Appendices for COVID-19 Living Evidence Profile #1

(Version 7: 28 May 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 (defined as providing recommendations or other normative statements derived from an explicit process for evidence synthesis);
2) full systematic reviews;
3) rapid reviews;
4) protocols for reviews or rapid reviews that are underway;
5) titles/questions for reviews that are being planned; and
6) 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 (Qi Wang and Micayla Matthews) independently appraised the quality of the guidelines we identified as being highly relevant using AGREE II. We used three domains in the tool (stakeholder involvement, rigour of development and editorial independence) and classified guidelines as high quality if they were scored as 60% or higher across each of these domains.

Two reviewers (Malvika Agarwal and Hannah Whitelaw) 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 highly relevant 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	• Allocating vaccines and ancillary supplies equitably
	  ○ Allocation rules
	  ▪ People for whom vaccine safety and effectiveness has not yet been established
		• The Canadian Rheumatology Association (CRA) guideline panel suggests using COVID-19 vaccination in persons with autoimmune rheumatic diseases (ARDs)
		• The panel unanimously agreed that for most patients, the potential benefits outweigh the potential harms in people with ARDs
		• The recommendation was conditional due to low certainty of evidence about the effects of the Pfizer-BioNTech, Moderna and Johnson and Johnson vaccines, and very low certainty for AstraZeneca in people with ARDs
		Source (high-quality AGREE II rating; Canadian Rheumatology Association)
			Published 15 May 2021

	• Communicating vaccine-allocation plans and the safety and effectiveness of vaccines
	  ○ Target of intervention
	  ○ Delivery of intervention
	  ○ Content of messaging
	• Surveillance, monitoring and evaluation, and reporting
	  ○ Documenting adverse events and follow-up
		• This document provides interim recommendations for the use of the COVID-19 BIBP vaccine, including information on the vaccine itself and its use, as well as a summary of the current available evidence of its the safety in specific populations
		• This guidance highlights the importance of effective communication regarding the mechanism of action, efficacy, and safety of the vaccine, as well as any adverse side-effects of its use in specific populations. The authors highlight that this information should be shared in a culturally and linguistically acceptable manner through community engagement and communication strategies involving trusted community leaders
		• The document also stresses that during times where the supply of vaccines is limited, jurisdictions may choose to follow the WHO Prioritization Roadmap and WHO Values Framework to assist them in determining their prioritization of target groups
			Published 7 May 2021

Type of document	Relevance to question	Key findings	Recency or status
		• Finally, recommendations are made as to the safety surveillance and monitoring of the vaccine among populations Source (high-quality AGREE II rating; World Health Organization)	
	• Surveillance, monitoring and evaluation, and reporting ○ Documenting adverse events and follow-up	• As of 21 April 2021, around 7.98 million doses of the Janssen COVID-19 vaccine had been administered in the United States, and between the period of 2 March and 21 April 2021, the national vaccine monitoring system known as the Vaccine Adverse Event Reporting System (VAERS) had received 15 reports of thrombosis with thrombocytopenia syndrome (TTS) after Janssen COVID-19 vaccination • In conducting an evaluation of the evidence to support updated interim recommendations for the use of the Janssen COVID-19 vaccine in the United States, the Advisory Committee on Immunization Practices (ACIP) reviewed a risk-benefit assessment for both population- and individual-level risks of TTS events after vaccination • The summary of evidence showed that the single-dose Janssen COVID-19 vaccine is a highly effective and flexible prevention tool that can be useful in communities with increasing COVID-19 incidence and emerging variants, and limiting its usage to specific populations could reduce TTS cases • Based on the risk-benefit assessment that if the Janssen COVID-19 vaccine were no longer available then excess COVID-19 cases and deaths could occur, the ACIP reaffirmed its interim recommendation for the use of the Janssen COVID-19 vaccine in all persons aged 18 years and over • The ACIP emphasized the importance of providing education for vaccination providers and the public about the risk for TTS and availability of other	Published 30 April 2021

Type of document	Relevance to question	Key findings	Recency or status
		COVID-19 vaccine options, particularly for women aged 18-49 years • The Food and Drug Administration (FDA) has added a warning to the Janssen COVID-19 vaccine and fact sheets regarding rare clotting events that have been reported among vaccine recipients, and patient education and communication materials have been updated to ensure that patients are aware of the increased risk of TTC (i.e., for women under age 50) • The Centers for Disease Control and Prevention (CDC) and FDA will continue to closely monitor reports of TTS after administration of the Janssen COVID-19 vaccine, and additional data will be brought to the ACIP for regularly updated recommendations • The FDA continues its requirement for vaccine providers to report vaccination administration errors, serious adverse events, cases of multi-system inflammatory syndrome, and cases of COVID-19 that result in hospitalization or death after administration of a COVID-19 vaccine to VAERS Source (low-quality AGREE II rating; Advisory Committee on Immunization Practices, United States)	
	• Allocating vaccines and ancillary supplies equitably o Allocation rules ▪ People for whom vaccine safety and effectiveness has not yet been established	• This guideline was updated from when it was first published in December 2020 • Women under age 50, including pregnant individuals, can receive any available FDA-authorized COVID-19 vaccine, and should be aware of the rare risk of TTS (thrombosis with thrombocytopenia syndrome) after receipt of the Janssen COVID-19 vaccine Source (low-quality AGREE II rating; American College of Obstetricians and Gynecologists)	Last updated 28 April 2021
	• Administering vaccines in ways that optimize timely uptake o With what partnerships to reach early populations of focus	• This WHO and UNICEF guideline outlines the potential roles and opportunities for community health workers in national deployment and vaccination plans for COVID-19	Published 26 April 2021

Type of document	Relevance to question	Key findings	Recency or status
		• Community health workers are often involved in routine vaccination programs, have knowledge of "last mile" health-service delivery, and hold positions of trust within communities which enables them to play key roles in COVID-19 vaccine roll-out o Community health workers are well-placed and have knowledge to aid in national and sub-national planning committees that plan and coordinate COVID-19 vaccine distribution o They can identify and connect with target populations for vaccination o Community health workers can understand beliefs and barriers to vaccination in individuals and communities and address these barriers with evidence-based strategies to promote uptake o They can mobilize community members (for example by arranging transportation) and guiding them to sites of vaccine administration o Community health workers can aid in tracking vaccine roll-out and following up with patients • Involving community health workers in COVID-19 vaccination efforts requires appropriate supports from health systems o Policies regarding scopes of practices and remuneration mechanisms may need to be altered, and community health workers may need to be integrated in new systems o The costs of engaging community health workers need to be calculated and budgeted for without sacrificing other essential health services o Workers need to be supported with competency-based education and learning programs that are tailored to the local context o Community health workers need to be accurately accounted for in health information systems and provided with priority access for vaccination as essential health workers	

Type of document	Relevance to question	Key findings	Recency or status
		○ Workers will need to be provided with materials and training for infection prevention and control ○ Appropriate health-system supports can also enable the COVID-19 vaccination campaign to strengthen health systems broadly – and in particular the role of community health workers in health systems Source (low-quality AGREE II rating; World Health Organization and UNICEF)	
	• Securing and distributing a reliable supply of vaccines and ancillary supplies ○ Storage and handling within country • Allocating vaccines and ancillary supplies equitably ○ Allocation rules ○ Dosing rules • Communicating vaccine-allocation plans and the safety and effectiveness of vaccines ○ Target of intervention ○ Delivery of intervention ○ Content of messaging • Administering vaccines in ways that optimize timely uptake ○ With what post-vaccination observation period and what physical distancing, personal protective equipment, sanitation and other public-health measures ○ With what reporting requirements ○ With what safety-monitoring requirements	• The World Health Organization published interim recommendations for use of the ChAdOx1-S [recombinant] vaccine against COVID-19 (AstraZeneca COVID-19 vaccine AZD1222, SII Covishield, SK Bioscience) • The recommendations cover considerations related to: ○ Intended use (adults 18 years of age and older) ○ Administration ○ Booster doses ○ Interchangeability with other COVID-19 vaccines ○ Co-administration with other vaccines ○ Contraindications ○ Precautions ○ Vaccination of specific populations ○ Special settings ○ Other considerations such as SARS-CoV 2 variants, community engagement, effective communication, and legitimacy and vaccination logistics Source (high-quality AGREE II rating; World Health Organization)	Last updated 21 April 2021
	• Administering vaccines in ways that optimize timely uptake ○ With what broader, complementary health interventions	• This document provides interim guidance on the risks for fully vaccinated individuals to develop or transmit infection that will give rise to severe COVID-19 disease in the context of the current epidemiological and vaccine coverage situation in the EU/EEA	Last updated 21 April 2021

Type of document	Relevance to question	Key findings	Recency or status

		• Based on the current assessed risks, the non-pharmaceutical interventions (NPIs) could be lifted in the following specific situations:
		  ○ When fully vaccinated individuals meet other fully vaccinated individuals (very low/low risk), physical distancing and the wearing of face masks can be relaxed
		  ○ When unvaccinated individuals meet fully vaccinated individuals, physical distancing and the wearing of face masks can be relaxed if there are no risk factors for severe disease or lower vaccine effectiveness in anyone present (e.g., older age, immunosuppression, other underlying conditions)
		  ○ Health authorities may consider classifying fully vaccinated contacts who have been exposed to a confirmed case as low-risk contacts based on a case-by-case risk assessment
		  ○ Requirements for testing and quarantine of travellers and regular testing at workplaces can be waived or modified for fully vaccinated individuals as long as there is no or very low-level circulation of immune escape variants (in the community in the country of origin)
		  ○ In the current epidemiological context in the EU/EEA, in public spaces and in large gatherings, including during travel, NPIs should be maintained irrespective of the vaccination status of the individuals
		Source (low-quality AGREE II rating; European Centre for Disease Prevention and Control)	

	• Allocating vaccines and ancillary supplies equitably
	  ○ Allocation rules
	  ▪ People for whom vaccine safety and effectiveness has not yet been established
	• Administering vaccines in ways that optimize timely uptake
		• These guidelines provide recommendations for intramuscular COVID-19 vaccination in patients with hemophilia that were developed using the Delphi method with a committee of 16 hemophilia experts
		• Hemophilia is not a contraindication for a SARS-COV-2 vaccination (100% agreement)
			Published 15 April 2021

Type of document	Relevance to question	Key findings	Recency or status
	○ With what post-vaccination observation period and what physical distancing, personal protective equipment, sanitation and other public-health measures	• The smallest needle size available should be used for injection following manufacturer instructions (97.2%) • Patients with severe or moderate hemophilia and patients with inhibitors should receive prophylactic replacement therapy prior to intramuscular vaccination • In the event of clinically relevant injection-site hematoma, patients should receive replacement therapy until symptoms disappear (97.1%) • Patients should receive both injections of the vaccine as approved, unless serious side-effects prohibit further application after the first injection. A hematoma after the first injection is not a contraindication for the second injection (97.1%) • The document contains other recommendations related to administration of the vaccine, prophylaxis prior to vaccination, treatment of bleeding complications, treatment of non-bleeding complications, and additional considerations in minimally pretreated patients Source (low-quality AGREE II rating; Hemophilia Board of the German, Austrian, Swiss Society on Thrombosis Hemostasis Research)	
	• Allocating vaccines and ancillary supplies equitably ○ Allocation rules ▪ People for whom vaccine safety and effectiveness has not yet been established	• This document provides recommendations on the appropriateness for SARS-CoV-2 vaccination for otolaryngologist and head and neck surgeons in case of pregnancy, breastfeeding, or childbearing potential • Seven statements reached consensus using a modified Delphi protocol: ○ Otolaryngology and head and neck surgery represent specialties at high risk of SARS-CoV2 infection ○ Although preventive measures and use of full personal protective equipment has been demonstrated to prevent SARS-CoV2 infection, due to environmental, behavioural, and practical	Published 15 April 2021

Type of document	Relevance to question	Key findings	Recency or status
		contingencies, the specialty-related risk of infection can be minimized but not completely removed o Though the recently developed SARS-CoV2 mRNA vaccines do not seem to show a risk profile for complication for the mother–baby dyad during pregnancy and breastfeeding, we have no experimental data in this population on which no trial has been conducted and no long-term evaluation is available o All pregnant, breastfeeding, or fertile female otolaryngologists and head and neck surgeons considering a COVID-19 vaccine should have access to up-to-date information about the safety and efficacy of the vaccine for the mother–baby dyad, including clear information about data and evidence that are not available yet for this specific population o All pregnant otolaryngologists and head and neck surgeons who are active in clinical practice should be given the opportunity to receive the SARS-CoV2 vaccine rapidly, provided the choice is free, individual, and informed and assisted by a health professional to individually assess the benefits and risks according to each case o All pregnant and breastfeeding otolaryngologists and head and neck surgeons who decline vaccination should be strongly stimulated to keep in mind prevention measures such as hand washing, physical distancing, wearing a mask, and using proper personal protection devices o The use of adequate personal protective equipment against SARS-CoV2 remains strongly recommended for otolaryngologist and head and neck surgeons who received the SARSCoV2 vaccine	

Type of document	Relevance to question	Key findings	Recency or status
		Source (low-quality AGREE II rating; International Federation of Otorhinolaryngological Societies research group and Confederation of European Otorhinolaryngology – Head and Neck Surgery board)	

	• Allocating vaccines and ancillary supplies equitably
	  ○ Allocation rules
	  ▪ People at increased risk of severe COVID-19
		• People with cryoglobulinaemic vasculitis (CV) have an increased risk of severe cases of COVID-19 including hospitalization and death
		• The Italian Group for the Study of Cryoglobulaemias developed clinical recommendations for COVID-19 vaccination in patients with CV
		• Guidelines included: 1) treatment with rituximab should be deferred by 2-4 weeks after vaccination; 2) in patients treated with colchicine or hydroxychloroquine, no modification to either immunomodulatory therapy or vaccination timing is required, and methotrexate or intravenous cyclophosphamide should be administered at least one week after each vaccine dose; and 3) there are no safety concerns for COVID-19 vaccination during anti-viral therapy with direct acting anti-virals for eradicating HCV
		• The authors concluded that patients with CV should be included under vaccination priority groups
		Source (low-quality AGREE II rating; Italian Group for the Study of Cryoglobulaemias)
			Published 12 April 2021

Full systematic reviews	• Allocating vaccines and ancillary supplies equitably
	  ○ Allocation rules
	• Communicating vaccine-allocation plans and the safety and effectiveness of vaccines
	  ○ Target of intervention
	  ▪ General public
	• Administering vaccines in ways that optimize timely uptake
	  ○ Where
	  ▪ Community-based health settings
		• The review identified 56 documents about the roll-out of mass-vaccination programs and reported more than 50% reduction in SARS-CoV-2 cases, hospitalization and deaths in addition to low rates of vaccine-related serious adverse events in jurisdictions with good vaccination coverage
		• Most of the documents described vaccine roll-outs to include the following elements:
		  ○ Prioritization of vulnerable groups
		  ○ Converting large public spaces into large vaccination hubs
			Literature last searched 1 March 2021

Type of document	Relevance to question	Key findings	Recency or status
	• Surveillance, monitoring and evaluation, and reporting ○ Infrastructure to enable surveillance, monitoring and evaluation	○ Limited reporting and evaluation of vaccination programs ○ Use of Pfizer-BioNTech, Moderna, and Oxford-AstraZeneca ○ Guidelines for staffing, training, and recruitment requirements • Most vaccination outcomes were reported from Israel and United States • The review described potential challenges to the vaccine roll-out such as addressing shortages, increasing accessibility to vulnerable populations (e.g., refugees, migrants, minority groups, individuals living in conflict areas), cost of procurement and delivery, and addressing vaccine hesitancy (e.g., among younger adults, who identify as female, and black populations) Source (AMSTAR rating 5/9)	

Rapid reviews	• Surveillance, monitoring and evaluation, and reporting
	  ○ Documenting adverse events and follow-up
		• This rapid review presents a table of recommendations from different professional societies on the components of the diagnostic pathway and aspects of treatment for patients with possible thrombotic adverse events following SARS-CoV-2 coronavirus vaccination
		• The guidance provides the following recommendations:
		  ○ Complete blood count should be obtained immediately for patients with suspected thrombosis with thrombocytopenia syndrome, and treatment should not be delayed while waiting for platelet factor results if imaging findings are positive for thrombosis or the patient's symptoms are troublesome
		  ○ A hematology specialist should be consulted if thrombosis with thrombocytopenia syndrome is suspected or confirmed
			Last updated 13 May 2021

Type of document	Relevance to question	Key findings	Recency or status
		○ Direct thrombin inhibitors or direct oral anticoagulants should be used for treatment of suspected thrombosis patients ○ Intravenous immune globulin should be given, especially if the patient's condition is severe ○ Anticoagulant treatment is recommended to continue for at least three months Source (AMSTAR rating 0/9)	
	• Allocating vaccines and ancillary supplies equitably ○ Approaches to developing and adjusting allocation rules	• The National Advisory Committee on Immunization (NACI) in Canada utilized an evidence-informed Equity Matrix which considers biological and social risk factors known as the PROGRESS model to develop vaccine prioritization guidance • This rapid review conducted by the research group that reviewed the risk factors that helped populate the Equity Matrix are providing an updated review of the evidence to determine the magnitude of association between the PROGRESS risk factors and severe outcomes of COVID-19 • The research group found that there is now strong evidence with moderate certainty of a large increase in COVID-19 mortality among people aged 60 to 69 years versus those under 60 years, people having two or more comorbidities versus those with no comorbidities, and for people affected by Down syndrome, Type 1 and 2 diabetes, kidney disease, epilepsy, neutron diseases, multiple sclerosis, or Huntington's disease • Additionally, the rapid review finds that there is probably little-to-no increase in severe outcomes with several cardiovascular and respiratory conditions, and for adult males versus adult females • It is suggested by the research group that future research should focus on risk factors where there is low quality or non-existent evidence such as the rare	Published 26 April 2021

