work environments that put them at elevated risk (e.g., food processing and transit) ○ Ensuring equity 	<ul style="list-style-type: none"> • This study provided estimates of global, regional and national target population sizes for COVID-19 vaccination to inform immunization strategies on a global scale • A strategy for vaccine allocation is proposed based on three main goals: <ul style="list-style-type: none"> ○ To maintain core societal functions during the pandemic ○ To protect people from irreversible and devastating harm (e.g., people over 65 years old or with high-risk health conditions) ○ To control community transmission to return to a pre-pandemic baseline of economic and social activities • The size of target populations varies significantly by region with a considerable proportion of those needed to maintain essential functions of societies and of those over 80 years of age living in Europe and North America <p>Study estimates reveal that it would take about six to seven months to produce enough vaccines to inoculate 60-80% of the world population in order to achieve herd immunity</p> <ul style="list-style-type: none"> ○ In countries with sufficient local capacity to produce vaccines, vaccination of a significant proportion of the population can be achieved within months. However, in lower- and middle-income countries that have much less capacity to 	Published 15 December 2020

Type of document	Relevance to question	Key findings	Recency or status
		<p>secure and deliver vaccines, the vaccination process can last much longer</p> <ul style="list-style-type: none"> • The strengthening of national and international supply chains to guarantee the distribution of vaccines to remote communities in developing countries will call for international institutions, national governments, and manufacturers to plan for vaccine allocation and negotiate affordable vaccine prices • When designing vaccination programs, each country should consider local epidemiology, underlying population health, the effectiveness of different vaccines, and projections of available vaccine doses <p>Source</p>	
	<ul style="list-style-type: none"> • Securing and distributing a reliable supply of vaccines and ancillary supplies <ul style="list-style-type: none"> ○ National purchasing • Allocating vaccines and ancillary supplies equitably <ul style="list-style-type: none"> ○ Ensuring equity 	<ul style="list-style-type: none"> • This cross-sectional analysis describes the premarket purchase commitments for COVID-19 vaccines from manufacturers to recipient countries • As of November 15, 2020, premarket purchase commitments of 7.48 billion doses of COVID-19 vaccines from 13 manufacturers have been made <ul style="list-style-type: none"> ○ High-income countries have secured 51% of these doses even though they represent only 14% of the world's population ○ Only six manufacturers have sold premarket vaccines to low- and middle-income countries, with the majority of vaccines being provided by AstraZeneca/Oxford University, Novavax, the Gamaleya Research Institute of Russia, and the Chinese firms, SinoVac and CanSino ○ At least 500 million doses, or 250 courses, have been secured to ensure access to COVID-19 vaccines for developing countries through the COVAX facility of the WHO's ACT Accelerator, along with financing for half of its 2 billion dose-target by the end 2021 	Published 15 December 2020

Type of document	Relevance to question	Key findings	Recency or status
		<ul style="list-style-type: none"> • Vaccine prices vary substantially – from US\$6.00 per course to \$74.00 per course • There has been limited transparency about purchasing contracts between manufacturers, countries and COVAX facility, which can lead to increased concerns about vaccine nationalism and access to vaccines • It is unknown how many countries will follow the WHO's proposed equitable allocations scheme for population-based distribution of vaccines, as several countries participating in the COVAX facility have bilateral agreements with manufacturers • Global collective action is needed to pool procurement and share COVID-19 vaccines in an equitable way so that there is fair access to populations around the world Source	
	<ul style="list-style-type: none"> • Allocating vaccines and ancillary supplies equitably <ul style="list-style-type: none"> ○ Allocation rules <ul style="list-style-type: none"> ▪ Front-line healthcare workers ▪ Essential workers and/or those in work environments that put them at elevated risk ▪ Children (school aged) ▪ Migrant workers ▪ People in social environments that put them at elevated risk for COVID-19 ○ Ensuring equity • Communicating vaccine-allocation plans and the safety and effectiveness of vaccines <ul style="list-style-type: none"> ○ Target of intervention <ul style="list-style-type: none"> ▪ General public ▪ Individuals who are hesitant about or opposed to vaccination 	<ul style="list-style-type: none"> • Among 9,122 respondents in the U.K. (49.4% response rate), 71.5% indicated wanting COVID-19 vaccination, and 9.6% would refuse <ul style="list-style-type: none"> ○ Age and female gender were, respectively, strongly positively and negatively associated with wanting a vaccine • Although 2,068 respondents (22.7%) disagreed with the government's order of priority, 6,416 (70.3%) were against being able to expedite vaccination through payment <ul style="list-style-type: none"> ○ Teachers, Black, Asian and Minority Ethnic (BAME) groups, general key workers, children, and university students were most cited by respondents for prioritization ○ 32.6% of respondents were concerned that the priority list makes no reference to BAME groups Source	Pre-print (last edited 8 December 2020)

Type of document	Relevance to question	Key findings	Recency or status
	<ul style="list-style-type: none"> Communicating vaccine-allocation plans and the safety and effectiveness of vaccines <ul style="list-style-type: none"> Target of intervention <ul style="list-style-type: none"> General public Delivery of the intervention <ul style="list-style-type: none"> By whom 	<ul style="list-style-type: none"> The study examined how timing and elite endorsement affect public opinion about COVID-19 vaccines in the United States Approval before the election reduced willingness to vaccinate and confidence in COVID-19 vaccinations A positive statement by President Donald Trump and Dr. Anthony Fauci had significant positive effects on public reactions towards COVID-19 vaccine <ul style="list-style-type: none"> The effect was found to be four times larger amongst Democrats than Republicans If President Trump endorsed the COVID-19 vaccine, confidence was raised about as much as Dr. Fauci's statement amongst Republicans, but confidence among Democrats was lowered These studies demonstrated that the public opinion toward COVID-19 vaccinations may be responsive to political motivation and support Further research should be directed towards developing strategies to accurately disseminate information and gain public support within future COVID-19 vaccination campaigns <p>Source</p>	Pre-print (last edited 28 October 2020)
	<ul style="list-style-type: none"> Communicating vaccine-allocation plans and the safety and effectiveness of vaccines <ul style="list-style-type: none"> Target of intervention <ul style="list-style-type: none"> General public Delivery of the intervention <ul style="list-style-type: none"> By whom 	<ul style="list-style-type: none"> A global survey (13,426 people in 19 countries) showed respondents reporting higher levels of trust in information from government sources were more likely to accept a vaccine and take their employer's vaccine advice Differences in COVID-19 vaccine acceptance rates ranged from almost 90% (in China) to less than 55% (in Russia) <p>Source</p>	Published 20 October 2020
	<ul style="list-style-type: none"> Allocating vaccines and ancillary supplies equitably <ul style="list-style-type: none"> Allocation rules 	<ul style="list-style-type: none"> This study aimed to evaluate the optimal allocation of COVID-19 vaccines in the U.S. based on age and occupational status (i.e., essential worker or non-essential worker) 	Published 6 October 2020

Type of document	Relevance to question	Key findings	Recency or status
	<ul style="list-style-type: none"> Essential workers and/or those in work environments that put them at elevated risk 	<ul style="list-style-type: none"> The optimal allocation of COVID-19 vaccines is reported to prioritize the treatment of older-aged essential workers Younger essential workers should be prioritized when trying to control the spread of the disease, while prioritization should be given to seniors when trying to control mortality With the developed model, approximately 15,000 deaths are predicted to be prevented <p>Source</p>	
	<ul style="list-style-type: none"> Communicating vaccine-allocation plans and the safety and effectiveness of vaccines <ul style="list-style-type: none"> Target of intervention <ul style="list-style-type: none"> General public Delivery of the intervention <ul style="list-style-type: none"> Modality of delivery Content of messaging <ul style="list-style-type: none"> Data and evidence about safety and about effectiveness in terms of both protection against COVID-19 and protection against transmission Administering vaccines in ways that optimize timely uptake <ul style="list-style-type: none"> With what broader, complementary health interventions 	<ul style="list-style-type: none"> The main objectives of this study were to examine the attitude of participants towards a COVID-19 vaccine and highlight any challenges that may pose a barrier to vaccine uptake The findings from this study reported that an estimated 68% of participants would be open to receiving a COVID-19 vaccine The survey also found that longer vaccine-testing periods, increased efficacy and vaccines that would be developed in the U.S. were found to be significantly associated with increased COVID-19 vaccine acceptance Based on the findings of this study, it was determined that targeted messages that promote COVID-19 vaccination and that alleviate concerns of individuals who are hesitant to receive vaccines should be disseminated, and that sufficient amount of time should be dedicated to these efforts prior to COVID-19 vaccine release to ensure maximum vaccine uptake The indicator that can best predict COVID-19 vaccine acceptance was found to be previous vaccine history; the authors note that interventions (e.g., messages) that relay information regarding the safety of vaccines should help to improve COVID-19 vaccine acceptance 	Published 3 October 2020

Type of document	Relevance to question	Key findings	Recency or status
	<ul style="list-style-type: none"> Communicating vaccine-allocation plans and the safety and effectiveness of vaccines <ul style="list-style-type: none"> Target of intervention <ul style="list-style-type: none"> General public Delivery of the intervention <ul style="list-style-type: none"> By whom Content of messaging <ul style="list-style-type: none"> Data and evidence about safety and about effectiveness in terms of both protection against COVID-19 and protection against transmission Myths and misinformation about vaccines 	<p>Source</p> <ul style="list-style-type: none"> A survey randomly assigned 7,064 respondents in the United States to read pro-vaccine communication materials with information emphasizing personal-health risks, economic costs or collective public-health consequences of not vaccinating, that had the message source (ordinary people or medical experts) also randomly assigned Messages that emphasize personal-health risks and collective health consequences of not vaccinating were found to significantly increase intentions to vaccinate, and the effects were similar regardless of the message source and efforts to pre-emptively debunk concerns about safety of expedited clinical trials Economic cost frames were found to have no discernible effect on vaccine intentions <p>Source</p>	Last updated 8 September 2020 (pre-print)
	<ul style="list-style-type: none"> Allocating vaccines and ancillary supplies equitably <ul style="list-style-type: none"> Allocation rules <ul style="list-style-type: none"> People in social environments that put them at elevated risk for COVID-19 Administering vaccines in ways that optimize timely uptake <ul style="list-style-type: none"> Where <ul style="list-style-type: none"> Other community settings 	<ul style="list-style-type: none"> A heavy lift UAV quadcopter can expand COVID-19 vaccine delivery to Indigenous people living in villages impeded by rugged terrain The travel time to a village normally accessible via walking a 2km trail that takes almost one hour took an estimated 1.23-1.38 minutes, 1.57-1.66 minutes, and an average of 3.13 minutes, for drones with 100, 250 and 500 vial loads, respectively <p>Source</p>	Last updated 12 January 2021 (pre-print)
	<ul style="list-style-type: none"> Communicating vaccine-allocation plans and the safety and effectiveness of vaccines <ul style="list-style-type: none"> Target of intervention <ul style="list-style-type: none"> High-risk groups Delivery of the intervention <ul style="list-style-type: none"> By whom Content of messaging 	<ul style="list-style-type: none"> A survey of 311 older adults and 216 chronic respiratory patients in the U.K, showed 86% are willing to receive a future vaccine for COVID-19 The willingness to receive a COVID-19 vaccination was: <ul style="list-style-type: none"> Positively associated with the belief that COVID-19 will persist over time 	Published 5 September 2020

Type of document	Relevance to question	Key findings	Recency or status
	<ul style="list-style-type: none"> ▪ Data and evidence about safety and about effectiveness in terms of both protection against COVID-19 and protection against transmission 	<ul style="list-style-type: none"> ○ Negatively associated with the perception that the media has over-exaggerated the risks of catching the virus • Perceived facilitators to the COVID-19 vaccination uptake included perceptions of risk to personal health, severity of COVID-19, and health consequences to others from COVID-19 • Concerns about vaccine safety acted as a barrier to COVID-19-vaccination uptake • Content of mass-media interventions to improve vaccine uptake should focus on the behaviour-change techniques (BCTs) of information about health, emotional, social and environmental consequences, and salience of consequences <p>Source</p>	

Appendix 3: COVID-19 vaccine roll-out elements from other countries

Country	Securing and distributing a reliable supply of vaccines and ancillary supplies	Allocating vaccines and ancillary supplies equitably	Communicating vaccine-allocation plans and the safety and effectiveness of vaccines	Administering vaccines in ways that optimize timely uptake	Surveillance, monitoring and evaluation, and reporting
Australia	<ul style="list-style-type: none"> On 7 January 2021, the Australian Government released its COVID-19 Vaccine National Rollout Strategy, which outlines the targeted number of doses to be administered during each phase: <ul style="list-style-type: none"> Phase 1A: 1.4 million Phase 1B: 14.8 million Phase 2A: 15.8 million Phase 2B: 16 million Phase 3: 13.6 million Australia has partnered with the University of Oxford-AstraZeneca, Novavax, Pfizer-BioNTech, and COVAX Facility to secure a range of COVID-19 vaccine supply <ul style="list-style-type: none"> Australia has secured an estimated 53.8 million doses of the University of Oxford-AstraZeneca vaccine – 3.8 million doses will be imported, while the remaining 50 million will be manufactured domestically by CSL Behring The government has secured 51 million doses of the Novavax vaccine, 	<ul style="list-style-type: none"> The COVID-19 Vaccine National Rollout Strategy highlights the priority populations for each of the five phases: <ul style="list-style-type: none"> Phase 1A: quarantine and border workers, front-line healthcare workers, and aged-care and disability staff/residents Phase 1B: older adults aged 70 years and over, other health care workers, adults with pre-existing conditions, high-risk workers (e.g., fire, police, and meat processing staff), and Aboriginal and Torres Strait Islander people Phase 2A: Adults between 50-69 years of age, Aboriginal and Torres Strait Islander people, and other high-risk workers Phase 2B: the remaining adult population and unvaccinated individuals from any of the previous phases Phase 3: residents younger than 18 years of age and those younger than 16 years of age for the Pfizer vaccine only 	<ul style="list-style-type: none"> To inform residents, the Government of Australia will be promoting an educational campaign on its COVID-19 vaccination program <ul style="list-style-type: none"> This campaign will include medical experts discussing vaccine roll-out, priority populations, and projected timelines This will be aimed towards priority groups, culturally diverse groups, and Aboriginal and Torres Strait Islander people On 1 March 2021, the second phase of this campaign was launched The Australian Government's Department of Health released a series of campaign materials to inform citizens on the COVID-19 vaccine, using television ads, videos, posters, 	<ul style="list-style-type: none"> In addition to residential disability and aged-care facilities, a total of 30-50 hospital sites will serve as centres (i.e., Pfizer Hubs) for vaccine administration, including: <ul style="list-style-type: none"> Three in New South Wales; Four in Victoria; Three in Queensland; Two in South Australia; and One in each of Western Australia, Tasmania, Australian Capital Territory, and Northern Territory Pfizer-BioNTech vaccines will only be administered at Hospital/Pfizer Hubs <ul style="list-style-type: none"> General practices will provide vaccines to individuals aged 70 and over, individuals with pre-existing conditions, and in Phase 1B, Aboriginal and Torres Strait Islander people 	<ul style="list-style-type: none"> All successfully administered COVID-19 vaccinations will be documented into reporting and monitoring systems (e.g., Australian Immunisation Register) <ul style="list-style-type: none"> This will include personal information such as name, date of birth, contact details, gender, and if applicable, healthcare number and Medicare identifier Information from the Australian Immunisation Register is routinely uploaded to the Enterprise Data Warehouse (EDW) De-identified data from the EDW will be transferred to the Vaccine Data Solution, a software that helps to monitor the coverage and logistics of the COVID-19 vaccine roll-out The Australian Government has partnered with Accenture