Type of document	Relevance to question	Key findings	Recency or status
		conditions, on the pediatric population, and long-term outcomes Source (AMSTAR rating 7/10)	

	• Surveillance, monitoring and evaluation, and reporting
	  ○ Documenting vaccine-related opinions
	  ○ Identifying sources of vaccine hesitancy
		• This rapid review provides an update on identified and summarized literature on COVID-19 vaccination uptake and attitudes to understand factors associated with vaccine uptake in Canada and globally, with an additional focus on vaccine uptake and evidence on specific populations, such as healthcare workers, LGBTQ+, faith groups, newcomers, parents, women who are pregnant or breastfeeding, people living in rural communities, older adults, people with comorbidities, and people experiencing multiple barriers to health such as homelessness
		• Currently there are 109 studies identified that focus on COVID-19 vaccine uptake and attitudes conducted in Canada on the general public, and in Canada, Australia, New Zealand, the United States and the United Kingdom on healthcare workers, high-risk populations, and other priority populations
		• The findings of vaccine uptake and factors associated with uptake in healthcare workers across studies showed that:
		  ○ The proportion of healthcare workers who accepted and received one-dose of the vaccine ranged from 52% to 92%
		  ○ Vaccine uptake was positively associated with increasing age and male gender
		  ○ Doctors were more likely to get vaccinated compared to nurses and non-clinical healthcare workers
		  ○ Black, Asian, and minority ethnic groups had the lowest uptake rates
		• Vaccine intention studies in Canada showed that:
		  ○ Intention to vaccinate is increasing and currently varies from 66% to 80% in the general public, and 57-80% in healthcare workers
			Published 23 April 2021

Type of document	Relevance to question	Key findings	Recency or status
		○ British Columbia, Quebec and the Atlantic provinces have the highest intentions to vaccinate • Most common factors positively associated with intention to vaccinate in the general public in Canada and globally include male gender, older age, higher education, adequate knowledge or health literacy, trust in experts and government, history of a prior influenza vaccine, higher socio-economic status, and heightened worry or concern about COVID-19 • Intention to vaccinate in Canada and globally varied widely by race, ethnicity, religious beliefs, high-risk populations (e.g., pregnant women, people experiencing homelessness) and concerns about vaccine safety and effectiveness Source (AMSTAR rating 4/9)	
	• Allocating vaccines and ancillary supplies equitably ○ Approaches to developing and adjusting allocation rules ○ Allocation rules ▪ People at increased risk of severe COVID-19 ▪ People in social environments that put them at elevated risk for COVID-19 ○ Ensuring equity	• This WHO and UNICEF rapid review addresses disability-related considerations various stakeholders should make to ensure equitable vaccine access • The following actions are recommended for persons with disabilities and their support networks: ○ Seek reputable information on vaccination and connect with healthcare providers regarding vaccination ○ Discuss barriers to accessing vaccination with healthcare providers, and connect with support networks and local organizations to seek support in overcoming these barriers ○ Report instances of discrimination when accessing vaccination • The following actions are recommended for governments: ○ Consult with and consider persons with disabilities when determining prioritization for initial phases of vaccination	Published 26 April 2021

Type of document	Relevance to question	Key findings	Recency or status
		○ Ensure proper disaggregated data are captured to measure equitable vaccination coverage and uptake ○ Provide vaccination-related materials and resources in accessible formats ○ Work with partners to address stigmas and misconceptions that may prevent persons with disabilities from accessing vaccination ○ Provide clear guidance and rationale for the vaccination prioritization sequence ○ Ensure there are adequate feedback mechanisms for community members to report concerns regarding discrimination, misinformation or access issues • The following actions are recommended for heath-service providers delivering vaccinations: ○ Partner with local organizations to share vaccination-related information with persons with disabilities and address barriers ○ Provide targeted information about vaccines and the vaccination process to persons with disabilities and their support networks ○ Educate health workers regarding disability inclusion and accessibility, and address potential biases ○ Recruit persons with disabilities as staff members ○ Ensure registration processes, patient resources, and vaccination sites are accessible and free of barriers • The following actions are recommended for organizations of persons with disabilities: ○ Seek to provide input on vaccination roll-out strategies and ensure persons with disabilities are represented in any vaccination-related advocacy ○ Share vaccination-related information and address people's questions	

Type of document	Relevance to question	Key findings	Recency or status
		○ Compile a list of resources people with disabilities may access to aid in registering for vaccination and accessing vaccination sites ○ Raise awareness regarding patients' rights, principles of equal access, and informed-consent processes • The following actions are recommended for disability service providers: ○ Seek to provide input on vaccination roll-out strategies ○ Share vaccination-related information and address people's questions ○ Support clients in registering for vaccination and accessing vaccination sites • The following actions are recommended for residential institutions and long-term care facilities: ○ Ensure residents and staff are well-informed about vaccines and vaccination programs ○ Ensure accessible telehealth services are made available ○ Support residents in registering for vaccination, accessing vaccination sites, and, if possible, make vaccination available locally ○ Ensure there are strong measures in place to prevent and monitor instances of abuse, violence, neglect or coercion • The following actions are recommended for the community: ○ Be informed about vaccination and refrain from spreading potential misinformation ○ Support persons with disabilities within your social networks ○ Address accessibility issues and negative attitudes that persons with disabilities may experience when accessing vaccination Source (AMSTAR rating 0/9)	

Type of document	Relevance to question	Key findings	Recency or status

	• Surveillance, monitoring and evaluation, and reporting
	  ○ Documenting vaccine-related opinions
	  ○ Identifying sources of vaccine hesitancy
		• The living evidence review identified 40 studies that assessed factors related to vaccination acceptance and/or uptake in the general public since COVID-19 vaccines have been approved
		• Lower vaccination acceptance and/or uptake were associated with
		  ○ Concerns and misinformed beliefs about vaccine safety, efficacy and necessity
		  ○ Mistrust of governments and public-health agencies
		  ○ Racialized groups (e.g., Black, Latinx, Asian)
		• Based on the Capability, Opportunity, and Motivation-Behaviour (COM-B) model, vaccine acceptance was associated with "knowledge", "environmental context and resources", "social influences", "beliefs about consequences", "social/professional role and identity", "reinforcement", and "emotion"
		  ○ Among racialized groups, vaccine acceptance was associated with "knowledge", "environmental context and resources", "social influences", and "beliefs about consequences"
		• Social and peer-to-peer influences may encourage vaccination
		Source (AMSTAR rating 5/9)
			Literature last searched 20 April 2021

	• Communicating vaccine-allocation plans and the safety and effectiveness of vaccines
	  ○ Target of intervention
	  ▪ High-risk groups
		• Only two policy documents from the U.K. were identified relating to healthcare personnel who have not received a COVID-19 vaccination (due to contraindication or refusal) and they recommended that:
		  ○ COVID-19 vaccination should be strongly encouraged among healthcare personnel
		  ○ A supportive environment to engage healthcare personnel is recommended, where information, encouragement and clear explanation of the
			Date of literature search not reported (published 20 April 2021)

Type of document	Relevance to question	Key findings	Recency or status
		benefit and value of the vaccine could be discussed • Clear guidance should be provided to employers on how to undertake one-to-one conversations with healthcare personnel to encourage vaccine uptake Source (AMSTAR rating 2/9)	

	• Surveillance, monitoring and evaluation, and reporting
	  ○ Documenting vaccine-related opinions
	  ○ Identifying sources of vaccine hesitancy
		• This rapid review identified 64 studies that assessed factors associated with vaccination acceptance and uptake among healthcare workers (HCWs), and only six studies were conducted in Canada
		• Almost two-thirds (64%) of HCW respondents were willing to accept a COVID-19 vaccine
		  ○ Among 37 studies conducted in the period since the COVID-19 vaccine approval (spanning November 2020 - April 2021), 58% of HCW respondents were willing to accept a COVID-19 vaccine
		• Based on the Capability, Opportunity, and Motivation-Behaviour (COM-B) model, several important factors were identified that focused primarily on Opportunity and Motivation
		  ○ Capability factors focused on "Knowledge"
		  ○ Opportunity factors included "Environmental context and resources" and "Social influences"
		  ○ Motivation factors included "Beliefs about consequences", "Beliefs about capabilities", "Social/professional role and identity", "Reinforcement", and "Emotion"
		• Concerns and erroneous beliefs about COVID-19 vaccine safety, efficacy and necessity were common and associated with lower vaccination acceptance and uptake among HCWs
		• Mistrust of governments and public-health agencies was associated with lower vaccination acceptance, and routine seasonal vaccination was consistently
			Literature last searched 20 April 2021

Type of document	Relevance to question	Key findings	Recency or status
		associated with higher likelihood of vaccine acceptance and uptake • Lower vaccination acceptance rates were found among non-physician HCWs (e.g., nurses) • Overall, 11/64 studies assessed whether vaccine acceptance was associated with race and ethnicity ○ Ten studies found some evidence that racialized (e.g., Black, Latinx, Asian) respondents were less likely to express vaccine acceptance versus. White respondents Source (AMSTAR rating 4/9)	

	• Surveillance, monitoring and evaluation, and reporting
	  ○ Documenting vaccine-related opinions
	  ○ Identifying sources of vaccine hesitancy
		• The rapid review summarizes the evidence on what is known about reasons for vaccine confidence and uptake in populations experiencing inequities
		• Indigenous populations in Canada and globally were primarily concerned about safety and preferred to receive information on risks and benefits and access to vaccination from trusted sources (e.g., trusted leaders and community groups at trusted locations), due to experiences of historical stigmatization, racism and discrimination
		• Black, African and Caribbean communities in North America and Europe were primarily concerned about the trade-off between the risk of contracting the disease and the adverse effects of vaccine, in addition to mistrust due to historical injustices
		  ○ Risk-benefit communication from trusted sources that helped to address misinformation and fear was found to be important
		  ○ Providing vaccines in trusted and accessible locations and paper-based appointment booking were important strategies to increase access to vaccines
		• Individuals experiencing homelessness or are precariously housed were primarily concerned about
			Literature last searched 14 April 2021

Type of document	Relevance to question	Key findings	Recency or status
		access to vaccination programs (e.g., cost, location, awareness of times, and ability to drop-in) ○ Most studies reported that this population group were willing to follow healthcare provider recommendations ○ Barriers to vaccine uptake included unknown status of previous vaccinations Source (AMSTAR rating 7/10)	
	• Administering vaccines in ways that optimize timely uptake ○ Where ▪ Community-based health settings	• The review identified three models of mass-vaccination clinics such as drive-through clinics (e.g., at stadiums, large open car parks, enclosed school bus garage), walk-through clinics (e.g., at university campus sports arenas, polling stations, outdoor tents at medical facilities, schools), and mobile clinics (e.g., food banks and homeless shelters, assisted-living facilities) • Effective practices of mass vaccination clinics included ensuring physical distancing, reducing participant length of time, and providing multiple options or locations across a region • Some limitations to mass-vaccination clinics included the large number of people in the same location, harder to control physical distancing, logistics and loss of efficiency, and documentation challenges Source (AMSTAR rating 3/9)	Literature last searched 20 June 2020
	• Surveillance, monitoring and evaluation, and reporting ○ Documenting vaccine-related opinions ○ Identifying sources of vaccine hesitancy	• This review aimed to determine behavioural responses and attitudes towards receiving a COVID-19 vaccine if it resulted in health certification for participation in extended activities such as international travel • Few studies identified in the review discussed the possible effects of certification on uptake of vaccinations, with some studies reporting that intention to get vaccinated varied based on the activity it enabled the individual to participate in, and	Preprint (Literature last searched 28 December 2020)

Type of document	Relevance to question	Key findings	Recency or status
		the source who recommended the vaccine to the individual • Gaining health certification to visit hospitals or nursing homes, travel to another state, air travel, work, attending non-religious gatherings, attending large non-religious gatherings, and attending school were associated with increased acceptance and likelihood of vaccination • Conversely, one study indicated that 51% of individuals who did not plan to get vaccinated would not be swayed by any opportunity to participate in activities • Studies that examined the effects of mandatory vaccinations found that these policies were associated with anger and had negative effects on willingness to accept a vaccine, while one study found that 47.7% of people surveyed found employer-mandated and enforced vaccinations acceptable Source (AMSTAR rating: 7/9)	
Protocols for reviews that are underway	• Surveillance, monitoring and evaluation, and reporting o Documenting adverse events and follow-up	• Neurological manifestations related to COVID-19 vaccination Source	Anticipated completion date 31 October 2021
	• Allocating vaccines and ancillary supplies equitably o Allocation rules ▪ People for whom vaccine safety and effectiveness has not yet been established • Surveillance, monitoring and evaluation, and reporting o Documenting vaccine-related opinions o Identifying sources of vaccine hesitancy	• Safety and efficacy of COVID-19 vaccines in pregnant and breastfeeding women, and the factors associated with vaccine uptake, attitudes, and intentions in pregnant, postnatal and breastfeeding women Source	Anticipated completion date 30 September 2021
	• Surveillance, monitoring and evaluation, and reporting o Documenting vaccine-related opinions (e.g., vaccine acceptance and hesitancy)	• The proportion of people globally who refuse to take the COVID-19 vaccine and the socio-demographic factors that influence vaccine refusal Source	Anticipated completion date 31 August 2021

Type of document	Relevance to question	Key findings	Recency or status
	• Surveillance, monitoring and evaluation, and reporting ○ Documenting adverse events and follow-up	• Meta-analysis of adverse reactions of COVID-19 vaccines in adults Source	Anticipated completion date 31 August 2021

	• Allocating vaccines and ancillary supplies equitably
	  ○ Allocation rules
	  ▪ People in social environments that put them at elevated risk for COVID-19
	  ○ Ensuring equity
		• Access to vaccination among disadvantaged, isolated and difficult-to-reach communities in the WHO-European Region: A mixed-method systematic review
		Source
			Anticipated completion date 30 June 2021

	• Surveillance, monitoring and evaluation, and reporting ○ Documenting adverse events and follow-up	• Systematic review of the prevalence and characteristics of cerebral venous sinus thrombosis (CVST) as well as other thrombotic events after vaccination for COVID-19 Source	Anticipated completion date 30 June 2021
	• Surveillance, monitoring and evaluation, and reporting ○ Documenting adverse events and follow-up	• Systematic review of thrombosis with thrombocytopenia syndrome (TTS) after administration of AZD1222 or Ad26.COV2.S vaccine for COVID-19 Source	Anticipated completion date 30 June 2021
	• Surveillance, monitoring and evaluation, and reporting ○ Documenting adverse events and follow-up	• Systematic review and meta-analysis of thrombotic bleeding and complications after COVID-19 vaccination Source	Anticipated completion date 3 June 2021
Titles/questions for reviews that are being planned	*No highly relevant titles/questions found*		
Single studies in areas where no reviews were identified	• Surveillance, monitoring and evaluation and reporting ○ Documenting vaccine-related opinions	• The purpose of this study was to identify the attributes of a successful vaccination campaign • Results demonstrated that individuals preferred single over multiple vaccine doses, reduced wait times, and in-home vaccination or vaccination at a pharmacy/health facility, as opposed to mass-vaccination sites	Pre-print (last edited 19 May 2021)

Type of document	Relevance to question	Key findings	Recency or status
		• Additionally, individuals favoured having only one vaccine dose for long-term immunity as compared to annual vaccination • All vaccine enforcement strategies appeared to have a negative impact on willingness to vaccinate • Overall, the authors stressed the importance of simplifying and streamlining vaccination campaigns to promote ease of vaccination. Additionally, successful vaccination campaigns must promote autonomy through offering choice with regard to vaccine brand and the location of vaccination Source	
	• Allocating vaccines and ancillary supplies equitably ○ Allocation rules	• The purpose of this study was to determine the extent to which U.S. jurisdictions have incorporated disadvantage indices and related measures in their vaccine-allocation guidelines • The authors analyzed any changes in vaccine-allocation plans (particularly with respect to disadvantage indices and related measures) across all U.S. jurisdictions from 8 November 2020 to 30 March 2021 • Findings indicated that six months after the required deadline to publish their allocation frameworks, the majority of states "had implemented disadvantage indices or zip code-based measures to reduce inequities" • Five different purposes for implementing these measures were determined, and are expanded upon in the study's results section • Overall, the authors concluded that the majority of U.S. states have recognized the need to ensure the equitable distribution of vaccines across the country Source	Published 18 May 2021
	• Communicating vaccine-allocation plans and the safety and effectiveness of vaccines ○ Target of intervention	• This study utilized a single-blinded parallel-group randomized controlled trial with planned mediation and moderation tests to determine the effects of	Published 12 May 2021

Type of document	Relevance to question	Key findings	Recency or status
	▪ General public ▪ Individuals who are hesitant about or opposed to vaccination o Content of messaging ▪ Data and evidence about safety and about effectiveness in terms of both protection against COVID-19 and protection against transmission	different types of written vaccination information on COVID-19 vaccine hesitancy on 15,014 adults in the United Kingdom • Measured using the Oxford COVID-19 Vaccine Hesitancy Scale and the Oxford Vaccine Confidence and Complacency Scale, this study gave participants various forms of vaccine information regarding: 1) the collective benefit of vaccination from not getting ill; 2) the collective benefit of vaccination from not spreading the virus; 3) the personal benefit of getting vaccinated; 4) the seriousness of COVID-19; or 5) why the speed of development is not a problem • For those who were strongly hesitant to vaccines, highlighting the personal benefits was more effective than emphasizing collective benefit, and it was ineffective to combine personal and collective benefits rather than providing information on personal benefits alone • Messaging that emphasizes the counter-balancing personal benefits of vaccination is the most effective form of messaging Source	
	• Surveillance, monitoring and evaluation, and reporting o Documenting vaccine-related opinions o Identifying sources of vaccine hesitancy	• Due to a spread of misinformation resulting in vaccine hesitancy within the general population, this study aimed to assess knowledge, attitudes, practices and concerns about the COVID-19 vaccine to support increased uptake • The survey was administered to 201 participants 18 years of age or older recruited through convenience sampling • 59.21% of participants were willing to get vaccinated and 65.67% would recommend it to their friends and family, 64.68% were concerned about the rapid development of the vaccine, and 45.77% were concerned about the unforeseen future effects of the vaccine	Published 20 April 2021

Type of document	Relevance to question	Key findings	Recency or status
		• In terms of the influence of various sources of information, 82.59% were influenced by healthcare workers, 82.09% by friends and family, 81.6% by government agencies, 71.11% by news from television and radio, and 69.35% were influenced by social media platforms • This questionnaire was found to be a quick and straightforward assessment of vaccine acceptance and/or hesitancy and was easy to use for participants • This tool can be used by government authorities and healthcare providers to understand factors influencing vaccine hesitancy and other barriers in receiving a vaccination Source	

	• Allocating vaccines and ancillary supplies equitably
	  ○ Dosing rules
		• This study uses modelling to examine the impact of extending intervals between mRNA vaccine doses under a scenario of limited vaccine supply and a third wave in Canada in April
		• Extending the dose interval in the model resulted in accelerated vaccine coverage, particularly in younger individuals
		• The model showed that extended dose intervals (12 weeks or 24 weeks) lead to fewer cases of symptomatic disease, fewer hospitalizations, and fewer deaths at the population level, when compared to a six-week interval
		  ○ Even when a lower than observed vaccine effectiveness against disease was modelled, the extended dose intervals performed better
		• The model projected the largest decrease in hospitalizations and deaths when adopting a 24-week interval for individuals aged 20 to 74 and a 16-week interval for individuals aged 75 and older
		• Two conditions led to more deaths with extended dose intervals:
			Published 10 April 2021

Type of document	Relevance to question	Key findings	Recency or status
		○ If the first dose duration of protection is only three months ○ If the first dose is 65% or less effective against death • The model showed that under a more severe third wave scenario, extended intervals become effective even at lower effectiveness values 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)	• Allocating vaccines and ancillary supplies equitably
	  ○ Allocation rules
	  ○ People for whom vaccine safety and effectiveness has not yet been established
		• This guidance formulated by a task force of the Korean College of Rheumatology looks at recommendations regarding the efficacy and safety of COVID-19 vaccination in patients with autoimmune inflammatory rheumatic disease
		• The recommendations state the following:
		  ○ Current available COVID-19 vaccines are considered safe and effective
		  ○ The risk of autoimmune inflammatory rheumatic flare after vaccination is low
		  ○ Every patient should receive one of the available COVID-19 vaccines, with the exception being those that cannot for medical reasons (e.g., prior allergy to COVID-19 vaccine components)
		  ○ Patients should be monitored at least 15 minutes after vaccination for potential anaphylaxis
		  ○ Patients should continue their immunosuppressive treatments after vaccination, including biological and targeted synthetic anti-rheumatic drugs
		  ○ Public-health measures (e.g., hand hygiene, mask wearing, physical distancing) should be continued after vaccination
		Source (low-quality AGREE II rating; Korean College of Rheumatology)
			Published 29 March 2021

	• Allocating vaccines and ancillary supplies equitably
	  ○ Allocation rules
	  ○ People for whom vaccine safety and effectiveness has not yet been established
		• The following guidelines were updated from when they were first published in December 2020
		• The American College of Obstetricians and Gynecologists recommend that people considering future pregnancy, and currently pregnant or lactating should be offered a COVID-19 vaccine given the current data that symptomatic pregnant people with
			Published 24 March 2021

Type of document	Relevance to question	Key findings	Recency or status
		COVID-19 are at increased risk of more severe illness compared with non-pregnant people • People should have access to safety and efficacy information during the consultation of receiving a vaccine Source (low-quality AGREE II rating; American College of Obstetricians and Gynecologists)	
	• Allocating vaccines and ancillary supplies equitably o Allocation rules o People for whom vaccine safety and effectiveness has not yet been established	• This guidance produced by the Japan Society of Obstetrics and Gynecology and the Japanese Society of Infectious Diseases in Obstetrics and Gynecology looks at a set of recommendations for COVID-19 vaccination among pregnant women or those who wish to become pregnant • The following recommendations have been made: o Safety of the COVID-19 vaccine in pregnant women is currently unknown, however pregnant women should not be excluded from vaccination programs o Before vaccination, women should be fully informed of the unknown safety of the vaccine o Healthcare workers and pregnant women with complications such as diabetes, hypertension and obesity should be vaccinated preferentially o Vaccination should be avoided during organogenesis (up to 12 weeks of pregnancy) o Vaccination should be administered at an obstetrics and gynecology facility to check fetal health before and after vaccination o Vaccination should be considered for partners of pregnant women to prevent infection in the home o Those who are planning to get pregnant should be vaccinated before pregnancy Source (low-quality AGREE II rating; Japan Society of Obstetrics and Gynecology and the Japanese Society of Infectious Diseases in Obstetrics and Gynecology)	Published 23 March 2021

Type of document	Relevance to question	Key findings	Recency or status

	• Communicating vaccine-allocation plans and the safety and effectiveness of vaccines
	  ○ Target of intervention
	  ▪ General public
	  ○ Content of messaging
	  ▪ Information (for health workers) about vaccine-administration protocols
	• Allocating vaccines and ancillary supplies equitably
	  ○ People for whom vaccine safety and effectiveness has not yet been established
		• The Strategic Advisory Group of Experts (SAGE) developed guidance for the use of Janssen Ad26.COV2.S (COVID-19) vaccine, which is a recombinant, replication-incompetent adenovirus serotype 26 (Ad26) vector encoding a full-length and stabilized SARS-CoV-2 spike protein, with 66.9% efficacy against severe COVID-19 disease after 14 days and 85.4% after day 28
		• It is a one-dose vaccine targeted for adults aged 18 years and above, with no additional need for further doses at this time (including older persons, and people with comorbidities)
		• The vaccine is recommended after consultation with a physician on the benefits versus risks for the following groups: pregnant people, lactating people, persons with HIV, people who previously had SARS-CoV-2 infection, and immunocompromised people
		• People with current COVID-19 or being treated for passive antibody therapy should not be vaccinated until recovered
		Source (high-quality AGREE II rating; World Health Organization)
			Published 17 March 2021

	• Allocating vaccines and ancillary supplies equitably ○ People for whom vaccine safety and effectiveness has not yet been established	• The American College of Rheumatology recommends the COVID-19 vaccine to patients with rheumatic and musculoskeletal diseases (RMD) • There is currently no direct evidence for the benefit of patients receiving a COVID-19 vaccine due to paucity of information, however the recommendations are based on the limited evidence and balancing the information on efficacy, effectiveness, safety, feasibility, availability, and tradeoffs Source (high-quality AGREE II rating; American College of Rheumatology)	Published 17 March 2021
	• Surveillance, monitoring and evaluation, and reporting	• The Canadian Society of Allergy and Clinical Immunology (CSACI) released vaccine testing and	Published 15 March 2021

Type of document	Relevance to question	Key findings	Recency or status
	○ Documenting adverse events and follow-up	administration guidance for allergists and immunologists • As of 10 January 2021, the society recommends that an assessment from an allergist is needed among any individuals who have a suspected allergy to the components of a COVID-19 vaccine (including anyone who received the first dose), but is not required for people with history of unrelated allergies (e.g., food, drugs, insects, environmental allergens) • The society recommends that immunocompromised people should be offered the COVID-19 vaccine and be a priority group following careful assessment of the benefits and risks • Vaccine should be administered and followed by a minimum 15- to 30-minute observation • Overall, there is low risk for allergic reactions associated with vaccines, and the cause of reactions to the Pfizer-BioNTech and Moderna COVID-19 vaccines are unknown at this time Source (low-quality AGREE II rating; Canadian Society of Allergy and Clinical Immunology (CSACI))	
	• Administering vaccines in ways that optimize timely uptake ○ With what explicit effort to leverage existing health-system arrangements • Surveillance, monitoring and evaluation, and reporting ○ 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	• This document on monitoring COVID-19 vaccination provides guidance about: ○ 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	Published 3 March 2021

Type of document	Relevance to question	Key findings	Recency or status
		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-management information systems (LMIS), and geographical information systems (GIS) Source (World Health Organization)	
	• Allocating vaccines and ancillary supplies equitably ○ People for whom vaccine safety and effectiveness has not yet been established	• The Singapore Chapter of Rheumatologists recommends that vaccination decisions should be made at the individual level, and to vaccinate people with rheumatic disease and their household contacts • The chapter conditionally recommends that COVID-19 vaccines be administered during dormancy of the disease, prior to rituximab (and if on rituximab, to administer the vaccine a minimum of six months after the last dose and/or four weeks before the next dose of rituximab) Source (high-quality AGREE II rating; The Singapore Chapter of Rheumatologists)	Pre-print (Last edited 12 March 2021)

	• Communicating vaccine-allocation plans and the safety and effectiveness of vaccines
	  ○ Content of messaging
	  ▪ Information (for health workers) about vaccine-administration protocols
	• Administering vaccines in ways that optimize timely uptake
		• 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:
			Published 1 March 2021

Type of document	Relevance to question	Key findings	Recency or status
	○ Where ▪ Community-based health settings ○ With what reporting requirements and supporting immunization information systems and broader healthcare information systems ○ With what safety monitoring requirements	○ 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)	
	• Communicating vaccine-allocation plans and the safety and effectiveness of vaccines ○ Delivery of the intervention ▪ By whom ▪ Modality of delivery ○ Content of messaging ▪ 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 (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)	• 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 ○ 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, 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) ○ 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)	Published 1 March 2021

Type of document	Relevance to question	Key findings	Recency or status
		• 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 Source (World Health Organization)	
	• Securing and distributing a reliable supply of vaccines and ancillary supplies o National purchasing o Delivery to country o Distribution within country and to administration sites o Storage and handling within country	• 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 o These costs include central activities, international and domestic logistics, service delivery, and demand generation and communications o 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
	• Surveillance, monitoring and evaluation, and reporting o Documenting vaccine-related opinions o Identifying sources of vaccine hesitancy	• 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
		implementation of the surveys, interview guides, and the data collection and analysis • 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)	

	• Communicating vaccine-allocation plans and the safety and effectiveness of vaccines
	  ○ Delivery of the intervention
	  ▪ By whom
	  ▪ Modality of delivery
	  ○ Content of messaging
	  ▪ 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
		• 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:
		  ○ 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

	• Communicating vaccine-allocation plans and the safety and effectiveness of vaccines
	  ○ Target of intervention
	  ▪ General public
		• 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

	• Communicating vaccine-allocation plans and the safety and effectiveness of vaccines ○ Target of intervention • General public	• 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
		audience, budget breakdown, timelines, and responsibilities Source (World Health Organization)	

	• Securing and distributing a reliable supply of vaccines and ancillary supplies
	  ○ 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
	  ○ Documenting vaccine status
	• Documenting adverse events and follow-up
		• 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:
		  ○ 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

	• Securing and distributing a reliable supply of vaccines and ancillary supplies
	  ○ Distribution within country and to administration sites
	• Allocating vaccines and ancillary supplies equitably
	  ○ Allocation rules
	  ▪ 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
		• 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
		  ○ 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 logistics of how the COVID-19 vaccines will be deployed in their jurisdictions are important
			Published 8 January 2021

Type of document	Relevance to question	Key findings	Recency or status
		○ 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 Source (World Health Organization)	
	• Communicating vaccine-allocation plans and the safety and effectiveness of vaccines ○ Delivery of the intervention ▪ By whom ○ Content of messaging ▪ 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 ○ Documenting adverse events and follow-up ○ Infrastructure to enable surveillance, monitoring and evaluation	• 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 Source (World Health Organization)	Published 22 December 2020
	• Securing and distributing a reliable supply of vaccines and ancillary supplies ○ Inventory management within country ○ Distribution within country and to administration sites ○ Storage and handling within country • Allocating vaccines and ancillary supplies equitably ○ Allocating rules ○ Ensuring equity • Communicating vaccine-allocation plans and the safety and effectiveness of vaccines	• This document provides guidance for administration of COVID-19 vaccines including: ○ Vaccine distribution, storage and handling ○ Recommendations for early immunization and targeting key populations ○ Advice about vaccine administration related to planning, ancillary supplies and about reaching remote, isolated, vulnerable, and hard-to-reach populations ○ Monitoring vaccine uptake, safety and effectiveness, and the networks and mechanisms used to facilitate surveillance	Published 21 December 2020

Type of document	Relevance to question	Key findings	Recency or status
	○ Target of intervention ▪ General public ▪ High-risk groups ○ Delivery of the intervention ▪ By whom ▪ Modality of delivery • Surveillance, monitoring and evaluation and reporting ○ Documenting vaccine status ○ Documenting adverse events and follow-up ○ Infrastructure to enable surveillance, monitoring and evaluation	○ Leveraging communication and engagement with the public, professionals and the healthcare sector Source (Government of Canada)	
	• Allocating vaccines and ancillary supplies equitably ○ Allocation rules ▪ 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 • Administering vaccines in ways that optimize timely uptake ○ With what post-vaccination observation period and what physical distancing, personal protective equipment, sanitation and other public-health measures ○ With what second-dose provisions	• 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 • 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	Last update 25 January 2021

Type of document	Relevance to question	Key findings	Recency or status
		• 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))	

	• Communicating vaccine-allocation plans and the safety and effectiveness of vaccines
	  ○ Target of intervention
	  ▪ General public
	  ▪ High-risk groups
	• Individuals who are hesitant about or opposed to vaccination
		• 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 assessments); and 4) be collaborative (include joint assessments and monitoring)
		• Anticipated challenges for the next six months include uncertainty, vaccines distribution and administration, pandemic fatigue, mistrust, increased economic pressure, increased stigma, and increased politicization
		Source (World Health Organization)
			Last update 23 December 2020

	• Allocating vaccines and ancillary supplies equitably
	  ○ 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)
	  ▪ Front-line healthcare workers
		• 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
			Published 6 January 2021

Type of document	Relevance to question	Key findings	Recency or status
	▪ 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 o Target of intervention ▪ High-risk groups	• Based on the proposed guidelines, the order of priority of COVID-19 vaccinations are as follows: o Residents in a care home for older adults and their carers o All those 80 years of age and over and front-line health and social-care workers o All those 75 years of age or over o All those 70 years of age and over and clinically extremely vulnerable individuals o All those 65 years of age and over o All individuals aged 16 years to 64 years with underlying health conditions which put them at higher risk of serious disease and mortality o All those 60 years of age and over o All those 55 years of age and over o 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, Asian and minority ethnic groups who have higher rates of infection, morbidity and mortality Source (Department of Health & Social Care, Government of UK)	
	• Allocating vaccines and ancillary supplies equitably o Allocation rules ▪ 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	• 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 o In Phase 1b, COVID-19 vaccine should be offered to persons aged ≥75 years and non–healthcare frontline essential workers o 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	Last update 1 January 2021

Type of document	Relevance to question	Key findings	Recency or status
		• Federal, state and local jurisdictions should use this guidance for COVID-19 vaccination program planning and implementation Source (Advisory Committee on Immunization Practices, Centers for Disease Control and Prevention)	
	• Securing and distributing a reliable supply of vaccines and ancillary supplies (e.g., needles, diluents) o National purchasing o Delivery to country o Inventory management within country • Administering vaccines in ways that optimize timely uptake o With what second-dose provisions	• 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 Source (Advisory Committee on Immunization Practices, Centers for Disease Control and Prevention)	Last update 20 December 2020
	• Securing and distributing a reliable supply of vaccines and ancillary supplies o Inventory management within country o Distribution within country and to administration sites • Allocating vaccines and ancillary supplies equitably o Allocation rules • Communicating vaccine-allocation plans and the safety and effectiveness of vaccines o Target of intervention ▪ General public • Surveillance, monitoring and evaluation, and reporting o Documenting vaccine-related opinions o Documenting vaccine status o Documenting adverse events and follow-up	• 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 o 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	Published 2 December 2020

Type of document	Relevance to question	Key findings	Recency or status
	• Infrastructure to enable surveillance, monitoring and evaluation	Source (European Centre for Disease Prevention and Control)	