	<p>which will be manufactured and imported internationally from Europe</p> <ul style="list-style-type: none"> ○ Australia has secured 10 million Pfizer-BioNTech vaccine doses, which will be manufactured and imported from the United States, Belgium, and Germany ○ On 4 February 2021, the Department of Health announced that Australia will receive an additional 10 million doses of the Pfizer-BioNTech vaccine in the second half of 2021, resulting in a total of 20 million secured doses ● On 24 December 2020, the government announced that DHL Supply Chain and Linfox will lead the COVID-19 vaccine distribution in Australia, which will be required to track the temperature of the vaccines and manage ancillary supplies (e.g., needles, syringes, and personal protective equipment) ● On 25 January 2021, the Therapeutic Goods Administration (TGA) provisionally approved the use of the Pfizer- 	<ul style="list-style-type: none"> ● Vaccine rollout commenced as scheduled on 22 February 2021 <ul style="list-style-type: none"> ○ Phase 1B of the vaccine roll-out is scheduled to commence on 22 March 2021 ● The administration of the Oxford-AstraZeneca vaccine commenced on 5 March 2021 in South Australia ● As of 7 March 2021, a total of 86,369 COVID-19 vaccines have been administered to Australians 	<p>presentations, and social-media graphics</p> <ul style="list-style-type: none"> ○ Educational material (e.g., videos) with translated subtitles are now available in multiple languages, such as Arabic, Korean, Italian, Hindi, Spanish, and Russian ○ This includes health professionals and researchers responding to public enquiries through a series of “Top 3 COVID-19 Vaccine Questions” ● The Government of Australia invested a total of \$23.9 million into the development of this vaccine information campaign ● On 8 March 2021, a COVID-19 vaccine eligibility tracker was launched to help provide Australians with a projected vaccination timeline 	<ul style="list-style-type: none"> ○ The Oxford-AstraZeneca vaccine will be administered at general practitioner-led respiratory clinics, select general practices, state-run vaccination clinics, and Aboriginal Controlled Community Health Centres ● Over 4,500 accredited general practices will serve as administration sites in Phase 1B of the vaccine roll-out <ul style="list-style-type: none"> ○ This will initially commence with an estimated 1,000 general practices during the week of 22 March 2021 and gradually increase to up to 4,500 in the subsequent weeks ● Vaccines will be administered to long-term care home residents in an estimated 240 aged care facilities in over 190 regions across all states and territories in Australia ● On 2 February 2021, an investment of \$1.9 billion was announced to boost the national 	<p>to develop a monitoring program for COVID-19 vaccines</p> <ul style="list-style-type: none"> ● The Government of Australia released a series of informative resources to aid residential aged-care providers with the vaccine roll-out (e.g., monitoring and reporting) ● A public form is available for health professionals and the general public to make enquiries related to COVID-19 vaccines
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	<p>BioNTech COVID-19 vaccine in Australia</p> <ul style="list-style-type: none"> ○ On 15 February 2021, Australia received its first shipment of over 142,000 doses of the Pfizer-BioNTech vaccine ● Delivery of the Pfizer-BioNTech vaccine will consist of: <ul style="list-style-type: none"> ○ verifying dispatched batches at the border ○ distributing imported doses to vaccination sites ● In order to safely store and handle the Pfizer-BioNTech vaccine, the Government of Australia is preparing to secure cold-chain storage, staff training, and regular management of equipment and monitoring systems ● On 16 February 2021, the TGA provisionally approved the use of the Oxford-AstraZeneca COVID-19 vaccines for citizens aged 18 years and older ● On 28 February 2021, 300,000 doses of the Oxford-AstraZeneca vaccine arrived in Australia 			<p>COVID-19 vaccine roll-out plan</p> <ul style="list-style-type: none"> ● The Government of Australia has called upon the following four providers to help support the vaccine workforce with increased staff and training initiatives: <ul style="list-style-type: none"> ○ Aspen Medical ○ Healthcare Australia ○ International SOS ○ Sonic Clinical Services ● In partnership with the Australian College of Nursing, the federal government of Australia is creating fully funded, accredited training modules for vaccination providers, and non-clinical and administrative staff; training will be available to: <ul style="list-style-type: none"> ○ Health professionals in hospitals ○ General practices ○ State and Commonwealth clinics ○ Aboriginal Community Controlled Health Organizations ○ Pharmacies ● The subset of “Core” modules will cover: 	
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				<ul style="list-style-type: none"> ○ Handling and storage ○ Communication and purpose ○ Multi-dose vial training ○ Documentation and reporting ○ Safety and surveillance ● The second/ “additional” subset of training modules will cover detailed topics pertaining to the Pfizer-BioNTech, Novavax, and Oxford-AstraZeneca vaccines ● The Australian Defense Force will provide additional personnel to assist with the vaccine roll-out in residential aged-care facilities 	
China	<ul style="list-style-type: none"> ● China has established and implemented whole-process traceability systems for COVID-19 vaccines, including in-out inventory registration, production, transportation, storage and administration, and to ensure the supply of vaccines through various methods such as precise deployment, accelerated turnover, and matching demand according to the vaccine plan of each province 	<ul style="list-style-type: none"> ● China implemented a two-step strategy for COVID-19 vaccination <ul style="list-style-type: none"> ○ The first step is the vaccination of priority populations, including the workers in the cold-chain industry, port inspection and quarantine, ship piloting, aviation, public transport, fresh markets, healthcare settings, and those who plan to work or study in countries and regions with medium or high risk of COVID-19 infection 	<ul style="list-style-type: none"> ● On 7 January 2021, China CDC issued the 30 questions and answers about COVID-19 vaccines, covering the vaccine-allocation plans, vaccination mechanism, effectiveness and safety, current vaccine options, vaccination locations, vaccine-administration protocols, contraindications, adverse events following immunization, transportation and 	<ul style="list-style-type: none"> ● The administration of COVID-19 vaccines is carried out in vaccination sites that are approved by local health-administration departments <ul style="list-style-type: none"> ○ Generally, the vaccination sites are set up in the health service centres, township health centres or general hospitals in the jurisdictions ○ For the enterprises and organizations 	<ul style="list-style-type: none"> ● The Vaccine Administration Law of the People's Republic of China indicates that the state shall implement whole process electronic traceability systems for vaccines ● After vaccine marketing, the vaccine production, transportation, storage and administration shall be recorded and the whole process traceability information, including vaccine types, manufacturers, dosage

	<ul style="list-style-type: none"> • The pricing of COVID-19 vaccines is developed by the vaccine industry based on the attributes of public products and the related costs <ul style="list-style-type: none"> ○ The government of China will provide COVID-19 vaccines to the public for free • As COVID-19 vaccines are put into use in China, the government will make the vaccine a global public product and supply the vaccines to the world at a fair and reasonable price • Until 5 January 2021, the Ministry of Industry and Information Technology (MIIT) has moved to facilitate corporate cooperation along industrial chains to accelerate the industrialization of COVID-19 vaccines and expand production capacity to ensure the supply of vaccines • The Hong Kong Special Administrative Region (HKSAR) government has secured a total of 22.5 million doses of COVID-19 vaccines, enough to cover Hong Kong's 7.5-million population, as each person needs to take two jabs 	<ul style="list-style-type: none"> ○ With COVID-19 vaccines officially approved to enter the market or the yield of vaccines improving steadily, the second step is to put more vaccines into use, inoculating the eligible population as widely as possible, with priority for the elderly and high-risk populations with underlying diseases • Given the availability and affordability of COVID-19 vaccines in developing countries, the government of China will consider providing vaccines in a variety of ways, including donations and unpaid assistance, based on specific circumstances • According to the National Health Commission (NHC), China aims to vaccinate the eligible population as widely as possible and gradually build an immune barrier within the whole population to control the epidemic <ul style="list-style-type: none"> ○ The vaccination is being administered first to key groups, then to high-risk groups and then to the general population, as the vaccine's production capacity increases • In Hong Kong, the priority groups include medical workers and the aged, nursing home staff, public-service 	<p>storage, monitoring and documentary, behaviours after vaccination, and risk-mitigation efforts</p> <ul style="list-style-type: none"> • On 3 February 2021, The Ministry of Public Security of China has deployed a national campaign to combat vaccine-related crimes, including manufacture and sale of fake vaccines, illegal operations, and smuggling of vaccines, illegal medical practice and related fraud activities • China's State Council Joint Prevention and Control Mechanism against COVID-19 holds regular press conferences that include information about COVID-19 vaccines • Multiple approaches for communicating about the COVID-19 vaccines, such as popular social media (e.g., WeChat), 24-hour hotline service and community campaigns, are being used • State Councillor and Foreign Minister Wang Yi said on 7 March 2021 that China opposes 	<p>where the priority populations are concentrated, the temporary vaccination sites will be set up</p> <ul style="list-style-type: none"> ○ Information on vaccination sites will be made available to the public ○ As of 9 January 2021, China has set up a total of 25,392 vaccination sites • During the vaccination process, the recipients should pay attention to and cooperate with the following aspects: <ul style="list-style-type: none"> ○ Recipients need to bring identification documents, and wear personal protection equipment according to local prevention and control requirements, and truthfully provide information such as health status and vaccination contraindications ○ After vaccination, recipients should stay for 30 minutes; if there is a suspected adverse reaction, immediately report to the vaccination 	<p>forms, formulation, batch numbers, expiration dates, and vaccination case records, shall be integrated into the electronic information system</p> <ul style="list-style-type: none"> • The related vaccine laws have clear regulations on the monitoring, reporting and handling of adverse events following immunization • As of 31 January 2021, the surveillance analysis showed that the incidence of severe abnormal reactions caused by the COVID-19 vaccines currently used in China was no higher than that of the influenza vaccines, and the surveillance of adverse events related to COVID-19 vaccination in different places will be ongoing and dynamic • On 6 February 2021, a mobile application "Health Kit" was developed for checking the vaccination status, including four types of status: "no inoculation history", "having applied for and yet to receive vaccination", "first dose administered" and "immunization series
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	<ul style="list-style-type: none"> • As of 3 March 2021, China has put the Sinopharm inactivated COVID-19 vaccines into mass production and the output is expected to surpass 1 billion doses in 2021 • As of 3 March 2021, China has granted conditional market approval to four self-developed COVID-19 vaccines and 17 Chinese vaccines have entered clinical trials • On 25 January 2021, the Ministry of Transport of China, the National Health Commission, the General Administration of Customs and the National Medical Products Administration issued the technical guideline about road transportation of COVID-19 vaccines and related products <ul style="list-style-type: none"> ○ The vehicles transporting COVID-19 vaccines will be exempted from tolls before 31 December 2021 • As of 7 March 2021, China has donated or is donating COVID-19 vaccines to 69 developing countries in urgent need, and is exporting vaccines to 43 countries, to address 	<p>providers such as street cleaners, postmen and discipline force members, and workers in cross-border transport, including truck drivers and crews</p> <ul style="list-style-type: none"> • As of 28 February 2021, over 52 million doses of COVID-19 vaccines have been administered in China • As of 7 March 2021, about 93,000 Hong Kong residents received the first dose of COVID-19 vaccines • On 8 March 2021, the priority groups in Hong Kong will be expanded, covering workers in the catering industry, tourism, public transportation, property management, construction sites, and schools • In Macao, the priority was given to certain groups of people, including those engaged in front-line work for epidemic control and those who are at high risk in terms of occupational exposure <ul style="list-style-type: none"> ○ On 22 February 2021, the Macao Special Administrative Region (SAR) started inoculating local residents who are not in prioritized groups with mainland-made COVID-19 vaccines ○ As of 22 February 2021, about 15,000 residents in Macao had made reservations for inoculation 	<p>"vaccine nationalism" and rejects any "vaccine divide" or any attempt to politicize vaccine cooperation</p>	<p>institution and seek medical advice</p> <ul style="list-style-type: none"> • After vaccination, wearing masks is recommended; other protective measures such as hand hygiene, ventilation, and social distancing need to be maintained • Different areas explored different administration methods, for example, setting up temporary vaccination locations and establishing online vaccination appointments for priority populations • On 24 January 2021, China CDC issued the technical recommendations on environmental specimen monitoring in vaccination sites, including the disinfection recommendations • China will launch health certificates for international travellers that will declare a person's vaccination status or recent test results 	<p>completed”, and this application could be in Chinese or English language</p>
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	<p>disparities in COVID-19 vaccine distribution</p> <ul style="list-style-type: none"> ○ As of 7 March 2021, over 60 countries have authorized the use of Chinese vaccines 	<p>and over 3,000 in prioritized groups had completed the inoculation</p> <ul style="list-style-type: none"> • China will launch a "spring sprout" program to assist and secure vaccination for its citizens with Chinese or foreign vaccines <ul style="list-style-type: none"> ○ This program will include setting up vaccination stations in countries where conditions allow Chinese vaccines to be administered to nationals living in surrounding countries 			
France	<ul style="list-style-type: none"> • France has been allocated a total of 200 million vaccine doses through partnerships secured by the European Commission • Distribution of Pfizer-BioNTech vaccines to administration sites follows one of the following processes: <ul style="list-style-type: none"> ○ Delivery from the production plant to one of 11 private platforms capable of storing the vaccine at -80°C. Vaccines are then transported to pharmacies and institutional care facilities (e.g., long-term care) for use, or ○ Direct delivery to one of 100 hospitals in the 	<ul style="list-style-type: none"> • Based on the recommendations set forth by the French National Authority for Health, the Ministry for Solidarity and Health announced its vaccine strategy, which outlines a three-phase approach for vaccine allocation: <ul style="list-style-type: none"> ○ Priority groups in phase one include older adults, residents with disabilities, at-risk staff members in institutional care and healthcare workers ○ Phase two includes individuals aged 65 to 74 years ○ Phase three consists of other at-risk groups from within the population that have yet to be targeted (e.g., teachers and retail staff) 	<ul style="list-style-type: none"> • On 9 November 2020, the French National Authority for Health issued a press release which stressed the importance of transparency among the general public in the vaccination-campaign process • In partnership with the Economic, Social and Environmental Council, a citizen collective was announced on 16 January 2021 to help support the COVID-19 vaccination campaign <ul style="list-style-type: none"> ○ This panel consists of a total of 35 citizens ○ The aim of this panel will be to collate the concerns and queries 	<ul style="list-style-type: none"> • COVID-19 vaccinations require an appointment to be made at a select vaccination centre • The Government of France has authorized both medical practices and pharmacies to assist in vaccine administration • Vaccinated individuals are still required to respect and follow public-health measures (e.g., face masks and physical distancing) 	<ul style="list-style-type: none"> • Public Health France has stated that the vaccination campaign will be coupled with publicly available surveillance, monitoring and evaluation indicators <ul style="list-style-type: none"> ○ Surveillance systems will be updated to help track the percentage of individuals that have been vaccinated ○ Additional indicators, such as vaccine efficacy, vaccine-related opinions (e.g., vaccine intentions), and vaccine adherence will also be documented ○ Supervised by both the National Health Insurance Fund and

	<p>country that can safely store and administer them</p> <ul style="list-style-type: none"> • Ancillary supplies were mass ordered prior to the arrival of the COVID-19 vaccine <ul style="list-style-type: none"> ○ Pharmacies and hospitals are responsible for delivering these supplies to institutional care facilities (e.g., long-term care homes) • On 29 January 2021, the Oxford-AstraZeneca vaccine was approved for use in France • Medical practices will be distributing over 1.6 million doses of the Oxford-AstraZeneca vaccine by 12 March 2021 and pharmacies will be distributing an initial delivery of 67,000 doses of the vaccine • A shipment of 280,000 doses of the Oxford-AstraZeneca vaccine will be received during the week of 15 March 2021 	<ul style="list-style-type: none"> • Health authorities have broadened the eligible priority population groups in Phase 1 of the vaccine roll-out <ul style="list-style-type: none"> ○ As of 18 January 2021, this includes individuals aged 75 and older living at home and those under the age of 75 but have a high risk of contracting COVID-19 ○ As of 19 February 2021, this includes individuals aged 50 to 64 who are living with comorbidities (e.g., diabetes, cancer, hypertension) ○ As of 2 March 2021, this includes individuals aged 65 to 74 who are living with comorbidities (e.g., diabetes, cancer, hypertension) • According to the French National Authority for Health, the Ministry for Solidarity and Health recommends that the Pfizer-BioNTech and Moderna vaccines be administered to at-risk pregnant women, and individuals over 65 years old while the Oxford-AstraZeneca vaccine be delivered to at-risk (e.g., comorbidities) individuals aged 50 to 74, seniors aged 75 years and older, and professionals in the health and social sectors aged 18 to 64 years old 	<p>posed by the public and present them to the federal government</p>		<p>the General Directorate of Health, the “SI Vaccin Covid” system will be used for surveillance, monitoring, evaluation, and reporting of COVID-19 vaccine data</p> <ul style="list-style-type: none"> • Insights gleaned by the Economic, Social and Environmental Council found that the possibility of adverse side effects caused by the COVID-19 vaccine is the primary reason for hesitancy/rejection among participants
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		<p>(6.5% of the total population)</p> <ul style="list-style-type: none"> ○ 2,102,490 have been fully vaccinated (3.1% of the total population) • The Ministry for Solidarity and Health recommends that patients who have previously contracted COVID-19 wait at least three months, and preferably six months, prior to receiving a single dose of the COVID-19 vaccine 			
Germany	<ul style="list-style-type: none"> • If all vaccine candidates are approved for use, Germany will have secured a total of 300 million vaccine doses <ul style="list-style-type: none"> ○ 85 million doses of the Pfizer-BioNTech COVID-19 vaccine are expected to be available by the end of the year ○ Two million doses of the Moderna vaccine are expected to be received by the end of the first quarter ○ Within the first quarter of 2021, Germany is expected to receive between 11 and 13 million doses of the Pfizer-BioNTech vaccine and two million Moderna vaccine doses • Distribution of the Pfizer-BioNTech vaccine to federal states is based on the proportion of the 	<ul style="list-style-type: none"> • As of 10 March 2021, Germany has administered over 8.1 million vaccine doses <ul style="list-style-type: none"> ○ 6.1% of the population has received the first dose of the COVID-19 vaccine, and 3.1% of the German population has been fully vaccinated ○ Over 216,000 doses are administered each day ○ Over 5.5 million primary doses and 2.6 million second doses have been administered ○ Healthcare workers currently account for 45.0% of all administered doses ○ Nursing home residents account for a total of 18.5 % of all administered doses • Group 1, the highest priority group, is eligible to receive vaccines in the first stage: <ul style="list-style-type: none"> ○ Individuals aged 80 and older 	<ul style="list-style-type: none"> • The Government of Germany has launched a COVID-19 vaccine information campaign, “Germany Pulls Up Its Sleeves”, to help educate and inform the public <ul style="list-style-type: none"> ○ The first phase of the campaign focuses on raising awareness regarding priority populations ○ The campaign consists of educational videos, posters, and advertisements • A Communications Management Committee has been established on the federal level to help disseminate information relating to vaccine development, roll-out, and timelines 	<ul style="list-style-type: none"> • Vaccines are administered in vaccination centres and in care facilities by mobile teams during the centralized vaccination phases <ul style="list-style-type: none"> ○ Federal states are responsible for managing the operations of vaccination centres and ensuring safe management of vaccines • When Germany transitions into a decentralized vaccination phase, administration sites may expand to include medical institutions and general-practitioner clinics • In April 2021, medical practices are scheduled 	<ul style="list-style-type: none"> • According to the National COVID-19 Vaccination Strategy, the Robert Koch Institute will collate non-personal data from vaccinated individuals (e.g., age, sex, residence, place and date of vaccination, and vaccine details) into a web-based data portal • The Robert Koch Institute and Paul Ehrlich Institute will lead the surveillance and evaluation of COVID-19 vaccines • This will include monitoring: <ul style="list-style-type: none"> ○ Vaccination rates by conducting online surveys ○ Vaccine safety through routine pharmacovigilance, surveillance of pregnant women,