	• Allocating vaccines and ancillary supplies equitably
	  ○ Allocation rules
		• 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"
		• Through defining the aforementioned key values and goals, the following categories of prioritization were established:
		  ○ "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
		  ○ The group recommends that risk groups and healthcare workers be given priority in pandemic scenarios 1-2a
			Published 15 November 2020

Type of document	Relevance to question	Key findings	Recency or status
		○ 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" Source (Norwegian Institute of Public Health)	
	• Allocating vaccines and ancillary supplies equitably ○ Distribution within country and to administration sites • Communicating vaccine-allocation plans and the safety and effectiveness of vaccines ○ Target of intervention ▪ General public ▪ Individuals who are hesitant about or opposed to vaccination • Surveillance, monitoring and evaluation, and reporting	• 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 ○ 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	Published 16 December 2020

Type of document	Relevance to question	Key findings	Recency or status

		• The following parties should be educated on the COVID-19 vaccine to ensure evidence-based information is being relayed to the general public:
		  ○ 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:
		  ○ 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 vaccine, as well as the fact that it is undergoing continuous evaluation
		• 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
		Source (Health Informant and Quality Authority)	

	• Securing and distributing a reliable supply of vaccines and ancillary supplies (e.g., needles, diluents)
	• Allocating vaccines and ancillary supplies equitably
	  ○ 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)
		• This document provides guidance on developing COVID-19 national deployment and vaccination plans
		• Aspects of this plan include:
		  ○ Regulatory preparedness
		  ○ Planning and coordination
		  ○ Costing and funding
		  ○ Identification of target populations
		  ○ Vaccine-delivery strategies
			Last update 16 November 2020

Type of document	Relevance to question	Key findings	Recency or status
	○ 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	○ 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 Source (World Health Organization)	
	• Allocating vaccines and ancillary supplies equitably ○ Allocation rules	• This document provides guidance on prioritizing limited supply of COVID-19 vaccines • It provides a roadmap for priority uses of COVID-19 vaccines including: ○ 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 Source (World Health Organization)	Last update 13 November 2020
	• Allocating vaccines and ancillary supplies equitably ○ 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)	• 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)	Last update November 2020

Type of document	Relevance to question	Key findings	Recency or status
		Source (Advisory Committee on Immunization Practices, Centers for Disease Control and Prevention)	

	• Communicating vaccine-allocation plans and the safety and effectiveness of vaccines
	  ○ Target of intervention
	  ▪ General public
	  ▪ Individuals who are hesitant about or opposed to vaccination
	  ○ Delivery of the intervention
	  ▪ 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)
	  ▪ 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
	  ▪ 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
		• 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
		Source (World Health Organization)
			Last update 15 October 2020

Type of document	Relevance to question	Key findings	Recency or status
	▪ 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		
	• Communicating vaccine-allocation plans and the safety and effectiveness of vaccines o Target of intervention ▪ General public ▪ Individuals who are hesitant about or opposed to vaccination	• 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 o 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 o The plan must include crisis-communications preparedness planning Source (World Health Organization)	Last update 21 September 2020
	• Securing and distributing a reliable supply of vaccines and ancillary supplies o National purchasing • Allocating vaccines and ancillary supplies equitably o Distribution within country and to administration sites o Distribution procedures • Communicating vaccine-allocation plans and the safety and effectiveness of vaccines o Target of intervention ▪ General public ▪ Individuals who are hesitant about or opposed to vaccination • Administering vaccines in ways that optimize timely uptake o With what partnerships to reach early populations of focus	• 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 o 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	Last update 21 September 2020

Type of document	Relevance to question	Key findings	Recency or status
	○ With what reporting requirements, supporting immunization information systems, and broader healthcare information systems ○ With what safety-monitoring requirements • Surveillance, monitoring and evaluation, and reporting	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 Source (World Health Organization)	
	• Allocating vaccines and ancillary supplies equitably ○ Allocation rules	• This guidance document provides a values framework for COVID-19 vaccine allocation and prioritization • The values framework consists of six core principles: ○ Human well-being ○ Equal respect ○ Global equity ○ National equity ○ Reciprocity ○ Legitimacy Source (World Health Organization)	Last update 13 September 2020
	• Allocating vaccines and ancillary supplies equitably ○ Allocation rules	• 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: ○ 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 Source (WHO technical guidance)	Last update 9 September 2020
	• Securing and distributing a reliable supply of vaccines and ancillary supplies	• In the context of the COVID-19 pandemic, this document outlines the decision-making framework	Last update 22 May 2020

Type of document	Relevance to question	Key findings	Recency or status
	○ Distribution within country and to administration sites	for implementing mass-vaccination campaigns for the prevention of vaccine-preventable diseases and high-impact diseases (VPD/HID), including: ○ 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 ○ Step 5: if a decision is made to proceed with a mass-vaccination campaign, implementing best practice Source (WHO technical guidance)	
	• Communicating vaccine-allocation plans and the safety and effectiveness of vaccines ○ Delivery of the intervention ▪ By whom (e.g., health worker) ▪ Modality of delivery (e.g., social media, text, email, telephone, face-to-face in person) ○ Content of messaging ▪ Myths and misinformation about vaccines	• This guideline indicates that people in eligible groups who understand why flu vaccination is particularly important for them are more likely to be vaccinated ○ 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 Source (National Institute for Health and Care Excellence)	Last update 22 August 2018
Full systematic reviews	• Surveillance, monitoring and evaluation, and reporting ○ Documenting adverse events and follow-up	• This systematic review synthesized the safety data of 11 published clinical trials of COVID-19 vaccines and found that the adverse reactions reported in the 11 trials were mild to moderate with few severe reactions which were unrelated to the test vaccine	Published 27 March 2021

Type of document	Relevance to question	Key findings	Recency or status
		○ The commonly reported local adverse events were pain at the site of injection, swelling and redness ○ The systemic reactions included fever, fatigue, myalgia and headache • This systematic review indicated that COVID-19 vaccines can be safe with no serious adverse events, however, long-term post-marketing surveillance data, particularly in high-risk vulnerable populations (elderly and those with co-morbidities, pregnant women and children) need to be warranted to ensure the safety of COVID-19 vaccines Source (AMSTAR rating 5/10)	
	• Surveillance, monitoring and evaluation, and reporting ○ Infrastructure to enable surveillance, monitoring and evaluation	• This review identified digital solutions that are available globally for COVID-19 vaccine certificates and evaluate them on their purpose, use case, technological architecture, and ethical and legal consequences • Eight COVID-19 vaccine certificate technologies were identified and are currently in demo and beta-testing trials • The COVID-19 vaccine certificates have a number of technological standards for ethical and legal use, however some global leaders such as IBM, World Economic Forum and International Air Transport Association (IATA) have emphasized the need for a single set of standards • Similarly to fraud and counterfeit yellow fever vaccine certificates that have been previously used, there is concern for fabricated COVID-19 vaccine certificates Source (AMSTAR rating 5/9)	Preprint (Literature last searched 26 November 2020)
	• Administering vaccines in ways that optimize timely uptake ○ By whom and with what changes to remuneration	• 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	Literature last searched July 2019

Type of document	Relevance to question	Key findings	Recency or status

		• Findings revealed that:
		  ○ 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
		Source (AMSTAR rating 5/10)	

	• Administering vaccines in ways that optimize timely uptake
	  ○ Where
	  ▪ Other community settings
		• School and childcare centre-located vaccination programs are effective in increasing vaccination rates, and decreasing rates of vaccine-preventable morbidity and mortality
		• Key components of effective school and childcare centre-located vaccination programs include:
		  ○ 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
		Source (AMSTAR rating 6/9)
			Literature last searched February 2012

	• Administering vaccines in ways that optimize timely uptake	• There is strong evidence on the effectiveness of vaccination requirements for childcare, school, and	Literature last searched 2015

Type of document	Relevance to question	Key findings	Recency or status
	○ Where ▪ Other community settings (e.g., schools)	college attendance in increasing vaccination rates and decreasing rates of vaccine-preventable disease and associated morbidity and mortality • Vaccination requirements could be: ○ 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 Source (AMSTAR rating 3/10)	
	• Communicating vaccine-allocation plans and the safety and effectiveness of vaccines ○ Delivery of the intervention ▪ Modality of delivery (e.g., social media, text, and email)	• 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 Source (AMSTAR rating 7/10)	Date of literature search not reported (published January 2015)
	• Communicating vaccine-allocation plans and the safety and effectiveness of vaccines ○ Target of intervention	• Findings about the structure of interventions revealed that:	Literature last searched 2013

Type of document	Relevance to question	Key findings	Recency or status
	▪ General public ▪ High-risk groups ▪ Individuals who are hesitant about or opposed to vaccination o Delivery of the intervention ▪ By whom (e.g., citizen champion) ▪ Modality of delivery (e.g., face-to-face in person) o Content of messaging ▪ Myths and misinformation about vaccines ▪ Risk-mitigation efforts	o Engaging religious and other community leaders was a commonly used strategy to address contextual influences (e.g., religion, culture and gender) o 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: o Few interventions were found to have been evaluated for their success in vaccine uptake or their influence in increasing knowledge and awareness o Interventions to increase uptake that have multiple components and/or have a focus on dialogue-based approaches tend to be more effective o 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 o Interventions that resulted in the greatest increases in knowledge and awareness were education initiatives, especially where new knowledge was embedded into routine processes Source (AMSTAR rating 7/10)	
	• Communicating vaccine-allocation plans and the safety and effectiveness of vaccines o Target of intervention ▪ General public o Delivery of the intervention	• 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	Literature last searched September 2017

Type of document	Relevance to question	Key findings	Recency or status
	▪ Modality of delivery (e.g., text and telephone) ○ Content of messaging ▪ Risk-mitigation efforts	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 Source (AMSTAR rating 8/11)	
	• Administering vaccines in ways that optimize timely uptake ○ With what broader, complementary health interventions (e.g., flu vaccination and routine immunization, ongoing public-health measures)	• 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 vaccination) on reducing vaccination pain, fear, and distress and increasing the use of interventions during vaccination • Findings revealed that: ○ 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 Source (AMSTAR rating 6/10)	Date of literature search not reported (published in 2015)
	• Communicating vaccine-allocation plans and the safety and effectiveness of vaccines ○ Target of intervention ▪ High-risk groups ▪ Individuals who are hesitant about or opposed to vaccination	• 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:	Literature last searched February 2012

Type of document	Relevance to question	Key findings	Recency or status
		○ 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) Source (AMSTAR rating 6/9)	
	• Administering vaccines in ways that optimize timely uptake ○ Where ▪ With what reporting requirements and supporting immunization information systems and broader healthcare information systems	• 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 activities and savings resulting from decreased over-vaccination Source (AMSTAR rating 4/9)	Literature last searched March 2012
Rapid reviews	• Administering vaccines in ways that optimize timely uptake ○ With what explicit effort to leverage existing health-system arrangements ○ Where • Primary care settings	• The document by the Knowledge to Policy (K2P) Center and the Lebanese Minister of Public Health describes the requirements for optimal integration, existing challenges, and counter strategies for vaccinations to be delivered by the National Primary Health Care (PHC) network in Lebanon • Some requirements for the integration of the PHC network into current vaccination efforts include necessary physical environment and infrastructure, supplies, cold-chain management, workforce requirements, trainings, policies and procedures, technology and record-keeping, waste disposal, financing, public information and communication, and community engagement Source (AMSTAR rating 2/9)	Published 1 April 2021
	• Allocating vaccines and ancillary supplies equitably ○ Allocation rules ▪ Front-line healthcare workers	• This rapid review summarized key public-health documents and Irish data to investigate the risk of COVID-19 infection for adults aged 18 to 64 years who are living in crowded settings	Published 31 March 2021

Type of document	Relevance to question	Key findings	Recency or status
	▪ Residents in long-term care homes and other congregate-care settings ▪ People at increased risk of severe COVID-19 ▪ Migrant workers ▪ People in social environments that put them at elevated risk for COVID-19	• This review identified the following social groups as being at an elevated risk of infection: o Travellers aged 18 to 64 o Individuals of the Roma ethnic community o Individuals, such as residents and staff members, at accommodation centres for refugees and/or international protection applicants o Individuals working at meat processing plants • Rates of infection were relatively lower for individuals in prison settings and for individuals who are homeless, as well as staff providing services for these populations o Authors of the study concluded that lower rates of infection are likely due to the presence of stringent measures taken to protect such populations • The following social groups were additionally postulated to be at a potentially higher risk of infection despite the limited availability of reliable data: o Undocumented migrants, sex workers and seasonal harvest workers o Individuals in settings for addiction-service users, refugees who are women and religious services • This review further identified key considerations for decisions surrounding the designation of certain populations as a potential vaccine allocation group, including: o Eligibility of individuals in previous vaccine-allocation groups o Accurate identification of individuals in certain populations o Vaccine roll-out logistics and operationalization for certain groups o Degree by which membership in certain groups is mutually exclusive o Impact of more transmissible variants	

Type of document	Relevance to question	Key findings	Recency or status
		○ Challenges experienced in certain groups within the context of transmission, outbreak control and transmission to the wider community Source (AMSTAR rating 2/9)	
	• Surveillance, monitoring and evaluation and reporting ○ Documenting vaccine-related opinions ○ Identifying sources of vaccine hesitancy	• 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 • 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: ○ 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: ○ Religious beliefs ○ Vaccine safety and efficacy ○ Belief that the COVID-19 vaccine is unnecessary	Literature last searched 5 January 2021

Type of document	Relevance to question	Key findings	Recency or status
		• 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 Source (AMSTAR rating 5/9)	

	• Allocating vaccines and ancillary supplies equitably
	  ○ Allocation rules
	  ▪ Front-line healthcare workers
	  ▪ Mass public
		• In response to high rates of vaccine refusal during vaccination campaigns in the United States and globally, the authors conducted a review to identify feasibility, legality and ethical considerations associated with mandatory vaccination strategies discussed in the literature
		• The review findings suggest that adopting mandatory vaccinations for specific population groups such as healthcare workers through law or conditional by employment could increase uptake but reduce trust between workers and their institution
		• Education and promotional campaigns supplemented with incentives and on-site vaccination clinics could be effective in environments where mandatory vaccine policies are infeasible
		Source (AMSTAR rating 2/9)
			Date of literature search not reported (published 31 March 2021)

	• Allocating vaccines and ancillary supplies equitably ○ Allocation rules • People at increased risk of severe COVID-19	• This review identified and summarized published studies, case reports, reviews, meta-analyses, and expert guidelines on the effects of SARS-CoV-2 on neurodegenerative diseases to provide recommendations for the use of current SARS-CoV-2 vaccine candidates on patients with neurodegenerative diseases, including Parkinson's disease, Alzheimer's disease, multiple sclerosis, amyotrophic lateral sclerosis, and epilepsy • The authors focused on vaccine candidates who have entered phase three of clinical trials at the time of the review, which include inactivated vaccines, viral vector vaccines, protein subunit vaccines, and nucleic acid vaccines	Date of literature search not reported (published 31 March 2021)

Type of document	Relevance to question	Key findings	Recency or status
		○ For inactivated vaccines, CoronaVac developed by Sinovac showed sufficient tolerability and immunogenicity without significant adverse reactions ○ For viruses selected as vaccine vectors, the interim analysis reports of the Oxford-AstraZeneca vaccine candidate showed that it exceeded the minimum WHO standard for vaccine effectiveness, but required further investigation of adverse neurological effects ○ For protein subunit vaccines, the NVX-CoV2372 vaccine by Novavax has demonstrated sufficient immunogenicity with no reports of adverse reactions • The effectiveness and safety of SARS-CoV-2 vaccines for people with Alzheimer's disease is still undetermined, with data indicating they can preserve their immune response to the vaccine, but effectiveness may decrease with age • The authors conclude with the recommendation that neurodegenerative diseases and their associated treatments may change the safety and effectiveness of SARS-CoV-2 vaccine candidates • Vaccine administration should proceed with caution and a vaccine specifically for the elderly and those immunocompromised should be developed to increase safety and effectiveness Source (AMSTAR rating 1/9)	
	• Securing and distributing a reliable supply of vaccines and ancillary supplies ○ Inventory management within country ○ Distribution within country and to administration sites ○ Storage and handling within country • Allocating vaccines and ancillary supplies equitably	• This review provides a summary of the current available COVID-19 vaccines in the U.K., and training recommendations for those providing and administering vaccines • Current available COVID-19 vaccines are mRNA vaccines (Pfizer-BioNTech and Moderna) and adenoviral vector vaccines (AstraZeneca)	Published 25 March 2021

Type of document	Relevance to question	Key findings	Recency or status
	○ Allocation rules ▪ Front-line healthcare workers ▪ Residents in long-term care homes and other congregate-care settings ▪ People at increased risk of severe COVID-19 ○ Dosing rules • Communicating vaccine-allocation plans and the safety and effectiveness of vaccines ○ Delivery of the intervention ▪ By whom	• The U.K.'s Joint Committee for Vaccination and Immunization (JCVI), an expert advisory committee, has set out nine priority groups for vaccination that are linked to increasing age, pre-existing conditions, and residence and occupation in a care home setting • Vaccine administrated is to be done by a range of healthcare professionals and other non-registered staff and volunteers, with training being dependent on the individual employer • All three current vaccines (Pfizer-BioNTech, Moderna and AstraZeneca) have their own storage and administration requirements, which require care and precision • Mass vaccination will rely on staff with appropriate training and rapid patient assessment to identify any contraindications or cautions in relation to the vaccine (e.g., previous allergic reaction to components of the COVID-19 vaccines, pregnant or breastfeeding, etc.) Source (AMSTAR rating 0/9)	
	• Administering vaccines in ways that optimize timely uptake ○ Where ▪ Long-term care homes • With what broader, complementary health interventions	• This rapid review examines the potential benefits, harms, evidence and implementation challenges for routine asymptomatic SARS-CoV-2 screen testing of long-term care staff in order to prevent COVID-19 outbreaks in long-term care homes • The findings found no available real-world evidence to support or refute the benefit of routine asymptomatic screen testing to prevent COVID-19 outbreaks • There are a number of harms that have been identified, including: ○ Physical discomfort and injury from frequent nasopharyngeal swabbing ○ Staff behaviour change associated with knowledge of negative test result ○ False positive results	Date of literature search not reported (published 23 March 2021)

Type of document	Relevance to question	Key findings	Recency or status
		• An implementation challenge that has been noted in the review is the use of rapid antigen tests which are quicker but require more frequent testing, and health human resources which may exacerbate long-term care staff shortages • The potential harms of screen testing among long-term care staff outweigh the benefits given the high rates of protection of COVID-19 vaccines against symptomatic and asymptomatic SARS-CoV-2 infection Source (AMSTAR rating 2/9)	

	• Allocating vaccines and ancillary supplies equitably
	  ○ Allocation rules
	  ○ People who have already had confirmed COVID-19
		• The primary focus of this report was to examine the characteristics of immunity/natural immunity and virus transmission in: 1) patients who previously contracted SARS-CoV-2; and 2) vaccinated individuals
		• With respect to natural immunity and virus transmission from individuals who previously contracted SARS-CoV-2, the evidence suggests that:
		  ○ Previously contracting SARS-CoV-2 does not provide sterilizing immunity and reinfected individuals may still be able to transmit the virus
		  ○ COVID-19 reinfection is a rare occurrence
		  ○ On day 14 after contraction, protective immunity is reported to be between 81-100%; this lasts for a period of five to seven months
		  ○ Overall transmission is projected to decrease as the number of individuals acquiring natural immunity increases
		• With respect to immunity and virus transmission from vaccinated individuals, the evidence suggests:
		  ○ The risk of COVID-19 infection in a residence decreases by 30% after having a household member vaccinated
		  ○ Overall transmission is projected to decrease as vaccines continue to be administered
			Literature last searched 8 March 2021

Type of document	Relevance to question	Key findings	Recency or status
		○ The peak of antibody titres occurs three to four weeks post-vaccination Source (AMSTAR rating 2/9)	
	• Allocating vaccines and ancillary supplies equitably ○ Allocation rules ▪ People for whom vaccine safety and effectiveness has not yet been established	• 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 ○ 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 Source (AMSTAR rating 1/9)	Date of literature search not stated (published 24 December 2020)
	• Allocating vaccines and ancillary supplies equitably ○ Allocation rules ▪ 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 (beyond front-line healthcare workers) and/or those in work environments that put them at elevated risk ▪ People in social environments that put them at elevated risk for COVID-19 ▪ Mass public	• This rapid review assesses the extent to which individual states' vaccine allocation plans for various population groups differ from federal government (Centers for Disease Control) guidance in the United States • There was agreement between all states and the federal government in giving top vaccine priority to front-line healthcare workers and long-term care facilities ○ However, some states distinguished between front-line and non-front-line healthcare workers, assigning lower priority to the latter group • First responders were assigned to the second priority group in federal guidance, but 32 states distinguished	Preprint (Literature last searched 18 February 2021)

Type of document	Relevance to question	Key findings	Recency or status
		between medical and non-medical first responders and assigned medical first responders the same priority as healthcare workers o States generally assigned other first responders to the second priority group, but 14 states assigned them to the top priority group • Essential workers were not included in many state priority lists, and of the 37 states that did include them, 12 states assigned essential workers lower priority than federal guidelines o Most states distinguished early education staff from other essential workers and assigned them the same priority level as federal guidance for essential workers o A broad category of 'other essential workers' which was present in federal guidance and assigned to the third priority group was only present in 22 states' vaccination plans • Only 18 states used people aged 70 or 75 and older as a priority group o However, 47 states used people aged 65 to 74 or people aged 65 and older as priority groups, and these groups were often given higher priority in state plans than in federal guidance • People with underlying medical conditions were included in 40 states' guidelines, and there was significant variability in their placement in relation to federal guidelines • Several groups not captured in federal guidelines were included in states' guidelines o Twenty-eight states included those living or working in congregate settings in their priority lists o Ten states included individuals living with mental, physical, or developmental disabilities in their priority lists Source (AMSTAR rating 4/9)	

Type of document	Relevance to question	Key findings	Recency or status

	• Allocating vaccines and ancillary supplies equitably
	  ○ Allocation rules
	  ○ People at increased risk of severe COVID-19
		• This review identified and summarized 99 articles on vaccination guidance for patients with autoimmune/autoinflammatory rheumatic diseases (AIIRDs), to understand the available options for vaccinating this population group during the COVID-19 pandemic
		• As patients with AIIRDs have been excluded from COVID-19 vaccine studies at the time of this review, the authors made the following recommendations based on the available evidence
		  ○ Patients with AIIRDs should not receive a vaccination during clinical or serologically active periods of the disease, including COVID-19 vaccines
		  ○ COVID-19 vaccines should be administered during inactive periods of the disease while patients are on lower doses of corticosteroid treatment
		  ○ Patients taking leflunomide can be vaccinated without stopping the medication
		  ○ Patients should skip one to two doses of methotrexate after receiving a COVID-19 vaccination to increase effectiveness
		  ○ Vaccines should be administered before starting any biologic disease-modifying antirheumatic drugs
		  ○ Patients receiving rituximab should be vaccinated a minimum of four weeks before or six months after treatment
		• The authors conclude patients with AIIRDS should receive a COVID-19 vaccine when the spread of disease is under control and there is no risk of concurrent infection
		Source (AMSTAR rating 1/9)
			Literature last searched 12 January 2021

	• Allocating vaccines and ancillary supplies equitably ○ Allocation rules	• This rapid review identified and summarized four guidelines, five reviews, and four research articles on vaccination guidelines for immunosuppressed cancer	Literature last searched 2

Type of document	Relevance to question	Key findings	Recency or status
	• People at increased risk of severe COVID-19	patients, to understand the available options for vaccinating this population group during COVID-19 when there are no other vaccine options being tested for their safety • The authors found that live vaccines are not recommended for the immunosuppressed due to the risk of vaccine-related diseases from live pathogen transmission, while inactivated, nucleic acid, protein subunit, and virus-like protein vaccines are considered safe, but provide reduced protection and require more than a normal dose for seroconversion • Drawing on the available knowledge on how to vaccinate immunosuppressed cancer patients, the authors produced generalized recommendations for all cancer types, genders and age groups o Administer a second dose of influenza vaccine to increase seroconversion o Adjust vaccination timing by administering vaccines prior to immunosuppressive chemotherapy: inactive vaccines should be administered two weeks prior to or three weeks following therapy; live attenuated vaccines can be administered four weeks prior to or three months after therapy cessation o Patients should be re-immunized if they were vaccinated during chemotherapy o In treatments such as CAR T-cell therapy, live vaccines should not be administered for a minimum six- to 12-month period following treatment o Take precautions before administering vaccines: provide vaccines to those surrounding immunosuppressed cancer patients; replace hospital care with telemedicine or phone calls when possible; replace intravenous drugs with oral drugs to decrease hospital visits and enable patient to remain in the home	November 2020

Type of document	Relevance to question	Key findings	Recency or status
		Source (AMSTAR rating 3/9)	

	• Communicating vaccine-allocation plans and the safety and effectiveness of vaccines
	  ○ Target of intervention
	  ▪ General public
	  ▪ Individuals who are hesitant about or opposed to vaccination
	  ○ Delivery of the intervention
	  ▪ By whom
	  ○ Content of messaging
	  ▪ 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)
		• 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 the COVID-19 vaccines, perceived political interference, and misinformation
		• 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
		Source (AMSTAR rating 7/9)
			Last search 20 October 2020

	• Administering vaccines in ways that optimize timely uptake ○ With what broader, complementary health interventions	• There are three models for vaccination delivery in non-healthcare settings: social-distancing immunization clinics, drive-through clinics, and small mobile-team clinics	Date of literature search not reported (published 27 August 2020)

Type of document	Relevance to question	Key findings	Recency or status
		• 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 • Staff must be screened and appropriately trained to manage the vaccination site Source (AMSTAR rating 3/9)	
	• Administering vaccines in ways that optimize timely uptake o With what explicit effort to leverage existing health-system arrangements (e.g., vaccination systems and primary-care practices/community health centres) o With what partnerships to reach early populations of focus	• 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)
	• Administering vaccines in ways that optimize timely uptake o By whom and with what changes to remuneration	• 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)
	• Surveillance, monitoring and evaluation, and reporting o Identifying sources of vaccine hesitancy	• This rapid review includes 18 surveys on individuals' willingness to receive a COVID-19 vaccine	Literature last searched December 2020

Type of document	Relevance to question	Key findings	Recency or status
		• 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 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)	

	• Communicating vaccine-allocation plans and the safety and effectiveness of vaccines
	  ○ Target of intervention
	  ▪ 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
	  ▪ Information about novel vaccine platforms, current vaccine options, prioritized populations, and behaviours after vaccination
	  ▪ Myths and misinformation about vaccines
	  ▪ Risk-mitigation efforts
		• This brief aimed to support decision-makers in planning and implementing vaccine-communication strategies
		• Communication strategies with the public about vaccines should aim to:
		  ○ 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
			Date of literature search not stated (published October 2020)

Type of document	Relevance to question	Key findings	Recency or status
	• Anticipated timing of when all those who want a vaccine will have been vaccinated	Source (AMSTAR rating 4/9)	

	• Allocating vaccines and ancillary supplies equitably
	  ○ 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
	  ○ Content of messaging
	  ▪ Anticipated timing of when all those who want a vaccine will have been vaccinated
		• 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
		Source (AMSTAR rating 4/9)
			Date of literature search not reported (published 27 August 2020)

	• Communicating vaccine-allocation plans and the safety and effectiveness of vaccines
	  ○ Target of intervention
	  ▪ High-risk groups
	  ▪ Individuals who are hesitant about or opposed to vaccination
	  ○ Delivery of the intervention
	  ▪ By whom (e.g., health worker, research expert, teacher, business leader, government leader, community leader, citizen champion, media)
		• 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
		  ○ 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
			Date of last search or publication not stated (listed as forthcoming)

Type of document	Relevance to question	Key findings	Recency or status
		○ 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: ○ Sufficient time ○ Lack of appropriate context and preparation to facilitate informed decision-making ○ Limited knowledge of disease vaccine aims to prevent ○ 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 Source (AMSTAR rating 1/9)	
	• Communicating vaccine-allocation plans and the safety and effectiveness of vaccines ○ Delivery of the intervention ▪ Modality of delivery (e.g., social media, text, email, telephone, radio, television, face-to-face by video, face-to-face in person)	• 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	Date of literature search not stated (published October 2020)

Type of document	Relevance to question	Key findings	Recency or status
		• 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 Source (AMSTAR rating 4/9)	

	• Administering vaccines in ways that optimize timely uptake
	  ○ With what appointment/scheduling and screening support, changes to physical spaces 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
		• A separate waiting area must be established to allow patients to be monitored post-vaccination for 15 minutes
		• 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
		Source (AMSTAR rating 3/9)
			Date of literature search not reported (published 27 August 2020)

	• Communicating vaccine-allocation plans and the safety and effectiveness of vaccines
	  ○ Target of intervention
	  ▪ Individuals who are hesitant about or opposed to vaccination
	  ○ Delivery of the intervention
	  ▪ By whom
		• 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
			Date of literature search not reported (published 27 August 2020)

Type of document	Relevance to question	Key findings	Recency or status
		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 Source (AMSTAR rating 4/9)	
	• Administering vaccines in ways that optimize timely uptake o With what explicit effort to leverage existing health-system arrangements o With what partnerships to reach early populations of focus o With what broader, complementary health interventions o With what reporting requirements and supporting immunization information systems and broader healthcare information systems	• 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 specific education campaigns and engagement of stakeholders and community partners • Vaccination progress should be continuously monitored to ensure availability of vaccine stock and plan for catch-up vaccination Source (AMSTAR rating 3/9)	Literature last searched June 2020
	• Communicating vaccine-allocation plans and the safety and effectiveness of vaccines o Target of intervention ▪ General public o Delivery of the intervention ▪ Modality of delivery (e.g., social media, text, email, telephone, radio, television, face-to-face by video, face-to-face in person) o Content of messaging ▪ Data and evidence about safety and about effectiveness in terms of both protection against COVID-19 (including duration of protection) and protection against	• 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	Literature last searched May 2020

Type of document	Relevance to question	Key findings	Recency or status
	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	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 Source (AMSTAR rating 8/10)	
Guidance developed using some type of evidence synthesis and/or expert opinion	• Administering vaccines in ways that optimize timely uptake o With what broader, complementary health interventions	• 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: o Indoor visitation o Work restriction for asymptomatic healthcare personnel and quarantine for asymptomatic patients and residents o SARS-CoV-2 testing o Use of personal protective equipment • 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: o If the COVID-19 county positivity rate is >10% and <70% of residents in the facility are fully vaccinated o For vaccinated and unvaccinated residents with SARS-CoV-2 infection until they have met criteria to discontinue transmission-based precautions o For vaccinated and unvaccinated residents in quarantine until they have met criteria for release from quarantine	Published 10 March 2021

Type of document	Relevance to question	Key findings	Recency or status
		○ Unvaccinated residents who wish to be vaccinated should not start indoor visitation until they have been fully vaccinated • Updated recommendations about work restriction: ○ 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 someone with SARS-CoV-2 infection in the prior 14 days Source (Centers for Disease Control and Prevention)	
	• Administering vaccines in ways that optimize timely uptake ○ With what broader, complementary health interventions	• 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: ○ Indoor visits with other fully vaccinated people without wearing masks or physical distancing	Published 8 March 2021

Type of document	Relevance to question	Key findings	Recency or status
		○ 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 Source (Centers for Disease Control and Prevention)	
	• Administering vaccines in ways that optimize timely uptake ○ With what broader, complementary health interventions	• 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 Source (Centers for Disease Control and Prevention)	Published 8 March 2021
	• Allocating vaccines and ancillary supplies equitably ○ Allocation rules	• 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	Published 3 February 2021

Type of document	Relevance to question	Key findings	Recency or status
	○ People for whom vaccine safety and effectiveness has not yet been established	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: ○ 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 Source (Centers for Disease Control and Prevention, American College of Obstetricians and Gynecologists, Society for Maternal-Fetal Medicine)	
	• Securing and distributing a reliable supply of vaccines and ancillary supplies ○ Inventory management within country • Allocating vaccines and ancillary supplies equitably ○ Allocation rules • Administering vaccines in ways that optimize timely uptake ○ With what explicit effort to leverage existing health-system arrangements • Surveillance, monitoring and evaluation, and reporting ○ Infrastructure to enable surveillance, monitoring and evaluation	• 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 • 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	Last updated 1 February 2021

Type of document	Relevance to question	Key findings	Recency or status
		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 Source (European Centre for Disease Prevention and Control)	
	• Surveillance, monitoring and evaluation, and reporting ○ Infrastructure to enable surveillance, monitoring and evaluation	• 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	Last updated 21 February 2021

Type of document	Relevance to question	Key findings	Recency or status
		• 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)	
	• Surveillance, monitoring and evaluation, and reporting ○ Infrastructure to enable surveillance, monitoring and evaluation	• 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 Source (European Centre for Disease Prevention and Control)	Published 3 February 2021

	• Administering vaccines in ways that optimize timely uptake
	  ○ With what safety monitoring requirements
	• Surveillance, monitoring and evaluation and reporting
	  ○ Documenting adverse events and follow-up
		• 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
		  ○ 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
			Last update 26 January 2021

Type of document	Relevance to question	Key findings	Recency or status
		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)	
	• Allocating vaccines and ancillary supplies equitably ○ Allocation rules ▪ People for whom vaccine safety and effectiveness has not yet been established • Communicating vaccine-allocation plans and the safety and effectiveness of vaccines ○ Target of intervention ▪ High-risk groups ○ Delivery of the intervention ▪ By whom ▪ Modality of delivery ○ Content of messaging ▪ 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 ○ Where ▪ Community-based health settings ▪ Other community settings ▪ Primary-care settings	• 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 • 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: ○ 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	Last update 27 January 2021

Type of document	Relevance to question	Key findings	Recency or status
		• 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)	
	• Allocating vaccines and ancillary supplies equitably ○ People at significant risk for severe allergic reaction	• 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 • 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)	Published 16 January 2021
	• Communicating vaccine-allocation plans and the safety and effectiveness of vaccines ○ Target of intervention	• A 23-person *Working Group on Readying Populations for COVID-19 Vaccine* released a set of recommendations and best practices for improving	Published 20 October 2020