	<p>population that reside in those regions</p> <ul style="list-style-type: none"> ○ Pfizer-BioNTech will deliver the vaccine to one of the designated delivery centres, from where it will then be distributed to regional vaccination centres for administration ● COVID-19 vaccine distribution to medical practices follows: <ul style="list-style-type: none"> ○ Delivery from the federal government to wholesalers ○ Delivery from wholesalers to pharmacies ○ Delivery from pharmacies to physician clinics ● A statement by Pfizer-BioNTech on 10 February 2021, announced a new production plant has been created in Marburg, Germany, with the initial manufacturing process of the COVID-19 vaccine having commenced <ul style="list-style-type: none"> ○ It is projected that 250 million vaccine doses will be manufactured at this facility in the first half of 2021 ○ The estimated timeline for the distribution of the first batch of vaccines is April 2021 	<ul style="list-style-type: none"> ○ Healthcare workers in intensive care, accident, and emergency units, and ambulatory services ○ Staff/residents of pension, care and nursing homes ○ Nurses who care for at-risk patients ● Group 2 follows second and consists of: <ul style="list-style-type: none"> ○ Individuals between 70 and 80 years of age ○ At-risk individuals who may suffer a severe outcome (e.g., transplant patients, individuals with Trisomy 21, and dementia) ○ Close contacts of long-term care home residents ○ Public order units in law enforcement ○ Pregnant women ○ Individuals living in homeless shelters ○ As of 24 February 2021, this now includes elementary school, childcare, and day-care staff ● Group 3, which is the third-highest priority group, includes: <ul style="list-style-type: none"> ○ Individuals between the ages of 60 and 70 years ○ At-risk individuals with pre-existing medical conditions (e.g., obesity, liver disease or autoimmune condition) ○ Emergency medical-services staff (e.g., police officers and firefighters) 	<ul style="list-style-type: none"> ○ This committee will primarily be targeting priority groups including healthcare workers, vulnerable populations, and the general public 	<p>to be delivery sites for vaccine administration</p> <ul style="list-style-type: none"> ● An individual who suffers damage from the COVID-19 vaccine will receive care in accordance with the Federal Supply Act 	<p>short-term app-based cohort studies, and long-term hospital-based case-control studies</p> <ul style="list-style-type: none"> ○ Vaccine efficacy by using case reports ○ Digital health data
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	<ul style="list-style-type: none"> • The Oxford-AstraZeneca vaccine was approved for use on 29 January 2021 • 5.6 million doses of the Oxford-AstraZeneca vaccine are scheduled to be delivered by April 2021 • As of 3 March 2021, Germany has received over 10.3 million vaccine doses through partnerships with Pfizer-BioNTech, Oxford-AstraZeneca, and Moderna 	<ul style="list-style-type: none"> ○ Staff in the education and judiciary sector ○ Staff in retail, the meat-processing industry and seasonal workers • According to the Standing Committee on Vaccination (STIKO), the Oxford-AstraZeneca vaccine requires two doses in a 12-week interval • According to the Permanent Vaccination Commission in Germany, individuals aged 65 years and younger should initially be vaccinated with the Oxford-AstraZeneca vaccine 			
Israel	<ul style="list-style-type: none"> • Distribution of Pfizer-BioNTech COVID-19 vaccine started in December 2020, where the government received permission from the manufacturers to repackage doses into tens or hundreds per shipment (instead of 1,000 per shipment) in order to avoid waste and create safer mobilization of doses to remote areas • According to Health Minister, Yuli Edelstein, Israel entered vaccine procurement negotiations early in the pandemic • Hospitals and medical facilities follow the distribution processes ascribed by their central 	<ul style="list-style-type: none"> • To simplify the implementation process, the Ministry of Health revised the vaccination allocation to include all Israeli residents aged 60 or older and all health workers from December 2020 to February 2021, with vaccines available to all Israeli residents after this phase • Additional doses due to overstock were communicated and administered to local individuals • As of 3 February, all residents aged 16 years and older became eligible for the COVID-19 vaccine • As of 8 March 2021, vaccination has begun for 100,000 Palestinians who work in Israel or are in Israeli settlements in the West bank, 	<ul style="list-style-type: none"> • Current priority and eligible population groups receive text messages from their health maintenance organizations (HMO) (health services that are provided to every citizen through a universal, compulsory medical insurance plan) about information on booking an appointment (either by phone or through the HMO online portal) • The Ministry of Health's website provides information to the general public on vaccine roll-out, priority groups for vaccine, and safety and efficacy 	<ul style="list-style-type: none"> • Roles and responsibilities for administering vaccines are organized according to the following: <ul style="list-style-type: none"> ○ four HMOs for vaccinating older adults aged 60 or older and individuals with chronic conditions ○ national emergency services organizations for vaccinating nursing home residents ○ hospitals and health insurers for vaccinating front-line health workers • Vaccination sites and portable immunization stations in remote areas 	<ul style="list-style-type: none"> • Israel has a single electronic medical record system that is shared and accessed by the four HMOs, which provided health data information to identify priority groups among all insured citizens • As of 17 January 2021, the Ministry of Health and Pfizer-BioNTech signed an agreement to share anonymized medical-record data between hospitals or health plans and research entities in order to measure vaccine roll-out, immunity • With the agreement, the Ministry of Health will receive weekly

	<p>health maintenance organizations (HMO)</p> <ul style="list-style-type: none"> • Vaccines are repackaged to contain 300 doses or 60 doses, which are sent to national centres and subsequently repackaged in small boxes to ship three times a week to communities 	<p>with efforts to vaccinate 1,000 people per day</p> <ul style="list-style-type: none"> • As of 9 March 2021, 58.2% of the population has received at least one dose of COVID-19 vaccine (with 45.5% of the population fully vaccinated) 	<ul style="list-style-type: none"> • The Ministry of Health focused on tailored messaging to the general population on daily updates on the number of vaccinated individuals and addressing anti-vaccination messages on social media • Endorsements from political and religious leaders encouraged the general population, and religious Orthodox Jewish and Muslim populations to get vaccinated respectively 	<p>are designated by the Ministry of Health with assistance from the military and local authorities</p> <ul style="list-style-type: none"> • The Ministry of Health plans to provide vaccinations 24/7, with health plans responding by recruiting nurses for vaccine administration • The Ministry of Health recruited community-based nurses, physicians, paramedics and EMTs to administer the vaccine • Adverse-event reporting was conducted electronically, with individuals monitored for at least 15 minutes after vaccination or 30 minutes for individuals with history of anaphylaxis • Professionals have access to a 24/7 call centre to ask for guidance and shipment information • As of 21 February, university campuses and workplaces have launched vaccination • As of 7 March 2021, fully vaccinated Israeli residents do not have to quarantine after entering the country 	<p>epidemiological reports on confirmed cases (total, by age, and other stratifications), hospitalizations, severe cases, ventilator use, number of deaths, symptomatic cases, and weekly number of vaccinations (total, by age, and other stratifications)</p> <ul style="list-style-type: none"> • The Ministry of Health stated that for Israelis who received both doses of vaccine, 14 days after the second dose, vaccines were 98.9% effective at preventing death and hospitalizations caused by COVID-19, 99.2% effective against serious illness, and reduced morbidity by 95.8%
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				<p>(while unvaccinated individuals are required to isolate in designated hotels or in an alternate location using an electronic bracelet)</p> <ul style="list-style-type: none"> • As restrictions continue to ease, the Ministry of Health unveiled a “Green Pass” system that allows fully vaccinated (one week after last dose) or those recovered from COVID-19 to enter specific businesses with a “green pass/certificate” and photo ID (failure to comply will result in a fine) • Israeli residents with a “green pass/certificate” can attend cultural and sports events, gyms, exhibitions, hotels, tourist areas, and worship houses (with restrictions) 	
New Zealand	<ul style="list-style-type: none"> • The New Zealand government has secured four pre-purchase agreements for COVID-19 vaccines <ul style="list-style-type: none"> ○ 750,000 courses from Pfizer-BioNTech ○ Five million courses from Janssen ○ 3.8 million courses from Oxford-AstraZeneca 	<ul style="list-style-type: none"> • New Zealand has prepared three different scenarios for vaccine roll-out based on the level of transmission present within country at the time of the roll-out <ul style="list-style-type: none"> ○ The scenarios illustrate that the higher the rate of transmission present, the more the allocation focus will be on close contacts of 	<ul style="list-style-type: none"> • Information on the COVID-19 vaccine roll-out, procedures for getting a vaccine, and the safety and effectiveness of the vaccines are posted on the New Zealand government’s official COVID-19 vaccine website 	<ul style="list-style-type: none"> • New Zealand is planning for an extra 2,000-3,000 full-time vaccinators to be trained and available throughout New Zealand during its vaccination campaign <ul style="list-style-type: none"> ○ Vaccinators will be sourced from non-practising nurses, 	<ul style="list-style-type: none"> • New Zealand’s National Immunisation Register is being replaced by the National Immunisation Solution to allow health workers to record vaccinations anywhere, anytime, and to fully support the COVID-19 roll-out

	<ul style="list-style-type: none"> o 5.36 million courses from Novavax • The government has secured enough vaccine doses to vaccinate the entire population of New Zealand as well as the Pacific Islanders • An inventory management system is being developed for COVID-19 vaccines that will store data on where vaccines are allocated, their volumes, temperatures, and expiration dates to minimize wastage • The Ministry of Health has purchased nine freezers to store more than 1.5 million doses of the Pfizer-BioNTech vaccine • Following the provisional approval of the Pfizer-BioNTech vaccine by Medsafe on 3 February 2021, the first doses arrived in Auckland on 15 February 2021 • Pfizer-BioNTech will be responsible for delivering all of its vaccines to New Zealand • New Zealand is reportedly due to receive 249,600 doses of Oxford-AstraZeneca vaccine through the COVAX facility, including a few 	<p>the infected and people most vulnerable to exposure</p> <ul style="list-style-type: none"> • The Ministry of Health is working in partnership with the Māori and Pacific neighbours to plan for their rollout programs • First priority for vaccination are border workers, the COVID-19 front-line healthcare workers, and their household contacts, with the expected timeline for vaccination of this group being the second quarter of 2021 <ul style="list-style-type: none"> o New Zealand expects to have the vaccination of its border workers completed within two to three weeks of initial vaccinations • The aim of New Zealand's government is to start vaccinating the general public in the second half of 2021 • Medsafe has recommended a dose interval of at least 21 days between the first and second doses of the Pfizer-BioNTech vaccine • At a press conference on 4 February 2021, the Minister of COVID Response said that they had been advised that Olympic athletes would need vaccination towards the middle of 2021 and it is anticipated that vaccines will be widely available in New 	<ul style="list-style-type: none"> • The Minister for COVID-19 Response said in a 27 January 2021 press conference that preparation is underway for a public awareness and reassurance campaign centred around vaccine safety that will include paid advertising • The New Zealand Ministry of Health has published information on its website about the safety, effectiveness and side effects of the Pfizer-BioNTech vaccine, how to get a vaccine (for border and MIQ workers), and what to expect at your vaccination 	<p>doctors or pharmacists, final-year medical, nursing or pharmacy students, and other health professionals who have vaccinations within their scope</p> <ul style="list-style-type: none"> • The Ministry of Health has contracted the Immunisation Advisory Centre to begin training health professionals in February 2021 on COVID-19 vaccine administration • On 10 March 2021, the Director-General of Health reported that more than 900 vaccinators have completed training to administer the Pfizer-BioNTech vaccine • A small group of vaccinators received their first doses of the Pfizer-BioNTech vaccine on 19 February 2021 as part of New Zealand's trial run for the roll-out of its vaccination program • New Zealand began vaccinating its border workers in Aotearoa on 20 February 2021 and in Wellington on 22 February 2021 	<ul style="list-style-type: none"> • According to the Prime Minister, New Zealand started with a gradual roll-out to test its distributions systems and logistical arrangements for transporting the Pfizer-BioNTech vaccine
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	<p>doses in quarter one of 2021</p> <ul style="list-style-type: none"> • Over \$66 million has been allocated by the New Zealand government to support the roll-out of COVID-19 vaccines, including purchasing supplies to vaccinate the population and providing support to Pacific countries • New Zealand's Prime Minister announced on 8 March 2021 that the government has decided to make Pfizer-BioNTech the country's primary vaccine provider and has signed an advance purchasing agreement with Pfizer-BioNTech for an additional 8.5 million vaccine doses to bring their total order to 10 million doses, enough for New Zealand's entire population to be fully vaccinated <ul style="list-style-type: none"> ◦ The government is working on a delivery schedule with Pfizer-BioNTech to receive the additional doses in the second half of 2021 • The decision to make Pfizer-BioNTech New Zealand's primary vaccine provider was based on the high degree of efficacy of the Pfizer-BioNTech 	<p>Zealand by that time for athletes to get vaccinated according to the vaccination timetable</p> <ul style="list-style-type: none"> • On 10 March 2021, the New Zealand government released its official COVID-19 vaccine roll-out plan with four main groups for phased vaccination: <ul style="list-style-type: none"> ◦ Group 1 consists of 50,000 border and MIQ workers and their household contacts (vaccination began in February 2021) ◦ Group 2 will include approximately 480,000 front-line workers and people living in high-risk settings (vaccination began in February 2021) ◦ Group 3 will include approximately 1.7 million people who are at higher risk if they contract COVID-19 (vaccination anticipated to begin in May 2021) ◦ Group 4 will consist of the remainder of the population (approximately 2 million people), starting from July 2021 • The government is negotiating with its Pacific neighbours to determine their specific preferences for vaccines • Every person in New Zealand will be eligible for free vaccination regardless of their immigration status, and any 		<ul style="list-style-type: none"> • Vaccination of the household contacts of border workers began on 9 March 2021 at the first large-scale COVID-19 vaccination clinic in New Zealand <ul style="list-style-type: none"> ◦ Initially 150 people will be vaccinated a day at the clinic, but these numbers will ramp up over the next week ◦ About 55,000 front-line health workers will be vaccinated in the next stage of the roll-out • The government has also partnered with some Māori and Pacific NGOs to set up small community vaccination clinics in South Auckland to support the roll-out of vaccines to household contacts of border and MIQ workers • An online tool will be launched soon to help people find out when they will be eligible for vaccination 	
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	<p>vaccine and the simplification of the vaccine roll-out when only having to deal with administering one type of vaccine throughout the population</p> <ul style="list-style-type: none"> • The New Zealand government is still determining how to make use of other vaccines that it has already procured <ul style="list-style-type: none"> ○ Options under consideration include delaying delivery to New Zealand until 2022 and donating surplus vaccines to other countries ○ The government may consider procuring a vaccine that is more easily transported as a “backup option” to make vaccines more accessible for rural communities 	<p>information collected will not be used for immigration purposes</p>			
U.K.	<ul style="list-style-type: none"> • A U.K. Government Vaccination Taskforce was established in April 2020, and the task force signed deals to buy vaccines from multiple developers and suppliers • The task force also expanded the U.K.’s vaccine manufacturing capability to further increase vaccine production 	<ul style="list-style-type: none"> • In December 2020, the United Kingdom Government released advice on priority groups for COVID-19 vaccination, which reported that vaccination priorities should be the prevention of COVID-19 mortality, and the protection of health and social-care staff and systems • Secondary priorities should include vaccination of individuals at increased risk of 	<ul style="list-style-type: none"> • The U.K. government released a vaccine-delivery plan that stated that they are working at the national, regional and local levels to establish partnerships with authorities, communities, healthcare staff and patients to ensure that accessible information is available to the public 	<ul style="list-style-type: none"> • Three types of vaccination sites have been established: 1) vaccination centres using large-scale venues such as football stadiums; 2) hospital hubs; and 3) local vaccination services, using primary-care services and pharmacy teams 	<ul style="list-style-type: none"> • Adverse events and safety concerns following COVID-19 vaccine administration should be reported to the Medicines and Healthcare Products Regulatory Agency using the established Coronavirus Yellow Card reporting scheme