Type of document	Relevance to question	Key findings	Recency or status
	▪ General public ▪ High-risk groups ▪ Individuals who are hesitant about or opposed to vaccination • Delivery of the intervention ▪ By whom ○ Content of messaging ▪ 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 ○ Where ○ With what broader, complementary health interventions	COVID-19 vaccine acceptance and addressing hesitancy ○ 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, implement guidelines that are consistent across providers and locations) ○ 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) Source (Johns Hopkins Center for Health Security and Texas State University Department of Anthropology)	

Type of document	Relevance to question	Key findings	Recency or status

	• Allocating vaccines and ancillary supplies equitably
	  ○ Allocation rules
	• Administering vaccines in ways that optimize timely uptake
	  ○ 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
	  ○ Documenting adverse events and follow-up
		• 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 reported using the established Coronavirus Yellow Card reporting scheme
		• 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
		Source (Public Health England)
			Last update 11 January 2021

	• Securing and distributing a reliable supply of vaccines and ancillary supplies
	  ○ National purchasing
	  ○ Ordering within country
	  ○ Storage and handling within country
	• Administering vaccines in ways that optimize timely uptake
	  ○ 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
	  ○ Documenting vaccine status
	  ○ Documenting adverse events and follow-up
		• 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
			Last update 10 January 2021

Type of document	Relevance to question	Key findings	Recency or status
	○ Monitoring supply safety	• 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 • 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)	
	• Securing and distributing a reliable supply of vaccines and ancillary supplies ○ National purchasing ○ Ordering within country ○ Storage and handling within country • Administering vaccines in ways that optimize timely uptake ○ 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 ○ Documenting vaccine status ○ Documenting adverse events and follow-up ○ Monitoring supply safety	• 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	Last update 10 January 2021

Type of document	Relevance to question	Key findings	Recency or status
		before administering the vaccine, administer CCOVID-19 mRNA Vaccine BNT162b2, and provide any post-vaccination advice • 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)	

	• Allocating vaccines and ancillary supplies equitably
	  ○ Allocation rules
	• Communicating vaccine-allocation plans and the safety and effectiveness of vaccines
	  ○ Content of messaging
	  ▪ Data and evidence about safety and about effectiveness
	  ▪ Myths and misinformation about vaccines
		• 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	• Surveillance, monitoring and evaluation, and reporting • Identifying sources of vaccine hesitancy	• Uptake as well as safety and efficacy of COVID-19 vaccines for women who are pregnant or breastfeeding • Factors influencing uptake of vaccine, and healthcare provider's experiences of providing COVID-19 vaccines to pregnant or breastfeeding women Source	Anticipated completion date 30 September 2021

Type of document	Relevance to question	Key findings	Recency or status
	• Surveillance, monitoring and evaluation and reporting ○ Documenting vaccine-related opinions • Identifying sources of vaccine hesitancy	• Identifying factors predictive of COVID-19 vaccine acceptance • Identifying barrier and facilitators associated with vaccination decision-making Source	Anticipated completion date 20 September 2021
	• Surveillance, monitoring and evaluation and reporting ○ Documenting vaccine-related opinions • Identifying sources of vaccine hesitancy	• A systematic review and meta-analysis of healthcare workers' acceptance of COVID-19 vaccines Source	Anticipated completion date 2 July 2021
	• Surveillance, monitoring and evaluation and reporting ○ Documenting vaccine-related opinions • Identifying sources of vaccine hesitancy	• Identifying sources of vaccine hesitancy and strategies for increasing vaccine uptake among people from Black, Asian, and minority ethnic groups in the United Kingdom Source	Anticipated completion date 15 April 2021
	• Surveillance, monitoring and evaluation, and reporting • Identifying sources of vaccine hesitancy	• Acceptance of COVID-19 vaccines across healthcare providers and factors affecting decision to be vaccinated Source	Anticipated completion date 30 March 2021
	• Surveillance, monitoring and evaluation and reporting • Identifying sources of vaccine hesitancy	• Factors associated with the uptake of COVID-19 vaccines among the general population Source	Anticipated completion date 1 April 2021
	• Surveillance, monitoring and evaluation and reporting ○ Identifying sources of vaccine hesitancy	• Pooled hesitancy rate for COVID 19 vaccine uptake globally Source	Anticipated completion date 31 March 2021
	• Surveillance, monitoring and evaluation and reporting ○ Identifying sources of vaccine hesitancy	• Exploring the barriers to vaccine acceptance in racial and ethnic minorities Source	Anticipated completion date 28 March 2021
Titles/questions for reviews that are being planned	*No highly relevant titles/questions found*		
Single studies that provide additional insight	• Allocating vaccines and ancillary supplies equitably ○ Ensuring equity	• A mathematical modelling study using Ontario-based parameters examined the effects of case notifications, non-pharmaceutical intervention adherence, and	Published 31 March 2021

Type of document	Relevance to question	Key findings	Recency or status
		lockdown in conjunction with a vaccination campaign • At a vaccination rate of 1.5% of Ontario's population per week starting January 2021, the oldest-first strategy would reduce COVID-19 mortality by 90.8% on average (followed by 89% in the uniform, 88.9% in the contact-based, and 88.2% in the youngest-first strategies) • The authors reported that more deaths could be prevented by first vaccinating with a contact-based strategy for vaccinations (followed by uniform, oldest-first, youngest-first strategies) • In both scenarios, the youngest-first strategies were lowest in reducing mortality rates • Overall, the authors concluded that interrupting transmission might reduce mortality more effectively than targeting vulnerable groups within populations with high seropositivity and at a later vaccination start date (due to waves) Source	
	• Allocating vaccines and ancillary supplies equitably ○ Ensuring equity	• This study indicated that COVID-19 vaccination coverage was lower in high vulnerability counties than in low vulnerability counties in the first 2.5 months of the U.S. vaccination program, which was largely driven by socio-economic disparities • COVID-19 vaccination equity varied among states and practices in states with high equity included: ○ Prioritizing persons in racial/ethnic minority groups during the early stages of the vaccine program implementation ○ Actively monitoring and addressing barriers to vaccination in vulnerable communities ○ Directing vaccines to vulnerable communities ○ Offering free transportation to vaccination sites	Published 26 March 2021

Type of document	Relevance to question	Key findings	Recency or status
		○ Collaborating with community partners, tribal health organizations, and the Indian Health Service • This study indicated that CDC, state, and local jurisdictions should continue to monitor vaccination coverage by social-vulnerability metrics to develop tailored, local vaccine administration and outreach efforts for reducing vaccination inequities Source	
	• Allocating vaccines and ancillary supplies equitably ○ Allocation rules ▪ People at increased risk of severe COVID-19	• This study examines COVID-19 vaccine prioritization of middle- and older-aged adults with cardiovascular risk factors by using age-stratified and prevalence rates of obesity, diabetes and hypertension data from a large prospective cohort study (Prospective Urban Rural Epidemiology study) • The data shows that obesity, diabetes and hypertension are associated with an increased severe COVID-19 infection risk, and prioritizing adults with risk factors for vaccination is necessary and an efficient way of reducing COVID-19 mortality rates Source	Preprint (last edited 26 March 2021)
	• Allocating vaccines and ancillary supplies equitably ○ Dosing rules	• This modelling study in the context of the English population investigated prioritization of a one-dose or two-dose vaccination schedule given a fixed number of vaccine doses and with respect to a measure of maximizing averted deaths • This study examined two types of strategy for dose allocation: (1) giving as many people one dose or as many people two doses as permitted by the number of doses available (homogeneous strategy); and (2) adding flexibility to the allocation scheme by allowing for a given percentage of vaccine doses being used for first doses, with the remainder used for second doses (heterogeneous strategy) • This modelling study indicated that vaccines offering relatively high protection from the first dose	Preprint (last edited 24 March 2021)

Type of document	Relevance to question	Key findings	Recency or status
		(compared to the efficacy derived from two doses) favour strategies that prioritize giving more people one dose rather than giving a smaller number two doses • The precise timing of first and second doses was contingent on the speed of the vaccine delivery, with more rapid delivery favouring early deployment of second doses Source	
	• Communicating vaccine-allocation plans and the safety and effectiveness of vaccines o Target of intervention ▪ General public o Content of messaging • Information about novel vaccine platforms, current vaccine options, prioritized populations, and behaviours after vaccination	• The following case study illustrates the successes of Israel's vaccination campaign, with the following key factors: o Prioritization of vaccination during the early phases of the campaign (e.g., older and middle-aged adults, healthcare workers, senior home residents and caregivers, people with chronic conditions, followed by teachers and soldiers) o Public trust through integrated and familiar health system o Transparency regarding vaccine safety information o Culturally appropriate messages in digital and offline media (e.g., diverse health-literacy needs) o Active participation and role-modelling by political and religious opinion leaders Source	Published 13 March 2021
	• Allocating vaccines and ancillary supplies equitably o Dosing rules	• 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	Published 6 March 2021

Type of document	Relevance to question	Key findings	Recency or status
		○ 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%) ○ Antibody response was two-fold higher after an interval of 12 weeks compared to six weeks • 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	
	• Allocating vaccines and ancillary supplies equitably ○ Allocation rules ▪ Residents in long-term care homes and other congregate-care settings ▪ People at increased risk of severe COVID-19	• This study analyzed primary data of over 300,000 samples collected from Israel's general community and nursing homes to examine the effect of Israel's three programs of mass PCR testing, focused protection of the elderly population and prioritized vaccination on the spread of the SARS-CoV-2 B.1.1.7 variant strain • The findings showed that within only six weeks, the B.1.1.7. variant strain was capable of out competing the wild-type SARS-CoV-2 strain • For the 60 years and over population, the transmission of the B.1.1.7. variant strain had reached a halt which is likely due to successful surveillance testing and vaccination programs in nursing homes and the community in Israel Source	Published 2 March 2021
	• Surveillance, monitoring and evaluation, and reporting ○ Documenting adverse events and follow-up	• 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	Published 26 February 2021

Type of document	Relevance to question	Key findings	Recency or status
	○ Infrastructure to enable surveillance, monitoring and evaluation	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	
	• Administering vaccines in ways that optimize timely uptake ○ With what explicit effort to leverage existing health-system arrangements ○ Where ▪ Other community settings	• Processes for school-located vaccination events (SLVE) such as research, planning and partnerships (within and outside school settings) with leadership from school nurses are described Source	Published 22 February 2021
	• Securing and distributing a reliable supply of vaccines and ancillary supplies ○ National purchasing ○ Delivery to country ○ Inventory management within country ○ Storage and handling within country	• 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	Published 21 February 2021

Type of document	Relevance to question	Key findings	Recency or status

	• Allocating vaccines and ancillary supplies equitably
	  ○ Ensuring equity
	• Surveillance, monitoring and evaluation and reporting
	  ○ Documenting vaccine-related opinions
	• Identifying sources of vaccine hesitancy
		• 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
		Source	

	• Allocating vaccines and ancillary supplies equitably ○ Approaches to developing and adjusting allocation rules	• 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 • Prioritization was also identified for factors related to socioeconomic statuses, such as low-income groups and non-health related key occupations and workers Source	Preprint (last edited 2 February 2021)

	• Communicating vaccine-allocation plans and the safety and effectiveness of vaccines
	  ○ Target of intervention
	  ▪ High-risk groups
		• 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
			Preprint (last edited 1 February 2021)

Type of document	Relevance to question	Key findings	Recency or status
		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	

	• Communicating vaccine-allocation plans and the safety and effectiveness of vaccines
	  ○ Target of intervention
	  ▪ General public
		• 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
		• Considering preferences and concerns raised by the public could help build trust and community engagement in wider public health strategies
		Source
			Preprint (last edited 1 February 2021)

	• Communicating vaccine-allocation plans and the safety and effectiveness of vaccines
	  ○ Target of intervention
	  ▪ General public
	  ○ Content of messaging
	  ▪ Myths and misinformation about vaccines
		• 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	Published 5 February 2021

Type of document	Relevance to question	Key findings	Recency or status
		• 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	

	• Communicating vaccine-allocation plans and the safety and effectiveness of vaccines
	  ○ Target of intervention
	  ▪ General public
		• 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 persuasive outcomes, whereas loss-framed messaging is more effective when the perceived risk is high
		• 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
		Source
			Published 27 January 2021

Type of document	Relevance to question	Key findings	Recency or status

	• Securing and distributing a reliable supply of vaccines and ancillary supplies
	  ○ National purchasing
	  ○ Distribution within country and to administration sites
	  ○ Storage and handling within country
	• Allocating vaccines and ancillary supplies equitably
	  ○ Approaches to developing and adjusting allocation rules
	• Communicating vaccine-allocation plans and the safety and effectiveness of vaccines
	  ○ Delivery of the intervention
	  ▪ Modality of delivery
	• Administering vaccines in ways that optimize timely uptake
	  ○ With what explicit effort to leverage existing health-system arrangements
	  ○ By whom
		• 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 roll-out in its initial phase, which can be divided into three major groups
		  ○ The first group of factors consists of long-standing characteristics of Israel which are extrinsic to health care, including:
		  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:
		  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
		  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
			Published 26 January 2021

Type of document	Relevance to question	Key findings	Recency or status
		○ The third group consists of factors that are more recent and are specific to the COVID-19 vaccination effort, including: 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 roll-out successful was its combination of facilitating factors (as opposed to each factor being unique separately) and the synergies it created among them Source	
	• Communicating vaccine-allocation plans and the safety and effectiveness of vaccines ○ Target of intervention ▪ General public ○ Delivery of the intervention ▪ Modality of delivery ○ Content of messaging ▪ 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	• A cross-sectional online survey of 2,650 people showed that the majority of respondents (86%) are 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 • 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	Published 20 January 2021

Type of document	Relevance to question	Key findings	Recency or status
		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 Source	
	• Communicating vaccine-allocation plans and the safety and effectiveness of vaccines o Target of intervention ▪ General public ▪ Individuals who are hesitant about or opposed to vaccination o Content of messaging • Data and evidence about safety and about effectiveness in terms of both protection against COVID-19 and protection against transmission	• The study examined the casual effect of exposure to distinct pro- and anti-vaccination message frames on individuals' intentions to get vaccinated o 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 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 • Respondents who received information about political influences on vaccine development expressed hesitancy to take the vaccine Source	Pre-print (last edited 6 January 2021)
	• Securing and distributing a reliable supply of vaccines and ancillary supplies o National purchasing o Delivery to country	• 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:	Published 15 December 2020

Type of document	Relevance to question	Key findings	Recency or status

	• Allocating vaccines and ancillary supplies equitably
	  ○ Allocation rules
	  ▪ 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
		○ 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
		• 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
		  ○ 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 secure and deliver vaccines, the vaccination process can last much longer
		• 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
		Source	

Type of document	Relevance to question	Key findings	Recency or status

	• Securing and distributing a reliable supply of vaccines and ancillary supplies
	  ○ National purchasing
	• Allocating vaccines and ancillary supplies equitably
	  ○ Ensuring equity
		• 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
		  ○ 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
		  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
			Published 15 December 2020

Type of document	Relevance to question	Key findings	Recency or status
		Source	

	• Allocating vaccines and ancillary supplies equitably
	  ○ Allocation rules
	  ▪ 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
	  ○ Target of intervention
	  ▪ General public
	  ▪ Individuals who are hesitant about or opposed to vaccination
		• Among 9,122 respondents in the U.K. (49.4% response rate), 71.5% indicated wanting COVID-19 vaccination, and 9.6% would refuse
		  ○ 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
		  ○ 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)

	• Communicating vaccine-allocation plans and the safety and effectiveness of vaccines
	  ○ Target of intervention
	  ▪ General public
	  ○ Delivery of the intervention
	  ▪ By whom
		• 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
		  ○ 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
			Pre-print (last edited 28 October 2020)

Type of document	Relevance to question	Key findings	Recency or status
		• Further research should be directed towards developing strategies to accurately disseminate information and gain public support within future COVID-19 vaccination campaigns Source	

	• Communicating vaccine-allocation plans and the safety and effectiveness of vaccines
	  ○ Target of intervention
	  ▪ General public
	  ○ Delivery of the intervention
	  ▪ By whom
		• 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)
		Source
			Published 20 October 2020

	• Allocating vaccines and ancillary supplies equitably
	  ○ Allocation rules
	  ▪ Essential workers and/or those in work environments that put them at elevated risk
		• 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)
		• 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
		Source
			Published 6 October 2020

	• Communicating vaccine-allocation plans and the safety and effectiveness of vaccines
	  ○ Target of intervention
	  ▪ General public
	  ○ Delivery of the intervention
	  ▪ Modality of delivery
	  ○ Content of messaging
		• 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
			Published 3 October 2020

Type of document	Relevance to question	Key findings	Recency or status
	▪ 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 o With what broader, complementary health interventions	• 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 Source	
	• Communicating vaccine-allocation plans and the safety and effectiveness of vaccines o Target of intervention ▪ General public o Delivery of the intervention ▪ By whom o Content of messaging ▪ 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	• 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 Source	Last updated 8 September 2020 (pre-print)

Type of document	Relevance to question	Key findings	Recency or status

	• Allocating vaccines and ancillary supplies equitably
	  ○ Allocation rules
	  ▪ People in social environments that put them at elevated risk for COVID-19
	• Administering vaccines in ways that optimize timely uptake
	  ○ Where
	  ▪ Other community settings
		• 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
		Source
			Last updated 12 January 2021 (pre-print)