	<ul style="list-style-type: none"> • The U.K. has ordered more than 400 million doses of seven of the most promising vaccines, of which only three have been approved so far in the country – Oxford-AstraZeneca, Pfizer-BioNTech, and Moderna • The U.K. government has announced a deal with an eighth biopharmaceutical company, CureVac, and has placed an order for 50 million doses to be delivered later this year if required 	<p>hospitalization and increased risk of exposure, and to maintain resilience in essential services</p> <ul style="list-style-type: none"> • The order of priority of COVID-19 vaccination is: <ol style="list-style-type: none"> 1) residents in a care home for older adults and their carers; 2) all those aged 80 and over and front-line health and social-care workers 3) all those 75 years of age and over; 4) all those 70 years of age and over and clinically extremely vulnerable; 5) all those 65 years of age and over; 6) all individuals aged 16 to 64 with underlying health conditions which put them at a higher risk of serious disease and mortality; 7) all those 60 years of age and over; 8) all those 55 years of age and over; and 9) all those 50 years of age and over • The number of first vaccine doses administered each day has been increasing since December 2020, reaching more than 400,000 a day by mid-February • As of 9 March 2021, more than 22.5 million people have had a first vaccine dose and 	<ul style="list-style-type: none"> ○ It is also working to ensure that local implementation plans are tailored to support all individuals • The Mosques and Imams National Advisory Board is leading a campaign to reassure its faithful are among those publicly advocating that COVID-19 vaccinations are safe and compatible with Islamic practices 	<ul style="list-style-type: none"> • In largely rural areas, vaccination centres will be a mobile unit • To ensure that there is a sufficient workforce to deliver the vaccination program, changes to the Human Medicines Regulations now permit non-registered healthcare professionals to administer the COVID-19 vaccine • Local vaccination service sites are being run by a mixture of primary-care networks and community pharmacies • The vaccination campaign to reach as many people as possible was boosted by a shift in policy in early January, which prioritized the first dose of a vaccine, with a second dose up to 12 weeks later 	
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		<p>more than 1 million have had a second dose</p> <ul style="list-style-type: none"> ○ As of 9 March 2021, all English regions except London have given the first dose of a vaccine to more than 90% of people aged 65 or over 			
U.S.	<ul style="list-style-type: none"> • The Department of Health and Human Services (HHS) and the Department of Defense (DoD) jointly lead a vaccine production and distribution strategy called Operation Warp Speed (OWS) <ul style="list-style-type: none"> ○ Its main goal is to deliver 300 million doses of safe and effective vaccines ○ Actions supporting OWS include HHS funding development and manufacturing of vaccine candidates, securing agreements to acquire vaccine doses, and building manufacturing capacity for successful vaccine candidates ○ DoD is partnering with the Centers for Disease Control and Prevention (CDC) and other parts of HHS to coordinate supply, production and distribution of vaccines 	<ul style="list-style-type: none"> • The CDC provided recommendations to federal, state and local governments about who should receive COVID-19 vaccines first based on recommendations from the Advisory Committee on Immunization Practices (ACIP) <ul style="list-style-type: none"> ○ On 1 December 2020, ACIP recommended that healthcare personnel and long-term care facility residents be vaccinated first (Phase 1a) • A subsequent update on 20 December 2020 recommended that Phase 1b include persons aged 75 or older and non-healthcare front-line essential workers, and that Phase 1c, include persons aged 65-74 years, persons aged 16-64 with high-risk medical conditions, and other essential workers not covered in Phase 1b • As of 9 March 2021, CDC reports that 127.9 million doses of COVID-19 vaccinations have been distributed 	<ul style="list-style-type: none"> • CDC updates and disseminates information about vaccine safety, effectiveness, allocation strategy and distribution process for the general public, as well as additional information for healthcare professionals 	<ul style="list-style-type: none"> • OWS's COVID-19 vaccine distribution process utilizes existing networks, partnerships and processes to provide access to vaccines across the United States as safely and quickly as possible • The Pfizer-BioNTech COVID-19 vaccines are being allocated across states and jurisdictions, that follow procedures for ordering first- and second-dose allocations • On 8 March 2021, the CDC released interim public-health recommendations for people who have been fully vaccinated for COVID-19 <ul style="list-style-type: none"> ○ Fully vaccinated people may visit other fully vaccinated people as well as unvaccinated people at low-risk for severe COVID-19 from a single household 	<ul style="list-style-type: none"> • The CDC, FDA and other federal partners have many existing systems and data sources to facilitate continuous safety monitoring of vaccines • The CDC and FDA have also expanded safety monitoring systems and strategies have been developed as an additional layer of safety monitoring to evaluate COVID-19 vaccine safety in real time • These additional strategies include a smartphone-based, post-vaccine health checker for those who have received COVID-19 vaccines called V-safe, which uses text messaging and web surveys from CDC to check in with vaccine recipients as well as provide second dose reminders if needed <ul style="list-style-type: none"> ○ They also include the CDC's National

	<ul style="list-style-type: none"> • On 12 February 2021, Pfizer-BioNTech announced that the U.S. government exercised its right to purchase an additional 100 million doses of the Pfizer-BioNTech COVID-19 Vaccine, bringing the total to 300 million • On 16 February 2021, Moderna provided a vaccine-supply update for the U.S., stating that it expects to deliver 100 million doses by March 2021 and an additional 100 million doses by the end of May 2021 • On 27 February 2021, the USDA issued an emergency use authorization for the Johnson & Johnson COVID-19 Vaccine • On 10 March 2021, reports surfaced that the Biden administration plans to buy an additional 100 million doses of the Johnson & Johnson COVID-19 Vaccine 	<ul style="list-style-type: none"> • As of 9 March 2021, the CDC reports that 95.7 million doses of COVID-19 vaccines have been administered 		<p>without wearing masks or physical distancing</p> <ul style="list-style-type: none"> ○ Fully vaccinated people do not have to quarantine or be tested after known exposure if they are asymptomatic ○ Otherwise, fully vaccinated people should continue to follow existing prevention measures, including wearing a mask and physical distancing 	<p>Healthcare Safety Network (NHSN), an acute and long-term care facility monitoring system, and the FDA monitoring other large insurer/payer databases to facilitate claims-based data</p>
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Appendix 4: COVID-19 vaccine roll-out elements from Canadian provinces and territories

Province/ territory	Securing and distributing a reliable supply of vaccines and ancillary supplies	Allocating vaccines and ancillary supplies equitably	Communicating vaccine-allocation plans and the safety and effectiveness of vaccines	Administering vaccines in ways that optimize timely uptake	Surveillance, monitoring and evaluation, and reporting
Pan-Canadian	<ul style="list-style-type: none"> Through advance purchasing agreements with seven companies developing COVID-19 vaccines, Canada has secured enough doses for all Canadians who wish to be vaccinated <ul style="list-style-type: none"> The doses were secured on the advice of the COVID-19 Vaccine Task Force On 26 February 2021, Canada approved the Oxford-AstraZeneca COVID-19 vaccine <ul style="list-style-type: none"> Canada has pre-ordered 22 million doses of the vaccine Canada received 500,000 doses of the Oxford-AstraZeneca vaccine from the Serum Institute of India on 3 March 2021 On 5 March 2021, Canada approved the Johnson & Johnson COVID-19 vaccine, which is the first single dose vaccine to be approved 	<ul style="list-style-type: none"> As of 10 March 2021, 81.8% of doses delivered to Canada have been administered <ul style="list-style-type: none"> 2,020,056 first doses and 582,973 second doses of COVID-19 vaccine have been administered 5.31% of the population has received at least one dose of COVID-19 vaccine On 12 January 2021, the National Advisory Committee on Immunization (NACI) issued a statement outlining their most up-to-date recommendations to help guide the COVID-19 vaccine response in Canada In November 2020, NACI released its initial Preliminary guidance on key populations for early COVID-19 immunization report to 	<ul style="list-style-type: none"> In December 2020, the Public Health Agency of Canada released a report stating that federal, provincial and territorial governments are required to provide ongoing access to comprehensive, accurate and clear information about COVID-19 vaccines and immunization plans in partnership with First Nations, Inuit and Metis leaders, health professionals and other stakeholders NACI recommends making further communication efforts (e.g., cultural and linguistically diverse educational resources) to help improve the relay of vaccine information and establish transparency with the general public The Government of Canada's Planning 	<ul style="list-style-type: none"> The Government of Canada's Planning guidance for administration of COVID-19 vaccine states that all provinces and territories are responsible for developing processes and preparing their health systems and providers to allocate, deliver, store, distribute and administer vaccines 	<ul style="list-style-type: none"> The Government of Canada's Planning guidance for administration of COVID-19 vaccine states that the safety approach will build upon the systems in place for monitoring other vaccines Post-marketing surveillance will be undertaken by the Public Health Agency and Health Canada through the following mechanisms: <ul style="list-style-type: none"> Canada Vigilance Program, which collects and assesses reports of suspected adverse reactions to the vaccines from manufacturers and from healthcare providers,

	<ul style="list-style-type: none"> ○ Canada has pre-ordered 10 million doses of the vaccine ● As of 10 March 2021, Canada has received 3,182,510 vaccines from Pfizer-BioNTech, Moderna and Oxford-AstraZeneca manufacturers ● The Public Health Agency of Canada says it expects more than 910,000 doses from Pfizer-BioNTech and Moderna the week of 8 March 2021 ● The Public Health Agency of Canada says it is not expecting any new deliveries of the Oxford-AstraZeneca vaccine or the Johnson & Johnson vaccine until April 2021 ● On 9 March 2021, the federal government reported that there are production delays with the Johnson & Johnson vaccine, and they do not have an exact date for when the shipments will arrive ● An immunization National Operations Centre within the Public Health Agency of Canada was established as the federal logistical coordination entity for 	<p>inform planning for the efficient, effective and equitable allocation of COVID-19 vaccines upon authorization for use in Canada</p> <ul style="list-style-type: none"> ○ Key populations identified included those at high risk for severe illness or death, those most likely to transmit to those at high risk, essential workers, and those living or working in conditions with elevated risk for infection ● On 18 December 2020, NACI recommended to further sequence its initial subset of key populations using a stage-based approach <ul style="list-style-type: none"> ○ Stage 1 includes residents/staff of care facilities, adults aged 70 and older (priority will initially be given to those over 80 years of age until supply increases), front-line healthcare and personal-support workers, and at-risk adults in Indigenous communities 	<p>guidance for administration of COVID-19 vaccine states that multiple strategies, such as local and ethnic media and social media, should be used to provide vaccination information, and that tailored approaches are needed for vulnerable populations</p> <ul style="list-style-type: none"> ○ Indigenous Services Canada (ISC) is developing resources to guide vaccination delivery, messaging and education ● The report also states that outreach should be provided to healthcare providers, and the healthcare sector should be involved in vaccine communication efforts ● On 20 February 2020, health officials in British Columbia stated that they are working to make the COVID-19 vaccine roll-out a culturally safe experience for Indigenous people 		<p>patients and their families</p> <ul style="list-style-type: none"> ○ Canadian Adverse Events Following Immunization Surveillance System, which is a post-market vaccine safety monitoring system ○ Immunization Monitoring Program ACTIVE (IMPACT) network, which monitors for adverse effects from vaccines, vaccine failures and vaccine-preventable diseases ○ External networks such as the Canadian Immunization Research Network will also be involved in the COVID-19 vaccine safety initiatives ● The Canadian Vaccine Safety Network, which assesses vaccine
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	<p>managing COVID-19 vaccine delivery and collaboration with provinces and territories for vaccine distribution</p> <ul style="list-style-type: none"> ○ The National Operations Centre is supported by a national team of experts and the Canadian Armed Forces ○ The National Operations Centre has 14 vaccine delivery sites across Canada, and FedEx Express Canada and Innomar Strategies are positioned to support the National Operations Centre with vaccine distribution • The Government of Canada is responsible for securing storage facilities and ancillary supplies <ul style="list-style-type: none"> ○ A total of 75 million immunization supplies have been secured (e.g., syringes, needles, gauze, and sharps containers) ○ A total of 422 freezers have been purchased • After an independent regulatory review, Health Canada has approved that six doses can be extracted from the Pfizer-BioNTech vaccine vials rather than five 	<ul style="list-style-type: none"> ○ Stage 2 includes essential workers, other healthcare professionals, and remaining congregate facility residents/staff (e.g., homeless shelters and correctional facilities) • NACI recommends planning the efficient and equitable distribution of COVID-19 vaccines in accordance with the established sub-prioritization of key populations <ul style="list-style-type: none"> ○ Under specific circumstances (e.g., when excess doses remain after immunizing all stage one groups in a facility), NACI acknowledges the benefit in vaccinating on-site stage-two populations in lieu of transporting remaining doses to another facility with stage-one individuals to avoid the risk of wastage during delivery • The Government of Canada's Planning guidance for administration of 			<p>safety in various age groups following vaccinations</p> <ul style="list-style-type: none"> • The Special Immunization Clinics Network, which manages patients with adverse events following immunizations
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	<ul style="list-style-type: none"> ○ Canada has ordered 64 million of the special syringes required to extract the additional dose, and one million are expected to arrive the week of 8 February 2021 	<p>COVID-19 vaccine document stated that vaccines for second doses will be allocated at the same time as the first-dose quantities to ensure sufficient supply for the second dose at the appropriate interval after the first dose.</p> <ul style="list-style-type: none"> ● The federal government reported that 36 million Canadians are expected to be vaccinated by the end of September 2021 ● Most provinces have completed vaccinations in long-term care, or are close to doing so, and vaccinations will now be expanded to seniors living independently ● On 3 March 2021, the NACI issued new guidance advising that the time between shots for the Pfizer-BioNTech, Moderna, and Oxford-AstraZeneca vaccines be extended to four months in order to vaccinate, and hopefully protect, more people ● The NACI stated that the recommendations are guidance and not rules, and that the provinces and territories can tailor 			
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		their vaccination roll-out campaigns to each region			
British Columbia	<ul style="list-style-type: none"> • In January 2021, British Columbia's Centre for Disease Control released a plan for vaccine distribution which stated that the province is preparing for a range of COVID-19 vaccines with varying distribution methods • British Columbia is actively preparing for these vaccines by securing freezer capacity • Health Officials in British Columbia reported that a total of 792,695 vaccine doses are expected to be received by the end of March 2021 • Health Officials also reported that between February and March an average of 68,400 doses are expected to be administered per week, between April and June an average of 203,077 doses are expected to be administered per week, and early indications suggest that between July and September 471,538 doses will be administered per week 	<ul style="list-style-type: none"> • The Government of British Columbia reported that it is working closely with the Provincial Health Services Authority, First Nations Health Authority, Health Emergency Management BC, Canadian Red Cross and Canadian Armed Forces to prepare a system that is ready to receive and distribute all vaccine types as they become approved and available • British Columbia's Centre for Disease Control released a plan for vaccine distribution which stated that the first groups to be vaccinated will be residents, staff and essential visitors to long-term care residents; individuals waiting for a long-term care placement; healthcare workers providing care for COVID-19 patients; First Nations communities in remote and isolated locations • The vaccination program will then expand to 	<ul style="list-style-type: none"> • ImmunizeBC has provided evidence-based immunization and tools specific to COVID-19 for residents of British Columbia • British Columbia's Centre for Disease Control reported that when the vaccine becomes available for the public, information will be shared widely 	<ul style="list-style-type: none"> • The first phase of COVID-19 vaccine administration, which is of the priority populations, is occurring at public-health clinics • Once the larger public immunization begins, a notice from the British Columbia Pharmacy Association reported that community pharmacists will be involved to ensure timely uptake and administration • On 23 February 2021, the Provincial Health Officer also reported that a public-health order was issued to expand the number of health professions able to administer a COVID-19 vaccine <ul style="list-style-type: none"> ◦ Dentists, paramedics, midwives, pharmacy technicians and retired nurses are now among those who can join the vaccination work force over the next six months • British Columbia plans on opening 172 vaccination sites across 	<ul style="list-style-type: none"> • British Columbia's Centre for Disease Control reported that they will closely monitor COVID-19 vaccine safety, uptake and effectiveness • Vaccine providers in British Columbia are asked to refer to the B.C. Centre for Disease Controls' reporting adverse events following immunization resource •

	<ul style="list-style-type: none"> On 8 February 2021 the Provincial Health Officer reported that the province is on track to begin mass immunization clinics in March 2021 	<p>include community-based seniors; individuals experiencing homelessness or using shelters; adults in group homes or mental health residential care; long-term care home support recipients and staff; hospital staff, community physicians and medical specialists; Indigenous communities not vaccinated in the first stage</p> <ul style="list-style-type: none"> As of 10 March 2021, there has been a total of 428,370 doses delivered and the province has received enough of the vaccine to give 8.3% of its population a single dose <ul style="list-style-type: none"> The province has used 80.61% of its available vaccine supply As of 10 March 2021, British Columbia has reported that 343,381 doses have been given and the province has administered doses at a rate of 66.92 per 1,000 population On 1 March 2021, British Columbia health officials decided to follow NACI 		<p>the province as it ramps up to immunize the general population</p> <ul style="list-style-type: none"> Provincial Health Officials reported that mobile clinics in self-contained vehicles will be available for some rural communities and for people who are home bound due to mobility issues The province reported that an online vaccine booking system will be available for the general public as of 12 April 2021 	
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		<p>recommendations, and expand the interval between vaccine doses to four months, which will go into effect as of 8 March 2021</p> <ul style="list-style-type: none"> • As of 8 March 2021, people born in or before 1931 and Indigenous peoples born in or before 1956 may call and book a vaccine appointment, as of 15 March 2021 people born in or before 1936 may call and book a vaccine appointment, and as of 22 March 2021 people born in or before 1941 may call and book a vaccine appointment • Health officials reported that all eligible people should receive at least their first vaccine by the end of July 2021 			
Alberta	<ul style="list-style-type: none"> • Forecasted weekly allocations for the Pfizer-BioNTech and the Moderna vaccines for Alberta are updated regularly on the Government of Canada's website • The Alberta government has a policy describing the requirements for storing and handling the Pfizer- 	<ul style="list-style-type: none"> • Alberta began its vaccination rollout in December 2020 with a phased approach to vaccinating prioritized groups: <ul style="list-style-type: none"> ○ Phase 1a group (started in December 2020): workers and residents of acute-care sites in Edmonton and Calgary with the 	<ul style="list-style-type: none"> • Alberta Health Services has a COVID-19 immunization booking webpage and a Frequently-asked Questions page on their website that is regularly updated with information on the COVID-19 vaccination rollout and how to book an appointment 	<ul style="list-style-type: none"> • COVID-19 immunization facilities will be designated by AHS in congregate-care settings • The AHS will collaborate with Indigenous Services Canada to designate congregate-care services on reserve 	<ul style="list-style-type: none"> • Alberta's Immunization Regulation requires health practitioners to report immunizations electronically to Alberta Health within a week, effective 1 January 2021

	<p>BioNTech and Moderna vaccines, as well as vaccines that require storage between 2°C and 8°C</p>	<p>highest COVID-19 concerns (e.g., front-line healthcare workers and residents of long-term care homes)</p> <ul style="list-style-type: none"> ○ Phase 1b group (started in February 2021): Seniors 75 years and older as well as First Nations, Inuit, Métis, and persons 65 years and older living in a First Nations community or Métis settlement ● Alberta released its plan for Phase 2 vaccinations, targeted to begin in April 2021, to include: <ul style="list-style-type: none"> ○ Group A: anyone aged 65 to 74, First Nations and Métis people aged 50 and older, staff of licensed supportive-living facilities not included in Phase 1 ○ Group B: Albertans aged 18 to 64 with high-risk underlying conditions ○ Group C: Residents and staff in congregate-living settings, healthcare workers who have a high potential for spread, and caregivers 	<ul style="list-style-type: none"> ● The government of Alberta's COVID-19 vaccine program webpage provides information on: <ul style="list-style-type: none"> ○ The number of vaccines administered in the province ○ Adverse events following immunization reported ○ Access to the appointment portal for booking vaccinations ○ Resources for seniors who need transportation to and from their vaccine appointments ○ Vaccine safety and the vaccine approval process ○ Details on the province's phased vaccine roll-out, including timelines ○ Who should and should not get vaccinated ● The province also communicates with Albertans through their social-media handles and regular news conferences and releases 	<ul style="list-style-type: none"> ● Alberta Health Services has an online booking tool for eligible healthcare workers to book immunization appointments <ul style="list-style-type: none"> ○ Eligible healthcare workers will receive an email with a link to book their immunization appointment online ● Alberta's guideline for COVID-19 vaccination provides advice for individuals who may experience reactions after immunization, including calling a Health Service hotline ● The guideline also describes infection prevention-and-control measures for vaccination venues and healthcare practitioners, including frequent disinfecting and use of PPE ● Starting 19 February 2021, Alberta Health Services (AHS) began vaccinating residents in retirement centres, lodges, supportive living, and other congregate-living facilities with people ages 75 years and older 	<ul style="list-style-type: none"> ● Alberta Health Services provides a COVID-19 Client Immunization Record for individuals who have been administered a COVID-19 vaccine ● Adverse events following immunization (AEFI) are reported to Alberta Health and Alberta Health Services and posted on Alberta's COVID-19 vaccine distribution website
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		<p>who are most at risk of severe outcomes</p> <ul style="list-style-type: none"> ○ Group D: Albertans aged 50 to 74 and First Nations and Métis people aged 35 to 49 on and off reserve ● Details on Phase 3 of the vaccine roll-out will be provided at a future date ● Alberta has adjusted its Phase 2 roll-out plan so that starting from 10 March 2021, Albertans aged 50 to 64 and First Nations, Métis and Inuit individuals aged 35 to 49 will be eligible to receive the Oxford-AstraZeneca vaccine <ul style="list-style-type: none"> ○ The 58,500 doses received will not be able to inoculate the 400,000 adults in the eligible age group ● As of 10 March 2021, Alberta has received 436,425 doses of COVID-19 vaccines from the Government of Canada <ul style="list-style-type: none"> ○ 311,025 doses of the Pfizer-BioNTech vaccine ○ 66,900 doses of the Moderna vaccine 		<ul style="list-style-type: none"> ● Starting 24 February 2021, any Albertan born in 1946 or earlier were able to book an appointment for vaccination through its online booking tool ● Starting 10 March 2021, eligible Albertans will be able to book first dose appointments only in accordance with the province's decision to extend the second dose interval to 16 weeks <ul style="list-style-type: none"> ○ Individuals will receive a reminder from AHS or participating pharmacies to book a second dose appointment at a later date ● Vaccination appointments will open in stages by birth year for individuals eligible to receive the Oxford-AstraZeneca vaccine on 10 March 2021, and for individuals in group A of Phase 2 of Alberta's roll-out plan on 15 March 2021 <ul style="list-style-type: none"> ○ Individuals will be able to book appointments through the AHS online 	
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		<ul style="list-style-type: none"> ○ 58,500 doses of the Oxford-AstraZeneca vaccine ● As of 9 March 2021, Alberta has administered 308,962 doses of COVID-19 vaccines <ul style="list-style-type: none"> ○ 91,259 Albertans have been fully vaccinated with two doses ● On 4 March 2021, Alberta's Minister of Health announced that the province will follow NACI's recommendations and delay the interval between the first and second doses of COVID-19 vaccines to 16 weeks as of 10 March 2021, in order to give more Albertans access to first doses of COVID-19 vaccines more quickly <ul style="list-style-type: none"> ○ All existing second dose appointments made for individuals who received their first doses prior to 10 March 2021 will be honoured ● According to the Minister of Health at a press conference on 8 March 2021, Alberta has reached a milestone of being the first Canadian 		<p>booking tool or by calling 811</p> <ul style="list-style-type: none"> ● Alberta's Immunization record provides post-vaccination care instructions, including a list of potential side effects, contact information for Health Link, and a reference to the COVID-19 Self-Assessment for Albertans if unusual side effects persist 	
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		province to fully vaccinate every resident of long-term care and designated supportive living			
Saskatchewan	<ul style="list-style-type: none"> Forecasted weekly allocations for the Pfizer-BioNTech and the Moderna vaccines for Saskatchewan are updated regularly on the Government of Canada's website Efforts have been made to secure COVID-19 vaccine storage equipment (freezers, fridges, power generators) for Saskatchewan First Nations communities 	<ul style="list-style-type: none"> Saskatchewan began its phased COVID-19 vaccination plan in December 2020 A pilot program was conducted on 15 December 2020 where 1,950 healthcare workers were vaccinated with their first dose of the Pfizer-BioNTech vaccine <ul style="list-style-type: none"> Second doses were received 21 days later during Phase 1 of the vaccination plan Saskatchewan is currently in Phase 1 of its plan which prioritizes front-line healthcare workers, long-term care residents and staff, residents over age 70, and residents over age 50 living in remote/northern Saskatchewan <ul style="list-style-type: none"> Allocations of the Pfizer-BioNTech vaccine for these groups began to be received on 22 December 2020 The Moderna vaccine has been allocated to 	<ul style="list-style-type: none"> The Saskatchewan government provides weekly press briefings, COVID-19 news releases, and a number of resources on its website about COVID-19 vaccines and distribution The Saskatchewan plan indicates that the government's communication focuses on vaccine safety, accurate immunization information, prioritization of vaccination groups, and the importance of maintaining existing public-health measures <ul style="list-style-type: none"> Information will be included in local and social media, direct mail, posters, and news conferences 	<ul style="list-style-type: none"> During the pilot phase of its COVID-19 immunization plan, 1,950 doses of the Pfizer-BioNTech vaccine were administered to healthcare workers on 15 December 2020 <ul style="list-style-type: none"> Pilot vaccine recipients received their second dose 21 days later during Phase 1 All vaccine doses were transported to and administered at Regina General Hospital Phase 1 immunizations are taking place in long-term care homes, communities in the Far North, and vaccination sites approved by the SHA Electronic and paper copies of COVID-19 immunization records are made available for vaccinated individuals Up to 2,200 people will be involved in administering COVID- 	<ul style="list-style-type: none"> Measures have been taken to ensure that Saskatchewan's immunization administration system, Panorama, can record, store and manage COVID-19 vaccination records and enable reminders for second-dose follow-ups Vaccination records are stored electronically on MySaskHealthRecord

		<p>the Far North Region of Saskatchewan</p> <ul style="list-style-type: none"> • The Saskatchewan government announced on 16 February 2021 that the Ministry of Health added more healthcare workers to the priority list in Phase 1, including individuals who will be directly involved in delivering COVID-19 vaccinations in Phase 2 of the roll-out • Phase 2 is anticipated to begin in April-June 2021 and will focus on vaccinating the general population in 10-year age increments, with targeted vaccinations being administered in select congregate living and extremely clinically vulnerable populations <ul style="list-style-type: none"> ○ The goal of the Saskatchewan government is for all residents being vaccinated during Phase 2 to be able to access vaccines where they live and work • Saskatchewan requires two doses of vaccine per person and both first and second doses must be of the same vaccine 		<p>19 vaccines during Phase 2, and approximately 675 healthcare workers will be redeployed to deliver vaccines</p> <ul style="list-style-type: none"> • The Saskatchewan government intends for vaccines to be administered by physicians, nurse practitioners, and pharmacists in Phase 2 • A staff scheduling system has been launched to allow all SHA employees to opt-in for alerts on when they will be eligible to receive the COVID-19 vaccine • A scheduling system has been developed that provides access to an online booking tool for vaccinations and a toll-free telephone line that allows residents to book appointments with a phone agent • The province plans to open its first mass immunization clinic in April 2021 in Regina • Plans are underway to open 230 vaccination clinics in 180 communities throughout 	
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		<p>apply to long-term care and personal-care residents and staff who have not received their second doses. or to any existing scheduled second-dose appointments</p> <ul style="list-style-type: none"> • Eligible groups who will be receiving the Oxford-AstraZeneca vaccine include individuals between aged 60 to 64 and priority healthcare workers • There is no indication that vaccines will be made available through private means 			
Manitoba	<ul style="list-style-type: none"> • Manitoba directly signed a deal to procure up to two million doses of a vaccine (that is currently in the first phase of human trials) being developed by Providence Therapeutics • Manitoba has procured 400 shipping containers for transporting vaccines and 200 specialized freezers and fridges • The province has procured more than 80,000 syringes, which enable the extraction of six doses per vial of the Pfizer-BioNTech vaccine 	<ul style="list-style-type: none"> • Manitoba established a trilateral table on vaccine planning, including health experts, senior officials from Indigenous Services Canada, and the Canadian Armed Forces • In addition to the table, the province states there will be smaller fora established to advance priority issues and ensure dialogue to navigate prioritization for First Nations on- and off-reserve • A Vaccine Implementation Task Force and Vaccine 	<ul style="list-style-type: none"> • Manitoba maintains a constantly updated webpage dedicated to outlining in detail the specific groups of people currently eligible to book an appointment and receive a vaccine • Manitoba has released clinical practice guidelines for vaccine use in special populations and issued a memo to healthcare providers regarding enhanced consent for special populations • The province released an interactive vaccine 	<ul style="list-style-type: none"> • Manitoba plans for six modular and scalable models of vaccine delivery: a pilot site, supersites, focused immunization teams, pop-up/mobile sites, First Nations sites, and distributed delivery • The province is targeting to have the capacity to administer 20,000 doses per day by 1 April 2021 • A 28-day campaign was launched to vaccinate all eligible personal care home residents in 135 sites across Manitoba, using focused 	<ul style="list-style-type: none"> • Manitoba participates in the Public Health Agency of Canada's Canadian Adverse Events Following Immunization Surveillance System • Reports of adverse events following immunization are received by regional Medical Officers of Health from providers and the provincial pediatric hospital-based Immunization Monitoring

	<ul style="list-style-type: none"> The province maintains a complex data set to link vaccine deliveries with inventory levels and known appointments 	<p>Medical Advisory Table have been established</p> <ul style="list-style-type: none"> Eligibility criteria for vaccination are constantly updated and currently include individuals working in high-risk laboratories, immunization clinics, testing sites, isolation facilities, congregate-living facilities, licensed personal-care homes, healthcare workers (who meet specific eligibility criteria), community service workers who work in congregate group-care settings, all individuals aged 80 and older, and First Nations people aged 60 and older The province released detailed eligibility criteria for Stages 1 to 4 of the vaccine roll-out on 27 January 2021 The province is modelling vaccine roll-out and distribution projections under high-supply and low-supply scenarios As of 9 March 2021, Manitoba has received 142,840 doses of vaccines 	<p>queue calculator for residents to understand their place in the vaccine priority line</p> <ul style="list-style-type: none"> The province has released a Supersite operational manual As of 10 February 2021, Manitoba had 225 phone-line agents and plans to expand to 300 agents in March as well as implement online self-service booking 	<p>immunization teams who visit locations in all regional health authorities</p> <ul style="list-style-type: none"> This campaign uses the Moderna and Pfizer-BioNTech vaccines Focused immunization teams have administered second doses to all personal-care home residents in the province The next focus for focused immunization teams is congregate-living settings, and vaccination will commence in sites with the most vulnerable residents Staff working in personal-care homes and congregate-living settings are to be vaccinated at fixed vaccination sites Currently, supersites are in operation in Winnipeg, Brandon, Thompson and Vaxport, and there are plans to expand to up to 13 supersites (including two planned openings in March) Supersites serve the dual purpose of administering vaccination while also 	<p>Program ACTive (IMPACT)</p> <ul style="list-style-type: none"> Regional Medical Officers of Health make recommendations based on these reports and forward them to the vaccine recipient's immunization provider and Manitoba Health, Seniors and Active Living. Manitoba is maintaining a dashboard with key vaccine-distribution metrics available Manitoba is reporting phone appointment-booking waiting times, as well as patient processing and several other operationally relevant time metrics for one supersite Manitoba is also reporting time-use metrics for Focused Immunization Teams The Public Health Information
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		<ul style="list-style-type: none"> • As of 9 March 2021, Manitoba has administered 94,785 total vaccine doses <ul style="list-style-type: none"> ○ As of 7 March 2021, 30,334 second doses have been administered • As of 7 March 2021, the province had the capacity to administer up to 12,499 doses per day, if there were adequate vaccine supplies • A vaccine delivery schedule has been published, and delivery numbers are confirmed up to the week of 12 April 2021 <ul style="list-style-type: none"> ○ Between the weeks of 8 March 2021 and 12 April 2021, 61,100 doses of the Moderna vaccine, 113,400 doses of the Pfizer-BioNTech vaccine, and 18,000 doses of the Oxford-AstraZeneca vaccine are expected to arrive • The province is targeting to have the capacity to administer 20,000 doses per day by 1 April 2021 • The province is collaborating with First Nations groups to use 		<p>serving as distribution hubs for focused immunization teams and pop-up/mobile clinics</p> <ul style="list-style-type: none"> • Eligible Manitobans can call a dedicated phone line to book vaccination appointments at supersites or pop-up sites • A distributed model of doctors' offices and pharmacists is expected to administer 25% of daily doses in the second quarter, subject to approval of suitable vaccines <ul style="list-style-type: none"> ○ Thus far, approximately 500 medical clinics and community pharmacies have signed up to participate in the distributed model • Focused Immunization Teams and Pop-up Clinics will each administer less than 5% of daily doses in the second quarter and will respond to needs • A 'Vaxport', which is scheduled to open on 1 March 2021 in Thompson, will provide immunization for 	<p>Management System is used to track individuals' public health records, including immunization records and is being used to ensure patient safety and monitor progress during the COVID-19 vaccination campaign</p> <ul style="list-style-type: none"> • Manitobans who have been vaccinated can access their individual immunization record online with their health card number and email address • Family doctors also have access to immunization records
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		<p>the Moderna vaccine to address First Nations priorities, including vaccination in northern and remote communities</p> <ul style="list-style-type: none"> ○ The roll-out of vaccines in First Nations communities is expected to begin in mid-March and will prioritize communities at high risk of floods, fires, and other evacuation risks ● As of 9 February 2021, 11,800 vaccine doses had been allocated to First Nations communities ● Manitoba is currently in Stage 1 of its vaccine roll-out and expects to be in Stage 2 as early as April (dependent on vaccine supply) ● The Vaccine Implementation Task Force has four operational planning principles: use the right model, at the right time; minimize the drain on the healthcare system; inject what you get; be ready to pivot ● The province is modelling vaccine roll-out and distribution projections under high- 		<p>residents of remote northern First Nations, and municipal and Indigenous and Northern Affairs communities</p> <ul style="list-style-type: none"> ● A time-limited clinic in Winnipeg was opened to provide vaccination for First Nation health-care workers, Knowledge Keepers and Traditional Healers ● The province is receiving applications from community pharmacists and physicians interested in providing COVID-19 vaccination, using vaccines that do not need freezing <ul style="list-style-type: none"> ○ Several eligibility criteria for medical clinics and pharmacies have been outlined, and a Q&A targeted at potential physician and pharmacist partners exists ● The province is actively recruiting healthcare and non-healthcare staff to work in immunization clinics and offering a micro-credential course for people to expand their scope of practice to 	
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		<p>supply and low-supply scenarios</p> <ul style="list-style-type: none"> Manitoba has adopted the National Advisory Committee on Immunization guidance and extended the spacing between first and second vaccine doses to four months <ul style="list-style-type: none"> At this time, residents are not able to book second-dose appointments An emergency order under the Emergency Measures Act enables Shared Health Manitoba to investigate and confirm the eligibility status of healthcare workers who have been vaccinated <ul style="list-style-type: none"> If people are found to have provided false information to get early vaccination, the order enables Shared Health to disclose this information to the individual's employer, professional regulatory body, or law enforcement 		<p>include the administering COVID-19 vaccine</p> <ul style="list-style-type: none"> The province has expanded the criteria for who can work as an immunizer and designed various training options for new hires based on their level of experience As of 3 March 2021, 2,224 full-time equivalent staff were working in vaccination centres In addition to new staff hired, some public servants have been re-deployed to work with the Vaccine Implementation Task Force 	
Ontario	<ul style="list-style-type: none"> The province has published vaccine storage and handling guidance for the Pfizer-BioNTech and 	<ul style="list-style-type: none"> The provincial government's COVID-19 Vaccine Distribution Task Force, with input 	<ul style="list-style-type: none"> The province has published vaccine administration guidelines and 	<ul style="list-style-type: none"> General guidelines for vaccination sites and priority populations served are available but 	<ul style="list-style-type: none"> The Pfizer-BioNTech and Moderna vaccine administration