	• Communicating vaccine-allocation plans and the safety and effectiveness of vaccines
	  ○ Target of intervention
	  ▪ High-risk groups
	  ○ Delivery of the intervention
	  ▪ By whom
	  ○ Content of messaging
	  ▪ Data and evidence about safety and about effectiveness in terms of both protection against COVID-19 and protection against transmission
		• 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:
		  ○ Positively associated with the belief that COVID-19 will persist over time
		  ○ 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
		Source
			Published 5 September 2020

Appendix 2c: New evidence documents of medium and low relevancy to the questions, but that may provide additional insights

Type of document	Relevance to question	Hyperlinked titled	Recency or status
Guidelines	• Allocating vaccines and ancillary supplies equitably	Updated APLAR consensus statements on care for patients with rheumatic diseases during the COVID-19 pandemic	Published 4 May 2021
	• Allocating vaccines and ancillary supplies equitably	Practical recommendations for the management of patients with ITP during the COVID-19 pandemic	Published 1 May 2021
	• Allocating vaccines and ancillary supplies equitably	National Psoriasis Foundation COVID-19 Task Force guidance for management of psoriatic disease during the pandemic: Version 2—Advances in psoriatic disease management, COVID-19 vaccines, and COVID-19	Published May 2021
	• Surveillance, monitoring and evaluation, and reporting	Guidance for conducting a country COVID-19 intra-action review (IAR): Addendum 1	Published 28 April 2021
	• Allocating vaccines and ancillary supplies equitably	COVID-19 vaccine guidance for patients with cancer participating in oncology clinical trials	Published 15 March 2021
Full systematic reviews	• Surveillance, monitoring and evaluation, and reporting	Lymphadenopathy following COVID-19 vaccination: Imaging findings review	Literature last searched 25 March 2021
Rapid reviews	• Surveillance, monitoring and evaluation, and reporting	Gender differences in vaccine therapy: Where are we in COVID-19 pandemic?	Literature last searched 30 June 2020
	• Securing and distributing a reliable supply of vaccines and ancillary supplies • Administering vaccines in ways that optimize timely uptake • Surveillance, monitoring and evaluation, and reporting	Modeling COVID-19 vaccine rollout in Lebanon for better impact	Literature last searched 10 May 2021
	• Administering vaccines in ways that optimize timely uptake	An updated review of SARS-CoV-2 vaccines and the importance of effective vaccination programs in pandemic times	Published 27 April 2021
	• Communicating vaccine-allocation plans and the safety and effectiveness of vaccines	What might be effective methods of communicating with the public (including healthcare professionals) to address concerns about the vaccine and encourage uptake?	Not reported

Protocols for reviews that are underway	• Surveillance, monitoring and evaluation, and reporting	A systematic review and meta-analysis of nationally representative studies examining COVID-19 vaccination intentions	Anticipated completion date 20 December 2020
	• Surveillance, monitoring and evaluation, and reporting	Side-effects of COVID-19 vaccines in pregnant and breastfeeding women: A systematic review/meta-analysis protocol of randomized trials	Anticipated completion date 1 December 2021
	• Surveillance, monitoring and evaluation, and reporting	Side-effects of COVID-19 vaccines: A systematic review/meta-analysis protocol of randomized trials	Anticipated completion date 1 November 2021
	• Surveillance, monitoring and evaluation, and reporting	Population-level prevalence and geographical heterogeneity in COVID-19 vaccine acceptance in the United States: A rapid systematic review and meta-analysis	Anticipated completion date 30 September 2021
	• Surveillance, monitoring and evaluation, and reporting	A rapid systematic review of factors influencing COVID-19 vaccination uptake in minority ethnic groups in the U.K.	Anticipated completion date 29 July 2021
	• Surveillance, monitoring and evaluation, and reporting	Willingness to obtain COVID-19 vaccination among general population: A systematic review and meta analysis	Anticipated completion date 14 July 2021
	• Surveillance, monitoring and evaluation, and reporting	Safety and efficacy of COVID-19 vaccine: A protocol for systematic review and meta-analysis	Anticipated completion date 1 July 2022
	• Surveillance, monitoring and evaluation, and reporting	Cultural and social attitudes towards COVID-19 vaccines and factors associated with the vaccine acceptance in adults across the globe: A systematic review	Anticipated completion date 30 June 2021
	• Surveillance, monitoring and evaluation, and reporting	Meta-analysis on the impact of COVID-19 pandemic on the willingness to vaccinate against influenza	Anticipated completion date 21 June 2021
	• Surveillance, monitoring and evaluation, and reporting	A systematic review of vaccine safety studies with routinely collected healthcare data to inform COVID-19 vaccines: Study design and statistical methods	Anticipated completion date 10 June 2021
	• Surveillance, monitoring and evaluation, and reporting	Willingness of pregnant women for COVID-19 vaccination: a systematic review and meta-analysis	Anticipated completion date 10 June 2021
	• Surveillance, monitoring and evaluation, and reporting	Evaluating COVID-19 vaccine hesitancy: A systematic review	Anticipated completion date 31 May 2021

	• Surveillance, monitoring and evaluation, and reporting	COVID-19 vaccine hesitancy and population vaccination intentions in African countries: A systematic review with meta-analysis	Anticipated completion date 31 May 2021
	• Surveillance, monitoring and evaluation, and reporting	COVID-19 vaccine hesitancy in Black, Asian and minority ethnic groups in the U.K.: A rapid systematic review	Anticipated completion date 15 April 2021
	• Surveillance, monitoring and evaluation, and reporting	Incidence of adverse events to vaccines administered against SARS-CoV-2. A systematic review	Anticipated completion date 29 March 2021
Titles/questions for reviews that are being planned	*No highly relevant titles/questions found*		
Single studies that provide additional insight	• Surveillance, monitoring and evaluation, and reporting	Ethnic differences in SARS-CoV-2 vaccine hesitancy in United Kingdom healthcare workers: Results from the UK-REACH prospective nationwide cohort study	Preprint (last edited 19 May 2021)
	• Surveillance, monitoring and evaluation, and reporting	"This choice does not just affect me." Attitudes of pregnant women toward COVID-19 vaccines: A mixed-methods study	Published 19 May 2021
	• Surveillance, monitoring and evaluation, and reporting	Tweet topics and sentiments relating to COVID-19 vaccination among Australian Twitter users: Machine learning analysis	Published 19 May 2021
	• Surveillance, monitoring and evaluation, and reporting	Public attitudes to COVID-19 vaccines: A qualitative study	Preprint (last edited 18 May 2021)
	• Surveillance, monitoring and evaluation, and reporting	COVID-19 vaccination intent among London healthcare workers	Published 18 May 2021
	• Communicating vaccine-allocation plans and the safety and effectiveness of vaccines	A mega-study of text-based nudges encouraging patients to get vaccinated at an upcoming doctor's appointment	Published 18 May 2021
	• Surveillance, monitoring and evaluation, and reporting	COVID-19 vaccine intentions in the United States—December 2020 to March 2021	Preprint (last edited 17 May 2021)
	• Surveillance, monitoring and evaluation, and reporting	Parents' intention to get vaccinated and to have their child vaccinated against COVID-19: Cross-sectional analyses using data from the KUNO-Kids health study	Published 17 May 2021
	• Surveillance, monitoring and evaluation, and reporting	Acceptability and willingness to pay for a hypothetical vaccine against SARS CoV-2 by the Brazilian consumer: A cross-sectional study and the implications	Published 17 May 2021
	• Surveillance, monitoring and evaluation, and reporting	Determinants of COVID-19 vaccine hesitancy and vaccine uptake in a national cohort of U.S. adults	Preprint (last edited 15 May 2021)

	• Surveillance, monitoring and evaluation, and reporting	Primary-care interventions to address COVID-19 vaccine hesitancy among Israel defense forces soldiers	Published 14 May 2021
	• Surveillance, monitoring and evaluation, and reporting	Acceptance of the coronavirus disease-2019 vaccine among medical students in Uganda	Published 13 May 2021
	• Surveillance, monitoring and evaluation, and reporting	Factors affecting COVID-19 vaccine hesitancy in Bangladesh: An empirical investigation	Preprint (last edited 11 May 2021)
	• Surveillance, monitoring and evaluation, and reporting	Social and racial/ethnic differences in parental willingness to vaccinate children against COVID-19 in Montreal, Canada	Preprint (last edited 10 May 2021)
	• Surveillance, monitoring and evaluation, and reporting	The role of trauma in mothers' COVID-19 vaccine beliefs and intentions	Published 10 May 2021
	• Allocating vaccines and ancillary supplies equitably	Allocation of COVID-19 vaccination: when public prioritization preferences differ from official regulations	Published 10 May 2021
	• Surveillance, monitoring and evaluation, and reporting	Changes in legislator vaccine-engagement on Twitter before and after the arrival of the COVID-19 pandemic	Published 10 May 2021
	• Surveillance, monitoring and evaluation, and reporting	Willingness to receive COVID-19 vaccination among people living with HIV and AIDS in China: A nationwide online survey	Preprint (last edited 8 May 2021)
	• Surveillance, monitoring and evaluation, and reporting	A comparison between people with HIV in the Southeastern United States and Argentina: COVID-19 vaccine hesitancy	Preprint (last edited 8 May 2021)
	• Surveillance, monitoring and evaluation, and reporting	Estimating COVID-19 vaccine effectiveness against severe acute respiratory infections (SARI) hospitalizations associated with laboratory-confirmed SARS-CoV-2: An evaluation using the test-negative design	Published 6 May 2021
	• Communicating vaccine-allocation plans and the safety and effectiveness of vaccines	YouTube videos and informed decision-making about COVID-19 vaccination: Successive sampling study	Published 6 May 2021
	• Surveillance, monitoring and evaluation, and reporting	COVID-19 vaccine hesitancy among healthcare workers	Published 5 May 2021
	• Surveillance, monitoring and evaluation, and reporting	Understanding COVID-19 misinformation and vaccine hesitancy in context: Findings from a qualitative study involving citizens in Bradford, U.K.	Published 4 May 2021
	• Surveillance, monitoring and evaluation, and reporting	Women's views on accepting COVID-19 vaccination during and after pregnancy, and for their babies: A multi-methods study in the U.K.	Preprint (last edited 3 May 2021)

	• Surveillance, monitoring and evaluation, and reporting	Factors associated with behavioural intention of free and self-paid COVID-19 vaccination based on the social cognitive theory among nurses and doctors in China	Published 3 May 2021
	• Surveillance, monitoring and evaluation, and reporting	COVID-19 vaccine acceptance among healthcare workers in a United States medical center	Preprint (last edited 30 April 2021)
	• Surveillance, monitoring and evaluation, and reporting	Safety monitoring of COVID vaccines and perception of post-vaccination side-effects: Preliminary findings from the first month of routine monitoring in a hospital vaccination setting of China	Preprint (last edited 30 April 2021)
	• Surveillance, monitoring and evaluation, and reporting	Race-ethnicity and perceptional determinants of COVID-19 vaccination intentions: A cross-sectional study among health workers and the general population in the San Francisco Bay Area	Preprint (last edited 29 April 2021)
	• Surveillance, monitoring and evaluation, and reporting	Dental students' attitudes and hesitancy toward COVID-19 vaccine	Published 29 April 2021
	• Surveillance, monitoring and evaluation, and reporting	SARS-CoV-2 vaccine hesitancy in a sample of U.S. adults: Role of perceived satisfaction with health, access to healthcare, and attention to COVID-19 news	Published 29 April 2021
	• Surveillance, monitoring and evaluation, and reporting	SARS-CoV-2 vaccine acceptability in patients on hemodialysis: A nationwide survey	Published 29 April 2021
	• Allocating vaccines and ancillary supplies equitably	SARS-CoV-2 vaccination uptake in a correctional setting	Preprint (last edited 29 April 2021)
	• Securing and distributing a reliable supply of vaccines and ancillary supplies	The role of good governance in the race for global vaccination during the COVID-19 pandemic	Preprint (last edited 28 April 2021)
	• Communicating vaccine-allocation plans and the safety and effectiveness of vaccines	The impact of health information exposure and source credibility on COVID-19 vaccination intention in Germany	Published 28 April 2021
	• Surveillance, monitoring and evaluation, and reporting	Individual and social determinants of COVID-19 vaccine uptake	Published 28 April 2021
	• Surveillance, monitoring and evaluation, and reporting	The barrier to vaccination is not vaccine hesitancy: Patterns of COVID-19 vaccine acceptance over the course of the pandemic in 23 countries	Preprint (last edited 27 April 2021)
	• Surveillance, monitoring and evaluation, and reporting	COVID-19 vaccine hesitancy and related fears and anxiety	Published 27 April 2021
	• Surveillance, monitoring and evaluation, and reporting	COVID-19 vaccination and intention to vaccinate among a sample of college students in New Jersey	Published 27 April 2021

	• Surveillance, monitoring and evaluation, and reporting	Determinants of COVID-19 vaccine acceptance in six lower- and middle-income countries	Preprint (last edited 26 April 2021)
	• Surveillance, monitoring and evaluation, and reporting	COVID-19 vaccine acceptance, barriers and facilitators among healthcare workers in Pakistan	Preprint (last edited 26 April 2021)
	• Surveillance, monitoring and evaluation, and reporting	Surveying willingness towards SARS-CoV-2 vaccination of healthcare workers in Italy	Published 26 April 2021
	• Surveillance, monitoring and evaluation, and reporting	COVID-19 vaccination beliefs, attitudes, and behaviours among health and social-care workers in the U.K.: A mixed-methods study	Preprint (last edited 25 April 2021)
	• Surveillance, monitoring and evaluation, and reporting	Exploring the behavioural determinants of COVID-19 vaccine acceptance among an urban population in Bangladesh: Implications for behaviour change interventions	Preprint (last edited 25 April 2021)
	• Surveillance, monitoring and evaluation, and reporting	COVID-19 vaccine hesitancy among the adult population in Bangladesh: A nationally representative cross-sectional survey	Preprint (last edited 25 April 2021)
	• Surveillance, monitoring and evaluation, and reporting	Monitoring global trends in COVID-19 vaccination intention and confidence: A social media-based deep learning study	Preprint (last edited 25 April 2021)
	• Surveillance, monitoring and evaluation, and reporting	Higher COVID-19 vaccination rates among unemployed in the United States: State level study in the first 100 days of vaccine initiation	Preprint (last edited 21 April 2021)
	• Surveillance, monitoring and evaluation, and reporting	Factors influencing COVID-19 vaccine acceptance across subgroups in the United States: Evidence from a conjoint experiment	Published 24 April 2021
	• Surveillance, monitoring and evaluation, and reporting	Acceptance and attitudes toward COVID-19 vaccines: A cross-sectional study from Jordan	Published 23 April 2021
	• Surveillance, monitoring and evaluation, and reporting	Gender differences in the determinants of willingness to get the COVID-19 vaccine among the working-age population in Japan	Preprint (last edited 20 April 2021)
	• Surveillance, monitoring and evaluation, and reporting	#Scamdemic, #Plandemic, or #Scaredemic: What Parler social media platform tells us about COVID-19 vaccine	Published 22 April 2021
	• Communicating vaccine-allocation plans and the safety and effectiveness of vaccines • Surveillance, monitoring and evaluation, and reporting	Behavioural and attitudinal correlates of trusted sources of COVID-19 vaccine information in the U.S.	Published 20 April 2021

	• Allocating vaccines and ancillary supplies equitably	Strategies and action points to ensure equitable uptake of COVID-19 vaccinations: A national qualitative interview study to explore the views of undocumented migrants, asylum seekers, and refugee	Preprint (last edited 19 April 2021)
	• Surveillance, monitoring and evaluation, and reporting	The Community Opinions on Vaccine Issues and Decisions (COVID) Survey: Using a rapid Knowledge, Attitude and Practice (KAP) survey in supporting a community engagement approach to address COVID-19 vaccine	Preprint (last edited 17 April 2021)
	• Surveillance, monitoring and evaluation, and reporting	Cross-sectional analysis of COVID-19 vaccine intention, perceptions and hesitancy across Latin America and the Caribbean	Published 16 April 2021
	• Surveillance, monitoring and evaluation, and reporting	Pediatricians' COVID-19 experiences and views on the willingness to receive COVID-19 vaccines: A cross-sectional survey in Turkey	Published 16 April 2021
	• Surveillance, monitoring and evaluation, and reporting	Differences in COVID-19 vaccine concerns among Asian Americans and Pacific Islanders: The COMPASS survey	Published 14 April 2021
	• Surveillance, monitoring and evaluation, and reporting	The perception and attitudes toward COVID-19 vaccines: A cross-sectional study in Poland	Published 14 April 2021
	• Surveillance, monitoring and evaluation, and reporting	COVID-19 vaccine perceptions: An observational study on Reddit	Preprint (last edited 13 April 2021)
	• Surveillance, monitoring and evaluation, and reporting	Vaccination willingness, vaccine hesitancy, and estimated coverage at the first round of COVID-19 vaccination in China	Published 13 April 2021
	• Surveillance, monitoring and evaluation, and reporting	COVID-19 vaccination intention among healthcare workers in Vietnam	Published 12 April 2021
	• Surveillance, monitoring and evaluation, and reporting	Predictors of willingness to get a COVID-19 vaccine in the U.S	Published 12 April 2021
	• Surveillance, monitoring and evaluation, and reporting	Intention to get COVID-19 vaccinations among Ophthalmology residents in Poland: A cross-sectional survey	Published 11 April 2021
	• Surveillance, monitoring and evaluation, and reporting	Women perception of SARS-CoV-2 vaccination during pregnancy and subsequent maternal anxiety: A prospective observational study	Published 11 April 2021
	• Surveillance, monitoring and evaluation, and reporting	Attitudes toward COVID-19 vaccines in Chinese college students	Published 10 April 2021