	<p>Moderna vaccines including information regarding freezer setup, inspections, monitoring of storage equipment, vaccine transport, temperature excursion, and preparation for immunization clinics</p> <ul style="list-style-type: none"> • Protocols have been established to move the Pfizer-BioNTech vaccine so it can be used in long-term care and high-risk retirement home settings 	<p>from the National Advisory Committee on Immunization, recommends vaccination for all individuals in authorized age groups without contradictions but due to limited supply prioritization is initially given to certain groups</p> <ul style="list-style-type: none"> • The provincial vaccine distribution plan is divided into three phases • Phase I prioritizes residents and workers in congregate-living settings that care for seniors; highest, very high and high-priority healthcare workers; adults in First Nations, Métis, and Inuit populations; adults 80 years of age and older; and adult chronic home-care recipients <ul style="list-style-type: none"> ○ On 9 February 2021, the Ministry of Health released guidance for prioritizing healthcare workers to complement existing sequencing and prioritizes different healthcare workers according to risk of exposure, patient populations served, 	<p>information packets for healthcare providers regarding the Pfizer-BioNTech and Moderna vaccines</p> <ul style="list-style-type: none"> • The province maintains a website dedicated to COVID-19 vaccine safety • The province has published a ‘What you need to know before your COVID-19 vaccine appointment’ information sheet • The COVID-19 Vaccine After Care Sheet includes a section to note the time and date of a patient’s second dose • The Centre for Effective Practice has developed the PrOTCT PLAN and other resources to aid in having discussions with patients about COVID-19 vaccination • The Centre for Effective Practice has put together resources for understanding vaccine hesitancy in Black and First Nations, Inuit and Métis communities 	<p>the 34 public health units of the province will determine how best to roll-out vaccination</p> <ul style="list-style-type: none"> • Vaccine delivery began with, and continues at, hospital-site clinics • Public health-led mass-vaccination sites (including continued hospital sites) can provide vaccination with a focus on people eligible for vaccination due to their occupation (such as healthcare workers and essential workers) as well as most adults once eligible • On-site clinics can provide vaccination for remote communities, First Nations reserves, and adult chronic home care recipients • Primary care/pharmacy/public health clinics can provide vaccination for populations prioritized due to biological factors (such as older age) and can provide vaccination to all remaining eligible Ontarians in Phase III • Mobile sites can deliver vaccination to populations who need 	<p>guidelines for healthcare providers include guidance regarding adverse events following vaccination</p> <ul style="list-style-type: none"> • Adverse events following immunization are reported to Public Health Ontario and the Public Health Agency of Canada • Public Health Ontario has published a list of adverse events of special interest for COVID-19 vaccination surveillance • The province has begun voluntarily collecting socio-demographic data from those being vaccinated <ul style="list-style-type: none"> ○ These data include race, household income, and linguistic profile • In addition, health professionals are required to report adverse events to local public-health units who will
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		<p>and the incidence of COVID-19 outbreaks</p> <ul style="list-style-type: none"> • Phase II prioritizes essential workers (such as first responders and teachers); older adults (beginning with those 79 years of age and decreasing in five-year increments); at-risk individuals and their caregivers; those living and working in high-risk congregate settings; populations and communities facing barriers and at greater risk (e.g., Black and other racialized populations); and all adults (in decreasing five-year increments) • On 5 March 2021, additional details were released regarding prioritization among Phase II groups <ul style="list-style-type: none"> ○ Prioritization will focus primarily on age and risk (based on hot spots, specific health conditions, congregate-care setting, essential caregivers, and those who cannot work from home) 	<ul style="list-style-type: none"> • The Ministry of Health has published “Vaccination recommendations for special populations” which regards people who are pregnant or breastfeeding, those with autoimmune conditions or who are immunocompromised, those with allergies, and children and adolescents 	<p>prioritization due to social or geographical factors, such as congregate-living settings, urban Indigenous populations, and racialized communities</p> <ul style="list-style-type: none"> • Phase II will see vaccine administration occur at municipally run vaccination sites, hospitals, mobile vaccination sites, pharmacies, clinics, primary-care settings, and community locations • Toronto Public Health launched a ‘proof of concept’ immunization clinic to test and adjust non-hospital vaccination plans ahead of mass vaccination • The province is launching a pilot program for community pharmacy-based vaccine administration in three public-health units in mid-March 2021 • Expanded healthcare professionals (including nurse practitioners, registered nurses, registered practical nurses, pharmacists, pharmacy students and 	<p>investigate and provide support</p> <ul style="list-style-type: none"> • Guidance has been published for managing healthcare workers with symptoms within 48 hours of receiving COVID-19 vaccination
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		<p>weeks of 8 March 2021 and 12 April 2021, the province should receive 1,499,440 total doses</p> <ul style="list-style-type: none"> • Ontario has accepted and will implement the National Advisory Council on Immunization guidance to extend the vaccination dose interval to up to four months, with some limited exceptions • Operation Remote Immunity, which is led by Ornge, aims to vaccinate adults in 31 fly-in First Nations communities and Moosonee in Northern Ontario <ul style="list-style-type: none"> ○ As of 8 March 2021, all first doses as part of Operation Remote Immunity had been administered (12,660 doses) and 2,664 second doses had been administered ○ The program aims to finish these vaccinations by the end of April 2021 • The principles underlying the province's Ethical framework for COVID-19 vaccine distribution include minimizing 			
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		<p>harms and maximizing benefits; equity; fairness; transparency; legitimacy; and public trust</p> <ul style="list-style-type: none"> • Several organizations involved in primary care in Ontario have published a document titled “Partnering with primary care for local COVID-19 vaccine rollout in Ontario: A practical guide” 			
Quebec	<ul style="list-style-type: none"> • The Ministry of Health and Social Services is responsible for the centralized distribution of vaccines 	<ul style="list-style-type: none"> • According to the Quebec Immunization Committee, five values underpin the choices and objectives of the COVID-19 vaccination campaign in the context of limited vaccine supply: beneficence, equity, justice, reciprocity, and non-maleficence • The prioritization of groups for vaccination is based on the following four factors: age, presence of risk factors, profession, and living situation • Ten groups have been preliminarily identified to prioritize vaccine allocation <ul style="list-style-type: none"> ○ The first priority group includes vulnerable people in 	<ul style="list-style-type: none"> • The provincial government maintains a webpage with information about COVID-19 vaccine safety, development, and role-out plans for Quebec • The Ministry of Health and Social Services published vaccination campaign guidelines for healthcare workers to update workers on the priority-based allocation of vaccines, their responsibilities and roles during the vaccination campaign, and resources available to them • The Ministry of Health maintains a website dedicated to demystifying beliefs 	<ul style="list-style-type: none"> • COVID-19 vaccination distribution is being handled by the Quebec Immunization Program • The Public Health Ethics Committee has published a bulletin stating that mandatory vaccination of healthcare workers is not justifiable <ul style="list-style-type: none"> ○ The Ministry of Health and Social Services has also confirmed that vaccination will not be mandatory • New groups of healthcare professional have been authorized to administer COVID-19 vaccines during the health emergency period if they have received appropriate training from the ministry 	<ul style="list-style-type: none"> • The Quebec Vaccination Registry is an electronic databases that keeps track of all persons receiving vaccines in Quebec and all vaccines received by Quebec residents who may be out of the province • The Quebec Immunization Committee has recommended real-time and continuous monitoring of vaccine efficacy be conducted to make quick changes to plans, if needed • The Quebec Nosocomial

		<p>long-term care and intermediate resources and family-type resources homes</p> <ul style="list-style-type: none"> ○ The second priority group includes health- and social-care workers who have patient contact ○ The third priority group includes people living in private retirement homes and others in similarly vulnerable living situations ○ The fourth priority group includes rural and remote communities, where people often have chronic illnesses ○ The fifth to seventh priority groups include people aged 80 years of age and over; between 70 and 79 years of age; and between 60 and 69 years of age, respectively ○ The eighth priority group includes adults younger than 60 years of age who have a risk factor ○ The ninth priority group includes adults 	<p>regarding the risks of vaccination</p> <ul style="list-style-type: none"> • The Ministry of Health and Social Services has published a common questions and answers regarding the COVID-19 vaccination campaign document intended for workers in the health- and social-care sectors • The Ministry of Health and Social Services has published an “Aid in clear consent” pamphlet with information about vaccine benefits and side-effects to complement the COVID-19 vaccination campaign • The provincial government has released a document and video with guidance for the general public on how to register through the online portal • The Ministry of Health and Social Services has produced and released several videos about COVID-19 vaccine safety and the provincial vaccination campaign 	<ul style="list-style-type: none"> ○ These groups include midwives, respiratory therapists, and pharmacists • The Ministry of Health and Social Services’ digital learning environment includes training related to the COVID-19 vaccination campaign • The Institut national de santé publique du Québec has published a video series for healthcare professionals regarding COVID-19 vaccination and commonly encountered questions • The Quebec Vaccine Injury Compensation Program compensates people who have experienced bodily injury due to vaccination; however, COVID-19 is not currently on the list of diseases involved (but the program details are noted as being updated) • Bookings for COVID-19 vaccination are being conducted through the online portal clicsante.ca • The Quebec Immunization Committee is 	<p>Infections Committee has made recommendations and produced algorithms regarding how to manage patients and healthcare workers with symptoms following COVID-19 vaccination</p> <ul style="list-style-type: none"> • The Ministry of Health and Social Services published a one-page reminder regarding infection prevention and control measures for vaccinated healthcare workers • Health professionals have been directed to immediately report the following adverse events to their local public health unit if there is any suspicion they may be associated with vaccination: <ul style="list-style-type: none"> ○ Events requiring medical attention or hospitalization ○ Events leading to permanent disability
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		<p>younger than 60 years of age without risk factors but who work in essential services</p> <ul style="list-style-type: none"> ○ The tenth priority group includes the rest of the adult population ● As of 10 March 2021, 852,065 total vaccine doses have been received in Quebec ● As of 10 March 2021, 599,833 vaccine doses have been administered <ul style="list-style-type: none"> ○ As of 10 March 2021, there was a daily average of 17,701 people being vaccinated every day (over the previous seven days) ● The Quebec Immunization Committee has recommended that vaccination for pregnant women should be offered, but there must be a discussion with a healthcare professional regarding the benefits and risks of vaccination ● As of 10 March 2021, the general population aged 70 or older is able to book an appointment for 	<p>for the general public (in English and French)</p>	<p>recommending that people who have had severe reactions to other injections (that do not have common components with the COVID-19 vaccine) do not need specific pre-assessment, but should be monitored for 30 minutes following vaccination</p> <ul style="list-style-type: none"> ○ The normal observation period following vaccination is 15 minutes ● The Quebec Immunization Committee is recommending using the same vaccine for patients' first and second doses <ul style="list-style-type: none"> ○ If the same vaccine is not available (or known) a similar type of vaccine (e.g., mRNA or viral vector) should be given ○ Regardless of what type of second dose is given, it will be considered valid and a third dose is not indicated ● The Quebec Immunization 	<ul style="list-style-type: none"> ○ Events that place patients' lives at risk ○ Events that lead to death
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		<p>vaccination in all public-health units in Quebec</p> <ul style="list-style-type: none"> ○ One companion can be vaccinated at the same time if the companion is aged 70 or older and provides care to their partner at least three days per week ● The Ministry of Health and Social Services has recommended a 16-week interval between vaccine doses, and there is currently no maximum interval that must be followed ● The Quebec Immunization Committee has released preliminary guidance regarding the use of the Oxford-AstraZeneca vaccine in the province <ul style="list-style-type: none"> ○ The recommendations depend upon the vaccine supply scenario of the province, and three supply situations are outlined ○ In general, the committee does not recommend systematically offering the Oxford-AstraZeneca vaccine 		<p>Committee has recommended that people with prior confirmed COVID-19 infection may only need one vaccine dose to develop sufficient immunity</p> <ul style="list-style-type: none"> ○ They did note that immunocompromised people who have had a confirmed COVID-19 infection and all those whose COVID-19 infection occurred very close (temporally) with a first vaccine dose should receive two doses as a precaution 	
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		<p>to people with a very high risk of sickness and complications (for example, residents of long-term care homes and immunocompromised people)</p> <ul style="list-style-type: none"> • The Quebec Immunization Committee has recommended that close helpers of vulnerable people (residents of long-term care homes) not be included in initial priority groups (unless they belong to these groups for another reason); they recommend including them alongside essential service workers • The Quebec Immunization Committee has issued guidance regarding the following domains to support the COVID-19 vaccination campaign: <ul style="list-style-type: none"> ○ Minimum age for administering mRNA vaccines ○ Counter-indications and precautions for certain groups of people ○ Interchangeability of COVID-19 vaccines 			
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		<ul style="list-style-type: none"> ○ Second-dose intervals ○ Interactions between mRNA vaccines and other products ○ Vaccination of people with confirmed COVID-19 infection ○ Clinical manifestations following vaccination ● The Ministry of Health and Social Services published a directive with a framework for determining the allocation of limited vaccine doses to prioritized remote and Indigenous communities 			
New Brunswick	<ul style="list-style-type: none"> ● To ensure optimal storage of the vaccine new ultra-low freezer units have been delivered to regional hospitals 	<ul style="list-style-type: none"> ● The New Brunswick Ministry of Health created the COVID-19 Vaccine Rollout plan identifying priority groups and the time frame for when each group will receive the vaccine <ul style="list-style-type: none"> ○ December 2020 – March 2021 prioritizes long-term care residents and staff, healthcare workers with direct COVID-19 patient contact, adults in First Nations communities and older New Brunswick residents 	<ul style="list-style-type: none"> ● The New Brunswick Ministry of Health website provides information for the general public on the province's vaccine roll-out plan <ul style="list-style-type: none"> ○ Information sheets outlining how the Pfizer-BioNTech and Moderna vaccines protect against COVID-19 are linked on the website ○ The website provides links for healthcare workers and the general public to Pfizer's official vaccine information 	<ul style="list-style-type: none"> ● The website provides vaccine after-care sheets for the Pfizer-BioNTech and Moderna vaccines offering information on what to do after receiving the vaccine ● Immunization clinics follow the protocol set forth by the Government of Canada ● For greater efficiency, individuals in priority groups are being contacted directly to register for their appointment ● The Paramedics Association of New Brunswick gave its 	<ul style="list-style-type: none"> ● Vaccinated individuals receive a record of immunization ● Chief Medical Officer of Health Dr. Jennifer Russell urged all citizens in the province to download the COVID Alert App to ensure its effectiveness in keeping New Brunswickers safe

		<ul style="list-style-type: none"> ○ Spring 2021 prioritizes residents and staff of other communal settings (homeless shelters, correctional centres), other healthcare workers including pharmacists and first responders, and critical infrastructure workers (power, water and sewer) ○ In spring or summer 2021 the vaccine will be available to the remainder of the population ● The province has made adjustments to the roll-out timeline pushing back the start of the second phase to the start of April 2021 ● Details on the priority groups for each phase was adjusted <ul style="list-style-type: none"> ○ Phase 2 will include residents and staff of communal settings, healthcare professionals who provide direct patient care, first responders, home-support workers for seniors, individuals over the age of 70, volunteers 	<p>site and Moderna's COVID-19 vaccination site</p> <ul style="list-style-type: none"> ● A press release from the Government of New Brunswick provided a COVID-19 vaccination update detailing the allocation of vaccine clinics. <ul style="list-style-type: none"> ○ Vaccination clinics were set-up within eight long-term care facilities, as well as clinics in Campbellton, Edmundson, Fredericton and Saint John for healthcare workers at high risk of COVID-19 exposure, including those working within regional health facilities, the Extra-Mural Program, Ambulance New Brunswick, and healthcare workers at First nations communities ● In a press conference on 4 February 2021, Chief Medical Officer Dr. Jennifer Russell stated, "Catching COVID-19 is not your fault and no one should 	<p>approval to have its members trained on giving vaccines, and paramedics would be used later in the roll-out when larger quantities of the vaccine are delivered to the province</p> <ul style="list-style-type: none"> ● Due to the Pfizer-BioNTech vaccine delivery delays, vaccinations for some healthcare workers were postponed to ensure there were enough vaccines for residents in long-term care facilities ● First Nations health directors and community health nurses will begin working with public health to provide the vaccine in First Nation communities <ul style="list-style-type: none"> ○ A clinic in the Madawaska Maliseet First Nation will open the first week of March with clinics in other First Nation communities opening shortly after ● Individuals 85 years of age and older not living in long-term care facilities will be notified by public health where they can get their 	
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		<p>in long-term care facilities, individuals between the ages of 40 and 69 with chronic health conditions, and workers who regularly travel across the boarder</p> <ul style="list-style-type: none"> ○ Phase 3 will include individuals with two or more chronic health conditions, healthcare workers providing indirect patient care, school staff and high school and post-secondary students aged 16 to 24 ● As of 7 March 2021, 38,483 doses have been administered and 12,152 people have been fully vaccinated ● Within the month of March, the province expects to receive 10,000 doses of the Oxford-AstraZeneca vaccine ● Until new changes are made to the vaccine roll-out plan the province is continuing to focus on vaccinating priority groups in Phase 1 ● At a press conference on 5 March 2021, chief medical officer Dr. Jennifer Russell stated 	<p>be ashamed for catching it”, urged citizens not to minimize their symptoms and asked that everyone get tested and not hesitate if they suspect they may have contracted the virus</p> <ul style="list-style-type: none"> ● Chief Medical Officer of Health Dr. Jennifer Russell announced that the province will delay administering the second dose of the vaccine for individuals who are considered to be at a lower risk <ul style="list-style-type: none"> ○ The goal is to get a greater number of vulnerable people vaccinated with a first dose ○ This approach will help lower the number of hospitalizations and make sure the healthcare system is not overwhelmed ○ Dr. Russell stated that although this approach carries some unknowns, it is being used as an acceptable and manageable option 	<p>vaccination in the coming weeks</p> <ul style="list-style-type: none"> ● Details on how and when to register for vaccinations will be announced publicly closer to the start of phase 2 	
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		<p>that the province will follow the National Advisory Council on Immunization's (NACI) recommendation of increasing the delay between the first and second dose to 120 days</p> <ul style="list-style-type: none"> • With this new guidance from the NACI, the goal is to provide at least the first dose to all adult New Brunswickers before the end of June <ul style="list-style-type: none"> ◦ With these changes the province will be revising its roll-out plan in the coming weeks 			
Nova Scotia	<ul style="list-style-type: none"> • Five storage sites have been developed with ultra-low freezers to store vaccines safely <ul style="list-style-type: none"> ◦ Three more cold storage sites will be operational by the end of January 2021 in Amherst, Antigonish and Bridgewater • To ensure the safe transport of the vaccine Dr. Robert Strang stated that preliminary tests were taken to determine the best possible methods for transporting the vaccine to confirm that it remained at a stable temperature 	<ul style="list-style-type: none"> • The Nova Scotia Ministry of Health developed a vaccine-distribution strategy prioritizing groups throughout three phases <ul style="list-style-type: none"> ◦ Phase one will run from January to April 2021 and will include front-line healthcare workers who are closely involved in the COVID-19 response, residents, staff and designated caregivers of long-term care facilities, residents and staff of residential-care facilities, adult 	<ul style="list-style-type: none"> • The Government of Nova Scotia website provides information about the vaccine, how its citizens are being prioritized and the three-phase distribution program <ul style="list-style-type: none"> ◦ The website links to the vaccines and treatments for COVID-19 page on the Government of Canada's website • The Government of Nova Scotia's YouTube channel provides regular updates on the pandemic as well as 	<ul style="list-style-type: none"> • As of the week of 8 February 2021, four healthcare worker clinics were opened in Halifax, Truro, Kemptville and Yarmouth • During the week of 22 February 2021, three more clinics were opened at St. Martha's Regional Hospital, South Shore Regional Hospital and Cumberland Regional Hospital to vaccinate healthcare workers • Within the month of March 2021, clinics in New Minas, Sydney and 	<ul style="list-style-type: none"> • In collaboration with the Dalhousie University Faculty of Medicine, the Government of Nova Scotia posted on Twitter a short video debunking the myth, "We don't know what's in these vaccines" • As of 22 February 2021, 27,521 doses have been administered <ul style="list-style-type: none"> ◦ From that total 11,533 are second doses

	<ul style="list-style-type: none"> • During the first phase of the vaccination roll-out, the province will be testing several distribution methods so that when larger amounts of the vaccine are delivered in phase two, the province will have established an efficient delivery method <ul style="list-style-type: none"> ○ The objective is to deliver approximately 10,000 doses per day • In addition to the federal government's efforts to secure low headspace syringes, the province is also working independently to procure the syringes • The province has 10 cold storage sites from which eight clinics across the province receive the vaccines on a rotational basis 	<p>residential centres and regional rehabilitation centres, seniors living in the community who are 75 years of age or older, healthcare workers (doctors, paramedics) who are in direct contact with patients</p> <ul style="list-style-type: none"> ○ Phase two will begin in May 2021 and will include remaining healthcare workers and essential workers ○ Phase three will begin in summer 2021 and will include individuals who were not prioritized in phase one or two <ul style="list-style-type: none"> • Premier Iain Rankin announced at a press conference that all adults could have at least the first dose by the end of June 2021 • As of 9 March 2021, 40,231 doses have been administered <ul style="list-style-type: none"> ○ From that total 25,689 are first doses and 14,542 are second doses • As of 9 March 2021, 19,422 first doses have been administered to healthcare workers and 	<p>allocation and distribution of vaccines</p> <ul style="list-style-type: none"> • In collaboration with the Dalhousie University Faculty of Medicine, the Government of Nova Scotia posted on Twitter a short video debunking the myth, "We don't know what's in these vaccines" • Dr. Strang reiterated the provinces mantra, "When in doubt wear a mask" • When prototype community clinics open, a letter will be sent in the mail to eligible individuals providing details about how they can book their vaccination appointment • Information about the Oxford-AstraZeneca vaccine has been included on the Government of Nova Scotia website 	<p>Truro will open on 8 March 2021, clinics in Antigonish, Halifax and Yarmouth will open on 15 March 2021, and clinics in Amherst, Bridgewater and Dartmouth will open on 22 March 2021</p> <ul style="list-style-type: none"> • Future prototype clinics will also be established in pharmacy settings and Mi'kmaq communities <ul style="list-style-type: none"> ○ Four pharmacy prototype clinics are planned to begin in early March in Halifax county, Cumberland county, Shelburne county and Inverness county • Starting the week of March 1st, the first of 13 vaccination clinics in Mi'kmaq communities across the province will open at Millbrook First Nations <ul style="list-style-type: none"> ○ Mi'kmaq elders will receive their vaccinations starting the week of March 1st • All First Nations clinics will be managed by the health centres located within each reserve 	<ul style="list-style-type: none"> • As of 16 February 2021, 11,059 first doses have been administered to healthcare workers and 7,643 have received their second dose • As of 16 February 2021, 2,268 first doses have been administered to long-term care residents and 496 have received their second dose • Dr. Strang asked that individuals who have received the vaccine to continue to follow all public health measures
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		<p>12,433 have received their second dose</p> <ul style="list-style-type: none"> • As of 9 March 2021, 3,386 first doses have been administered to long-term care residents and 1,948 have received their second dose • The province will receive 13,000 doses of Oxford-AstraZeneca vaccine the week of 8 March 2021 • The Oxford-AstraZeneca vaccine will be administered to individuals aged 63 and 64 starting 20 March 2021 		<ul style="list-style-type: none"> ○ The health-centre staff will administer the vaccination • Dr. Robert Strang, Nova Scotia's Chief Medical Officer of health stated that the province is looking into different models of community-based clinics to ensure the timely delivery of the vaccine • The first prototype community clinic will take place on 22 February 2021, at the IWK Health Centre in Halifax <ul style="list-style-type: none"> ○ The clinic will vaccinate Nova Scotians who are 80 years of age and older who have been randomly selected by postal code that is within an hour distance of the clinic site ○ 1,000 doses have been set aside for the prototype clinic • The first community-based clinic will open on 1 March 2021 at the IWK Health Centre in Halifax where individuals over the age of 80 years not living in 	
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				<p>long-term care facilities will receive their vaccination</p> <ul style="list-style-type: none"> ○ Premiere Stephen McNeil announced that 10 clinics across the province will open for these seniors to get vaccinated over the next several weeks ● Letters from MSI will be sent in the mail to the elderly advising them on how to schedule an appointment to be vaccinated <ul style="list-style-type: none"> ○ Bookings will be made available one week prior to the start of a clinic ● Appointments can be booked online at novascotia.ca/vaccination or through a toll-free number which will be provided in the letter <ul style="list-style-type: none"> ○ Those who book online will receive email reminders of their appointment date closer to their scheduled vaccination ● All vaccine clinics and pharmacy appointments are made through the Government of Nova Scotia website 	
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				<ul style="list-style-type: none"> • Dr. Strang asked that individuals who have received the vaccine to continue to follow all public-health measures • For individuals worried about attending large clinics the province is working with pharmacies and physician partners to run smaller clinics. <ul style="list-style-type: none"> ○ The start of these clinics is still unknown • When low headspace syringes are delivered to the province, special training to use the syringes will be provided to healthcare workers administering the vaccine to get the extra vaccine from the vials • The Nova Scotia College of Nursing put out a call for retired nurses to help administer COVID-19 vaccines <ul style="list-style-type: none"> ○ Conditional licences reinstate retired nurses to work in COVID-19 vaccination clinics, assessment clinics, and assist with contact tracing and/or client follow-up • The Oxford-AstraZeneca vaccine will be handled by the 	
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				Pharmacy Association of Nova Scotia and Doctors Nova Scotia <ul style="list-style-type: none"> o 25 pharmacies and family-physician clinics will be offering vaccinations, and their locations are posted on the Government of Nova Scotia website 	
Prince Edward Island	<ul style="list-style-type: none"> • Low headspace syringes will be delivered to the province the week of February 22nd so that the sixth dose can be drawn from the Pfizer-BioNTech vials 	<ul style="list-style-type: none"> • The Prince Edward Island Ministry of Health developed its COVID-19 vaccination distribution policy by identifying and prioritizing key populations • A three-phase plan has been put in place <ul style="list-style-type: none"> o Phase one will run between December 2020 and March 2021, and will include residents and staff of long-term and community care, healthcare workers at higher risk of COVID-19 exposure, seniors 80 years of age and older, Indigenous adults, residents and staff of other residential or shared-living facilities, and truck drivers and 	<ul style="list-style-type: none"> • Information for the general public about the vaccination status, safety of the vaccine and the vaccination roll-out are provided on the Government of Prince Edward Island website <ul style="list-style-type: none"> o Information sheets regarding the Pfizer-BioNTech, Moderna, and Oxford-AstraZeneca vaccines can be downloaded from the Prince Edward Island Government website • Details on who is eligible to book an appointment during each phase of the vaccine roll-out is available on the Government of Prince Edward Island website • A telephone number was made available to 	<ul style="list-style-type: none"> • Public-health nurses will administer the vaccine to individuals in phase one • In a press conference, Marion Dowling (Executive Director for Health PEI) stated that vaccine clinics will open on 22 February 2021, for Islanders 80 years of age and older not living in long-term care facilities, commercial truck drivers and rotational workers <ul style="list-style-type: none"> o Clinics will be located in O'Leary, Summerside, Charlottetown and Montague • Homecare nurses will begin assisting with vaccinations at clinics for Islanders over the age of 80 who do not live in long-term care facilities • Beginning on 4 February 2021, Islanders 80 years 	<ul style="list-style-type: none"> • A telephone number was made available to the general public to answer any health-related questions about COVID-19 • In a weekly press conference, Dr. Heather Morrison urged all citizens to download the COVID Alert App from the Government of Prince Edward Island website to help prevent outbreaks • Vaccination status is updated twice weekly on the Government of Prince Edward Island website

		<p>other rotational workers</p> <ul style="list-style-type: none"> ○ Phase two will take place between April 2021 and June 2021 and will include anyone in priority groups remaining from phase one, healthcare workers not included in phase one, seniors 70 years of age and older, and essential workers ○ Phase three will take place in summer and fall 2021 and will include anyone in priority groups remaining from phase two and the general public ● After residents in long-term care were fully vaccinated, the focus of the rollout shifted to providing second doses to individuals in community care by 26 February 2021 ● As of 6 March 2021, 14,189 doses have been administered <ul style="list-style-type: none"> ○ From that total, 8,675 are first doses and 5,514 are second doses 	<p>the general public to answer any health-related questions about COVID-19</p>	<p>and older not living in long-term care facilities can book an appointment to receive their vaccination</p> <ul style="list-style-type: none"> ● Starting 4 February 2021, commercial truck drivers and rotational workers will receive phone calls from Health PEI to set up appointments to be vaccinated ● Pharmacists have been legislated to administer vaccines so that they can assist with mass vaccinations in future phases ● Community-health nurses will begin running clinics at Lennox Island First Nation at the end of February and beginning of March 2021 ● Information for seniors 80 years and older to schedule their vaccination is posted on the Prince Edward Island website <ul style="list-style-type: none"> ○ Seniors may call a toll-free number or use the online webform to submit their request and receive a phone call from public health to book their appointment 	
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		<p>plant employees, adults between the ages of 18-59 with underlying medical conditions who could be at high risk if infected with COVID-19, non-front-line healthcare workers and non-front-line essential workers</p> <ul style="list-style-type: none"> ○ Phase 3 will take place between summer and September 2021 and will include all individuals requiring a second dose and youth 15 years of age and older when an appropriate vaccine for this age category becomes available 		<ul style="list-style-type: none"> • Individuals aged 18-29 who qualify for the Oxford-AstraZeneca vaccine can book their appointments directly through participating pharmacies 	
Newfoundland and Labrador	<ul style="list-style-type: none"> • The first shipment of Pfizer-BioNTech vaccines arrived on 15 December 2020 • The first shipment of the Pfizer-BioNTech vaccine was sent to Eastern Health Hospital as it has an ultra-low temperature freezer to store the vaccine • Ultra-low freezers will be delivered to the three other hospitals so that the vaccine can be delivered • In a press conference on 9 February 2021, Chief 	<ul style="list-style-type: none"> • The Newfoundland and Labrador Ministry of Health developed a phased approach to administering the vaccine prioritizing specific populations <ul style="list-style-type: none"> ○ Phase one will include healthcare workers with high exposure to COVID-19, residents of long-term care facilities as well as long-term care staff, individuals 85 years of age and older, and 	<ul style="list-style-type: none"> • The COVID-19 immunization plan on the Government of Newfoundland and Labrador website provides information for the general public on the vaccines and vaccine administration and safety <ul style="list-style-type: none"> ○ Information sheets outlining how the Pfizer BioNtech, Moderna and Oxford-AstraZeneca vaccines protect 	<ul style="list-style-type: none"> • The COVID-19 immunization will be run by public-health nurses • Starting January 2021, vaccinations were administered in long-term care homes and communities along the Labrador coast <ul style="list-style-type: none"> ○ By 8 February 2021, all residents living in long-term care facilities in St John's will have received their first dose of the vaccine 	<ul style="list-style-type: none"> • Vaccination after-care information sheets for the Pfizer BioNtech and Moderna vaccines can be downloaded from the Government of Newfoundland and Labrador website <ul style="list-style-type: none"> ○ Attached to each information sheet is an immunization record to be filled out after

	<p>Medical Officer Dr. Janice Fitzgerald announced that the province is working with the federal government to secure low headspace syringes</p> <ul style="list-style-type: none"> • In a news conference on 20 January 2021, Chief Medical Officer Dr. Janice Fitzgerald detailed the distribution of the vaccine when it arrives to the province, stating that once the shipment arrives it is immediately distributed to regional health authority depots and then to communities where public-health nurses deliver the inoculations 	<p>individuals living in remote and/or isolated Indigenous communities</p> <ul style="list-style-type: none"> ○ Phase two will prioritize healthcare workers not included in phase one, residents of long-term care facilities as well as long-term care staff and essential workers ○ Phase three will include the general public • The COVID-19 priority groups page was updated on the Government of Newfoundland and Labrador website outlining how the vaccine could be offered to individuals outside the phase one priority group in an effort to prevent wastage ○ After completing immunizations in a particular area, if it is a risk to relocate the remaining doses, they will be offered to individuals in priority groups that follow phase one • Vaccinations are being administered at Inuit communities in Labrador 	<p>against COVID-19 are linked on the website</p> <ul style="list-style-type: none"> • The COVID-19 priority groups page was updated on the Government of Newfoundland and Labrador website outlining how the vaccine could be offered to individuals outside the phase one priority group in an effort to prevent wastage • Vaccination after-care information sheets for the Pfizer BioNTech and Moderna vaccines can be downloaded from the Government of Newfoundland and Labrador website 	<ul style="list-style-type: none"> • Vaccinations are being administered at Inuit communities in Labrador <ul style="list-style-type: none"> ○ The vaccine is being offered to anyone 17 years of age and older with priority given to healthcare workers and seniors • Vaccine clinics in Phase 1 will be organized by the Regional Health Authority Public Health teams • To ensure a more timely approach to vaccinate a greater number of individuals in Phases 2 and 3, healthcare workers including physicians and pharmacists will assist with administering vaccines <ul style="list-style-type: none"> ○ During this phase mobile clinics will launch in smaller communities and clinics could be set up within large businesses and community-based settings • Individuals in Phase 1 will be contacted directly to schedule their appointments 	<p>receiving the vaccination</p> <ul style="list-style-type: none"> • A question about the safety of the COVID vaccine has been added to the frequently asked questions page on the Government of Newfoundland and Labrador's COVID site. <ul style="list-style-type: none"> ○ The website links to the Government of Canada's website providing more detail about the safety of the vaccines
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		<ul style="list-style-type: none"> ○ The vaccine is being offered to anyone 17 years of age and older with priority given to healthcare workers and seniors ● An update on the priority phases was posted on the province's COVID-19 website stating that details on who is eligible for each phase will be defined clearly once more is known about the number of vaccines and doses that will be available in Phase 2 ● The province provided further detail on priority groups in phases 2 and 3 on the Government of Newfoundland and Labrador website <ul style="list-style-type: none"> ○ Phase 2 will take place from April to June 2021, and will include adults aged 60 and older, adults who identify as First Nation, Inuit or Métis, adults in marginalized populations (e.g., people experiencing homelessness), first responders, front-line healthcare workers not immunized in phase 1, individuals aged 16-59 		<ul style="list-style-type: none"> ● Individuals in Phase 2 will have the opportunity to pre-register in mid-March 2021, through an online registration portal on the Government of Newfoundland and Labrador website, or by calling the COVID-19 vaccination toll-free number 	
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		<p>with medical conditions who could be at high risk if infected from COVID-19, individuals such as truck drivers and rotational workers who travel in and out of the province, and front-line essential workers with direct contact with the public who cannot work from home</p> <ul style="list-style-type: none"> ○ Phase 3 will take place from July to September 2021, and will include anyone in priority groups 1 and 2 who were not vaccinated, and individuals aged 16-59 who have not been vaccinated ● As of 3 March 2021, 24,757 doses have been administered <ul style="list-style-type: none"> ○ From that total, 16,330 are first doses and 6,112 are second doses ● On 9 March 2021, 7,000 doses of Oxford-AstraZeneca vaccine arrived in the province ● In a news conference, Chief Medical Officer of 			
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		<p>Health Dr. Janice Fitzgerald stated that the province will follow the National Advisory Council on Immunization's recommendation of increasing the delay between the first and second dose to four months</p>			
Yukon	<ul style="list-style-type: none"> • Vaccines will be distributed to the Yukon and across Canada by the Immunization National Operation Centre for COVID-19 <ul style="list-style-type: none"> ○ The Government of Yukon has partnered with experts under the Joint Task Force North to plan for vaccine distribution 	<ul style="list-style-type: none"> • The Yukon COVID-19 Vaccine Strategy aims to vaccinate 75% of the adult population within the first three months of 2021 • The Government of Yukon will work closely with First Nation governments, NGOs, community leaders, and community health centres to reach all Yukoners • The flu clinic in Whitehorse will be used as a template for COVID-19 vaccine administration • Priority will be given to four key populations, including: <ul style="list-style-type: none"> ○ Staff and individuals residing in group-living settings for vulnerable groups or older adults 	<ul style="list-style-type: none"> • The Government of Yukon will provide accurate and updated information to Yukoners through news conferences and Yukon.ca updates <ul style="list-style-type: none"> ○ A public awareness campaign will also be coordinated through radio, news and social media • A public website discussing vaccine progress in the Yukon is available to residents 	<ul style="list-style-type: none"> • The Government of Yukon's Department of Health and Social Services is the designated authority in delivering vaccines to Yukoners <ul style="list-style-type: none"> ○ Public and primary-care nurses, community health-centre staff, Health and Social Services' Emergency Preparedness team, Community Services' Emergency Measures Organization, Yukon Hospital Corporation staff and other personnel will be central to administering the vaccine • As of 27 January 2020, individuals without Yukon healthcare cards must now present another valid photo ID 	<ul style="list-style-type: none"> • Panorama, the territory-wide electronic information system, will be used to monitor timing for a second dose, identify vaccine uptake and record adverse vaccine reactions

		<ul style="list-style-type: none"> ○ Individuals working in healthcare settings and personal-support workers ○ Older adults not living in group settings ○ Individuals, specifically those who are Indigenous, living in rural or remote communities ● Vaccine-distribution plans are in the process of development for individuals over age 18 who do not belong to priority groups ● As of 27 January 2020, individuals without Yukon healthcare cards must now present another valid photo ID and one proof of residency document to receive vaccination ● Residents of B.C. are also eligible to receive vaccinations in Yukon if they typically receive healthcare in the territory ● Starting 1 March 2021, all residents of the Yukon will be eligible to receive the COVID-19 vaccine ● All Yukon residents are expected to be vaccinated by April 2021 		<p>and one proof of residency document to receive vaccination</p> <ul style="list-style-type: none"> ● Vaccine clinics will be established at centralized locations for COVID-19 vaccine roll-out <ul style="list-style-type: none"> ○ Approximately 14,000 Yukoners are aimed to be vaccinated in a six-week period ○ Screeners and greeters will be present at all COVID-19 vaccine clinics ○ Mobile clinics will be used to reach individuals in specific remote and rural communities across the Yukon ○ Vaccines will be directly administered to residents in long-term care homes and to those who are homebound ● As of 27 January 2020, there are 14 mobile clinics scheduled to visit rural and remote communities across the Yukon for vaccine administration ● Mobile vaccine clinics are scheduled to visit communities for the third time to ensure that 	
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		<ul style="list-style-type: none"> On 10 December 2020, the Minister of Health announced that 50,400 doses of the Moderna vaccine will be received by March 2021 <ul style="list-style-type: none"> 75% of the population in Yukon is expected to be vaccinated during this time period As of 10 March 2021, 24,412 doses have been administered <ul style="list-style-type: none"> This includes 15,572 first doses and 8,840 second doses 71% of West Yukon, 44% of Central Yukon, 55% of Southeast Yukon and 38% of Whitehorse have been vaccinated 		<p>all residents have a chance to be vaccinated</p> <ul style="list-style-type: none"> As of 12 February 2021, all individuals living in long-term care homes, as well as long-term care staff, have received the full immunization <ul style="list-style-type: none"> All home-bound people have also been fully vaccinated As of 12 February 2021, individuals in rural communities are scheduled to receive the second vaccine dose in the upcoming weeks A public website allows for residents to self-schedule appointments for the first and second vaccine doses 	
Northwest Territories	<ul style="list-style-type: none"> The Government of Northwest Territories will be working in joint partnership with the National Operation Centre and Joint Task Force North to plan for vaccine delivery Central points in Northwest Territories have been established to distribute the vaccine across the territory 	<ul style="list-style-type: none"> A phased approach will be used to administer the vaccine and priority will be given to high-risk groups including individuals who: <ul style="list-style-type: none"> are seniors have chronic conditions or co-morbidities reside in remote communities have a high risk of transmitting or 	<ul style="list-style-type: none"> Residents of Northwest Territories will be provided with updates to the vaccine strategy, evidence or recommendations through multiple plain-language materials <ul style="list-style-type: none"> An update of vaccine information and allocation in the Northwest Territories will be posted on a weekly basis 	<ul style="list-style-type: none"> Mobile-vaccine clinics comprised of eight healthcare workers and support staff will be sent to all 33 communities across Northwest Territories to assist local health providers with vaccine administration <ul style="list-style-type: none"> Mobile clinics will stay in the communities as long as needed and will return for the second dose 	<ul style="list-style-type: none"> The territory will continue to use previously established monitoring and reporting systems to keep track of vaccine delivery and administration All information is submitted to the Chief Public Health Officer of Northwest Territories before

		<p>contracting a severe case of COVID-19</p> <ul style="list-style-type: none"> ○ are residents of Northwest Territories but work outside the territory frequently ● As of 19 February 2021, first doses became available to expanded priority groups, including: <ul style="list-style-type: none"> ○ People 18 years or older who have one or more specified chronic condition ○ People 18 years or older who are immunosuppressed ○ People 18 years or older who have a BMI of 40 or higher ○ People older than 60 years of age ○ People 18 years or older who are mine workers, Medevac pilots, winter road support staff, Canadian Armed Forces, taxi drivers, and isolation centre staff ○ People 18 years or older with intellectual or physical disabilities ○ People 18 years or older who are primary caregivers with a high 	<ul style="list-style-type: none"> ● Local health personnel will be made available to community residents to answer questions about the vaccine before mobile-vaccine clinics arrive <ul style="list-style-type: none"> ○ A qualified health professional will also connect with local leadership to provide up-to-date and reliable information, as well as to answer questions ● Interpreters and translators will be available to provide accessible information in Indigenous languages ● A website is available to residents of NWT to access information about the Moderna vaccine, the vaccination schedule, and to book appointments online 	<ul style="list-style-type: none"> ● All healthcare personnel across Northwest Territories must complete the Education Program for Immunization Competencies (EPIC) in order to administer the Moderna vaccine ● Healthcare providers are also required to participate in sessions about the historical experiences of Indigenous communities with communicable diseases, and strategies to provide culturally appropriate care ● Social-distancing precautions will be implemented at all clinics ● As of 10 March 2021, the Government of NWT is also exploring the possible implementation of vaccine passports to allow residents to travel easily 	<p>being forwarded to the Public Health Agency of Canada</p> <ul style="list-style-type: none"> ● The Canadian Vaccine Monitoring System will be used to share and exchange information with other jurisdictions on adverse vaccine events ●
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		<p>risk for contracting COVID-19</p> <ul style="list-style-type: none"> ○ People 18 years of older travelling outside of NWT ○ People 18 years or older with approval ● The Government of Northwest Territories aims to work alongside Indigenous governments, local healthcare providers and community leaders to create a culturally appropriate vaccine-distribution strategy, specifically for Indigenous people, and to design vaccine clinics that meet community needs ● As of 9 February 2021, NWT has received the third shipment of the 4,700 doses of Moderna vaccine allocated and the fourth shipment is expected during the first week of March 2021 ● As of 10 March 2021, 17,000 first doses and 11,000 second doses have been administered <ul style="list-style-type: none"> ○ 75% of the adult population is expected to be vaccinated by March 2021 			
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		<ul style="list-style-type: none"> ○ Nearly 50% of NWT's adult population has been vaccinated with at least the first dose ○ As of 8 January 2021, all long-term care residents and staff across Northwest Territories have been vaccinated and second vaccine doses have been administered to long-term care residents and staff across the territory starting 28 January 2021 ● As of 5 March 2021, additional priority groups have been added for residents in Yellowknife, Hay River and Inuvik, including: <ul style="list-style-type: none"> ○ Yellowknife residents 50 years or older ○ Residents in Inuvik who are 18 or older ○ Residents in Hay River who are 18 or older ○ Residents in the aforementioned communities who are 18 years or older and work in direct contact with the public as front-line workers (i.e., in schools, day cares, hotels, grocery stores, 			
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		drug stores, banks, libraries, postal service, liquor stores, gas stations, convenience stores, customer service agents at airports, and media personnel)			
Nunavut	<ul style="list-style-type: none"> As of 4 March 2021, Nunavut has received 26,000 doses of the Moderna vaccine <ul style="list-style-type: none"> Shipment delays have pushed back the vaccination schedule into April 2021 38,000 doses are expected to be received by Nunavut by mid-March 2021 	<ul style="list-style-type: none"> Priority will be given to elders 65 years or older and individuals living in shelters 75% of the total territorial population is expected to be vaccinated by March 2021 As of 15 February 2021, other priority groups eligible for first and second doses include those over 60 years, frontline healthcare workers, first responders, medevac flight crews, group-home residents and staff, and individuals at the Akausisarvik Mental Health Treatment Centre and correctional facilities If individuals miss their first dose and do not belong to the community scheduled to receive doses, they will be asked to wait until the next 	<ul style="list-style-type: none"> The Government of Nunavut has hosted some public sessions since announcing the COVID-19 vaccine to answer questions from the public Residents in central Nunavut who choose to get vaccinated will also be entered to win cash prizes as an avenue to encourage vaccination rates Public officials in Nunavut have also been outspoken in press conferences to discourage vaccine hesitancy 	<ul style="list-style-type: none"> The Department of Health will carry out a mass-immunization program to vaccinate individuals living in Nunavut Elders' facility clinics will be created to vaccinate seniors In these clinics, health staff will go directly to the site to administer vaccines Second dose vaccine clinics will be available starting February 1st and February 8th to residents of select regions Individuals must book an appointment with their local health centre in order to be vaccinated Individuals over the age of 18 who have missed the first dose of the vaccine must travel to Arviat for vaccination Individuals are required to present a Nunavut healthcare card or other 	<ul style="list-style-type: none"> Patients will be tracked after receiving their first dose of the vaccine to ensure they are notified when they will be receiving the second dose As of early February, 18,000 doses of the vaccine have been received As of 14 February 2021, over 6,200 vaccines have been administered

		<p>supply of vaccines is shipped to Nunavut</p> <ul style="list-style-type: none"> • Individuals over the age of 18 who have missed the first dose of the vaccine must travel to Arviat for vaccination • As of 9 March 2021, 9,426 first doses and 5,517 second doses have been administered • The Government of Nunavut will not be releasing specific details about the level of vaccination in communities to prevent stigma • As of 10 March 2021, residents 18 years and older in Nunavut became eligible to schedule a vaccination 		<p>valid IDs to prove residency before receiving a dose</p> <ul style="list-style-type: none"> • Reminders will be sent by local healthcare centres to patients to remind them of their second dose • Individuals must receive the second dose of the COVID-19 vaccine in the same location as where they received the first dose 	
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Appendix 5: Documents excluded at the final stages of reviewing

Type of document	Hyperlinked title
Guidelines developed using a robust process (e.g., GRADE)	None identified
Full systematic reviews	None identified
Rapid reviews	None identified
Guidance developed using some type of evidence synthesis and/or expert opinion	None identified
Protocols for reviews that are underway	None identified
Titles/questions for reviews that are being planned	None identified
Single studies that provide additional insight	Allergic reactions to COVID-19 vaccines: Evidence and practice-oriented approach BNT162b2 mRNA COVID-19 vaccine in a nationwide mass vaccination setting Coronavirus disease (COVID-19) vaccination associated axillary adenopathy: Imaging findings and follow-up recommendations in 23 women Systematic delineation of media polarity on COVID-19 vaccines in Africa using computational linguistic models Exploratory analysis of immunization records highlights decreased SARS-CoV-2 rates in individuals with recent non-COVID-19 vaccinations COVID-19 vaccine response in pregnant and lactating women: A cohort study A study on the effects of containment policies and vaccination on the spread of SARS-CoV-2 COVID-19 vaccine-related local FDG uptake COVID-19 vaccination manifesting as incidental lymph nodal uptake on 18F-FDG PET/CT Modelled optimization of SARS-Cov-2 vaccine distribution: An evaluation of second dose deferral spacing of 6, 12, and 24 weeks Prior COVID-19 infection and antibody response to single versus double dose mRNA SARS-CoV-2 vaccination Dynamic optimization of COVID-19 vaccine prioritization in the context of limited supply Economic benefits of COVID-19 screening tests with a vaccine rollout Market design to accelerate COVID-19 vaccine supply The benefits of vaccinating with the first available COVID-19 coronavirus vaccine Comparison of COVID-19 vaccine prioritization strategies in the United States Non-pharmaceutical interventions and inoculation rate shape SARS-COV-2 vaccination campaign success Neutralization heterogeneity of United Kingdom and South-African SARS-CoV-2 variants in BNT162b2-vaccinated or convalescent COVID-19 healthcare workers

Type of document	Hyperlinked title
	Effect monitoring and insights from vaccination program of healthcare workforce from a tertiary level hospital in India against SARS-CoV-2 Experience of COVID-19 vaccination of healthcare workers in a hospital setting Second-wave dynamics of COVID-19: Impact of behavioral changes, immunity loss, new strains, and vaccination Willingness to pay for a COVID-19 vaccine Optimal vaccine strategy to control COVID-19 pandemic in middle-income countries: Modelling case study of Thailand

Wilson MG, Bain T, Wang Q, Al-Khateeb S, Bhuiya A, Alam S, DeMaio P, Gauvin FP, Ahmad A, Drakos A, Sharma K, Whitelaw S, Lavis JN. COVID-19 living evidence profile #1 (version 1.5): What is known about anticipated COVID-19 vaccine roll-out elements? Hamilton: McMaster Health Forum, 16 March 2021.

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