	• Allocating vaccines and ancillary supplies equitably	Public perspectives on COVID-19 vaccine prioritization	Published 9 April 2021
	• Surveillance, monitoring and evaluation, and reporting	COVID-19 vaccination acceptability in the U.K. at the start of the vaccination program: A nationally representative cross-sectional survey (CoVAccS – wave 2)	Preprint (last edited 8 April 2021)
	• Surveillance, monitoring and evaluation, and reporting	Artificial intelligence-enabled analysis of public attitudes on Facebook and Twitter toward COVID-19 vaccines in the United Kingdom and the United States: Observational study	Published 5 April 2021
	• Surveillance, monitoring and evaluation, and reporting	Acceptance of COVID-19 vaccine among persons experiencing homelessness in the City of Rome, Italy	Published April 2021
	• Surveillance, monitoring and evaluation, and reporting	Determinants of intention to get vaccinated against COVID-19 among healthcare personnel in hospitals in Greece	Published 31 March 2021
	• Surveillance, monitoring and evaluation, and reporting	Will Africans take COVID-19 vaccination?	Preprint (last edited 29 March 2021)
	• Surveillance, monitoring and evaluation, and reporting	Will Africans take COVID-19 vaccination?	Preprint (last edited 29 March 2021)
	• Allocating vaccines and ancillary supplies equitably	Parents' willingness to pay for a COVID-19 vaccine for themselves and their children in the United States	Published 30 April 2021
	• Surveillance, monitoring and evaluation, and reporting	Pregnant women perspectives on SARS-COV-2 vaccine	Published 22 March 2021

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	• Australia has partnered with the University of Oxford-AstraZeneca, Novavax, Pfizer-BioNTech, and COVAX Facility to secure a range of COVID-19 vaccine supply o 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 o 51 million doses of the Novavax vaccine have been secured, which will be manufactured and imported internationally from Europe o Australia has secured a total of 40 million Pfizer-BioNTech vaccine doses as of 9 April 2021 – 10 million doses were purchased in November 2020 and	• 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: o Phase 1A: 1.4 million o Phase 1B: 14.8 million o Phase 2A: 15.8 million o Phase 2B: 16 million o Phase 3: 13.6 million • The COVID-19 Vaccine National Rollout Strategy highlights the priority populations for each of the five phases: o Phase 1A: quarantine and border workers, front-line healthcare workers, and aged-care and disability staff/residents o Phase 1B: older adults aged 70 years and over, other healthcare workers, adults with pre-existing conditions, high-risk workers (e.g., fire, police, and meat processing staff), household members of quarantine and border workers, residents living	• To inform residents, the Government of Australia will be promoting an educational campaign on its COVID-19 vaccination program o This campaign will include medical experts discussing vaccine roll-out, priority populations, and projected timelines o This will be aimed towards priority groups, culturally diverse groups, and Aboriginal and Torres Strait Islander people o 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,	• 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: o Three in New South Wales; o Four in Victoria; o Three in Queensland; o Two in South Australia; and o One in each of Western Australia, Tasmania, Australian Capital Territory, and Northern Territory • Pfizer-BioNTech vaccines will only be administered at Hospital/Pfizer Hubs o General practices will provide vaccines to individuals aged 70 and over, individuals with pre-existing conditions,	• All successfully administered COVID-19 vaccinations will be documented into reporting and monitoring systems (e.g., Australian Immunisation Register) o This will include personal information such as name, date of birth, contact details, gender, and if applicable, healthcare number and Medicare identifier o Information from the Australian Immunisation Register is routinely uploaded to the Enterprise Data Warehouse (EDW) o 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

	again in February 2021, and another 20 million doses were purchased in April 2021 • On 13 May 2021, the Australian Government announced an agreement to secure 25 million doses of the Moderna vaccine (10 million doses of their current vaccine and 15 million doses of booster or variant-specific versions) ○ If approved by the TGA, the current Moderna vaccine will be available in the second half of 2021 and variant-specific versions of the vaccine to arrive in the first half of 2022 • The Australian Government is in discussions with Moderna to establish a manufacturing facility in Australia • On 25 January 2021, the Therapeutic Goods Administration (TGA) provisionally approved the use of the Pfizer-BioNTech COVID-19 vaccine in Australia ○ On 15 February 2021, Australia received its first shipment of over	with a medical condition or disability, caregivers, and Aboriginal and Torres Strait Islander people aged 50 years and older ○ Phase 2A: Adults aged 50 years and over, Aboriginal and Torres Strait Islander people aged 16-49 years, and other high-risk workers ○ Phase 2B: People aged 16 to 49 years) ○ Phase 3: residents younger than 16 years of age • Vaccine roll-out commenced as scheduled on 22 February 2021 ○ Phase 1B of the vaccine roll-out commenced on 22 March 2021 ○ Phase 2A started on 3 May 2021 (people aged 50 years and over at state and territory vaccination clinics) and 17 May 2021 (people aged 50 years and over at participating general practice) • The administration of the Oxford-AstraZeneca vaccine commenced on 5 March 2021 in South Australia • On 8 April 2021, the Australian Technical Advisory Group on Immunisation released a statement regarding the	videos, posters, presentations, and social-media graphics ○ 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 launched a new website feature, "Is it true?", in an attempt to combat misinformation and reduce vaccine hesitancy among residents • 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	and in Phase 1B, Aboriginal and Torres Strait Islander people ○ 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 ○ COVID-19 vaccine appointment bookings commenced on 19 March 2021 at general practitioner-led respiratory clinics, and vaccinations at these sites began on 22 March 2021 ○ Vaccinations started with 1,000 general practices and this number will gradually increase to	• The Australian Government has partnered with Accenture to develop a monitoring program for COVID-19 vaccines • 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 • The reporting of adverse effects after COVID-19 vaccine administration can be directed to the TGA, healthcare providers, state health departments, and the NPS MedicineWise Adverse Medicine Events (AME) Line

	142,000 doses of the Pfizer-BioNTech vaccine ○ Delivery of the Pfizer-BioNTech vaccine will consist of verifying dispatched batches at the border and distributing imported doses to vaccination sites • 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 • 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) ○ In order to safely store and handle the Pfizer-	safety of the Oxford-AstraZeneca vaccine ○ The advisory group noted evidence of thrombosis with thrombocytopenia syndrome upon the administration of the Oxford-AstraZeneca vaccine ○ Recommendations have been adjusted to prioritize the administration of the Pfizer-BioNTech vaccine in adults under the age of 50 years ○ Residents who have already been vaccinated with the first dose of the Oxford-AstraZeneca vaccine, without any prior side-effects, will still be able to receive their second dose ○ Under specific situations, when the benefits outweigh the risks, residents under the age of 50 years can consent to receiving the Oxford-AstraZeneca vaccine • On 11 May 2021, the Australian Technical Advisory Group on Immunisation granted a provisional determination (first stage of assessment approval process) to Pfizer-BioNTech for the use of	provide Australians with a projected vaccination timeline	over 4,000 by the end of April 2021 • Community pharmacies are eligible to serve as vaccine-administration sites as part of Phase 2A of the distribution plan • 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 COVID-19 vaccine roll-out plan • The Government of Australia has called upon the following four providers to help support the vaccine workforce with increased staff and training initiatives: ○ Aspen Medical ○ Healthcare Australia ○ International SOS ○ Sonic Clinical Services • In partnership with the Australian College of	

	BioNTech vaccine, the Government of Australia is preparing to secure cold-chain storage, staff training, and regular management of equipment and monitoring systems	their vaccine in individuals aged 12 years or older
		• As of 25 May 2021, a total of 3,690,622 COVID-19 vaccine doses have been administered to Australians
		  ○ 2,061,522 of these doses have been delivered through primary care
				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:
				  ○ Health professionals in hospitals
				  ○ General practices
				  ○ State and Commonwealth clinics
				  ○ Aboriginal Community Controlled Health Organizations
				  ○ Pharmacies
				• The subset of "Core" modules will cover:
				  ○ 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 • As of 17 May 2021, Australia is not pursuing a no-fault COVID-19 vaccine injury compensation as serious side-effects are extremely rare	
China	• 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 • The pricing of COVID-19 vaccines is developed by the vaccine industry based on the attributes of	• China implemented a two-step strategy for COVID-19 vaccination ○ 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 ○ With COVID-19 vaccines officially approved to enter the market or the yield of vaccines improving steadily, the	• 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	• On 2 April 2021, China's NHC and CDC developed the guideline on administration of COVID-19 vaccines and vaccination sites • The administration of COVID-19 vaccines is carried out in vaccination sites that are approved by local health-administration departments ○ Generally, the vaccination sites are set up in the health service centres, township health centres or general hospitals in the jurisdictions	• The Vaccine Administration Law of the People's Republic of China indicates that the state shall implement whole process electronic traceability systems for vaccines • China has established a national electronic vaccine traceability platform, where all localities can timely and accurately report required information so that vaccines can be traced throughout the whole process • The related vaccine laws have clear regulations on the monitoring,

	public products and the related costs ○ 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 ○ As 21 March 2021, China's annual vaccine production can fully meet the whole country's needs, as judged by the existing production arrangements • The Hong Kong Special Administrative Region (HKSAR) government has secured a total of 22.5	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 • 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 ○ 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 ○ As of 21 March 2021, China started vaccinations for people 60 and older, aiming to reach nearly 254 million seniors ○ A guideline published on 29 March 2021 recommended to use the same vaccine product to complete immunization ○ China's NHC recommended COVID-19 vaccination for people aged 60 and older in the guideline published on 29 March 2021	about COVID-19 vaccines • Multiple approaches for communicating 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 "vaccine nationalism" and rejects any "vaccine divide" or any attempt to politicize vaccine cooperation • On 31 March 2021, China's CDC updated 34 frequent questions and answers about COVID-19 vaccines • On 22 March 2021, HKSAR chief executive urged Hong Kong residents to actively receive COVID-19 vaccine and to refer to the official vaccine information and professional opinions of health experts, instead of rumours and disinformation	○ For the enterprises and organizations where the priority populations are concentrated, the temporary vaccination sites will be set up ○ Information on vaccination sites will be made available to the public • During the vaccination process, the recipients should pay attention to and cooperate with the following aspects: ○ 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	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 completed", and this application could be in Chinese or English language • In Macao, vaccination records are updated in the health code with hyperlinks

	million doses of COVID-19 vaccines, enough to cover Hong Kong's 7.5-million population, as each person needs to take two jabs • 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 29 March 2021, China has approved four COVID-19 vaccines for conditional market use and one for emergency use, which include inactivated vaccines (three products), adenovirus vector vaccine (one product), and recombinant protein subunit vaccine (one product) ○ On 15 May 2021, China approved one more inactivated COVID-19 vaccine for emergency use, which was developed by Shenzhen Kangtai Biological Products • As of 8 March 2021, China has 17 COVID-19 vaccines currently in clinical trials, among	• As of 26 March 2021, Beijing has started COVID-19 vaccination for foreign nationals in the city ○ As of 25 April 2021, the vaccination is available for foreigners in Shanghai, Beijing, Tianjin, Zhejiang province, Jiangsu province and Guangdong province • As of 25 May 2021, more than 546.71 million doses of COVID-19 vaccines have been administered across China • As of 25 May 2021, over 2.2 million vaccine doses have been administered in Hong Kong, with 934,341 people having been fully vaccinated • In Hong Kong, the priority groups include medical workers and the aged, nursing home staff, public-service providers such as street cleaners, postmen and discipline force members, and workers in cross-border transport, including truck drivers and crews • On 8 March 2021, the priority groups in Hongkong will be expanded, covering workers in catering industry, tourism, public transportation, property management, construction sites, schools	• On 11 April 2021, China's NHC encouraged more people to get vaccinated against COVID-19 on a voluntary, informed basis instead of a compulsory one • On 2 April 2021, China's NHC and CDC developed a series of COVID-19 vaccination training materials for vaccination providers and staff, including guideline on the use of COVID-19 vaccines, adverse events following immunization (AEFI) management guideline, vaccination administration guideline, registration and reporting guideline	to the vaccination institution and seek medical advice • In Macao, the vaccination certificate and record card will be issued after completing two doses of vaccinations, which will be updated in the health code with hyperlinks • People's Insurance Company of China (PICC) Life Insurance took the lead in launching medical-accident insurance for COVID-19 and other vaccines, which covers compensation for abnormal reactions • On 21 March 2021, China's CDC recommended that people, vaccinated or not, still need to wear masks in indoor or closed sites where people gather, maintain personal hygiene, and comply with local COVID-19 prevention and control measures, until population-level immunity is achieved through vaccination in China	• On 2 April 2021, China's NHC and CDC developed guidelines on adverse events following immunization (AEFI) monitoring and management, and vaccination registration and reporting

	which seven are undergoing phase-III 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 ○ The vehicles transporting COVID-19 vaccines will be exempted from tolls before 31 December 2021 ○ The Civil Aviation Administration of China (CAAC) updated the guidebook for COVID-19 vaccine transport in February 2021 and established a special team to support and coordinate vaccine transportation • On 7 May 2021, the Sinopharm COVID-19 vaccine was listed for WHO Emergency Use Listing (EUL), ○ The vaccine is produced by Beijing	• As of 26 May 2021, a total of 157,263 vaccine doses have been administered in Macao, with 58,837 people having been fully vaccinated • 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 ○ 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 • China deploys mobile vaccination vehicles to speed up the immunization process with offering a one-stop service for registration, disinfection and vaccination ○ The vehicle is equipped with vaccination stations, medical refrigerators and first-aid equipment, and the refrigerators are able to store 1,200 vaccine doses • Based on the guideline published on 29 March 2021, the recommendations on doses and vaccination intervals were as follows:		• On 8 March 2021, the Ministry of Foreign Affairs officially launched the international travel health certificate showing one's nucleic acid test and serum antibody results, vaccine inoculation and other information, which is available for Chinese citizens via a WeChat mini program • China has eased visa application procedures for people inoculated with Chinese COVID-19 vaccines • 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	

	Bio-Institute of Biological Products Co Ltd, subsidiary of China National Biotec Group • As of 20 May 2021, China has exported vaccines to more than 50 countries, and collaborated with over 10 countries in vaccine research and development (R&D) and production • As of 8 May 2021, China has provided vaccine aid to 80 countries and three international organizations, which covers 26 Asian countries, 34 African countries, four countries in Europe, 10 in America, and six in Oceania, the African Union, the Arab League and UN peacekeepers ○ Over 60 countries have approved market access or issued emergency-use permits for Chinese vaccines ○ Three factors are considered in formulating an aid plan: the benefits of equitable and timely access to vaccines for developing countries, the severity of the epidemic and the	○ Inactivated vaccines: two doses, interval (three to eight weeks) ○ Adenovirus vector vaccine: one dose ○ Recombinant protein subunit vaccine: three doses, interval (no less than four weeks between two shots, second dose administered within eight weeks after the first shot, third dose administered within six months after the first shot) ○ For people who have not completed the vaccination within the schedule, they should resume the vaccination as soon as possible without needing to start over again, and a booster shot is not recommended • China will launch a "spring sprout" program to assist and secure vaccination for its citizens with Chinese or foreign vaccines ○ This program will include setting up vaccination stations in countries where conditions allow to administer Chinese vaccines to nationals living in surrounding countries ○ On 16 March 2021, China's embassy in Egypt launched a COVID-19			

	specific vaccine aid needs of the countries concerned, and the capacity of the Chinese government to provide vaccines o China provides syringes for vaccine administration for some countries that have difficulties accessing them o China is willing to cooperate with the International Olympic Committee to provide vaccines to Olympians • As of 1 April 2021, over 11,000 tonnes of COVID-19 vaccines have shipped from Beijing, China to the world • On 24 March 2021, China's HKSAR and Macao SAR governments suspended Pfizer-BioNTech vaccination due to packaging defects • On 9 April 2021, China's HKSAR government asked AstraZeneca to delay the delivery of its COVID-19 vaccines • On 21 May 2021, Chinese President Xi Jinping said China supports its vaccine companies in transferring technologies to other developing countries and	vaccination drive for over 5,000 Chinese citizens			

	carrying out joint production with them				

France	• France has been allocated a total of 200 million vaccine doses through partnerships secured by the European Commission
	• On 29 January 2021, the Oxford-AstraZeneca vaccine was approved for use in France
	• On 12 March 2021, the Janssen (Johnson & Johnson) vaccine was approved for use in France
	• Distribution of Pfizer-BioNTech vaccines to administration sites follows one of the following processes:
	  ○ 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 country that can safely store and administer them
		• 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:
		  ○ 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)
		• Administration of the Oxford-AstraZeneca and Janssen (Johnson & Johnson) vaccines are only recommended in eligible population groups over the age of 55 years, while the Pfizer-BioNTech and Moderna vaccines can be administered to all eligible groups regardless of age
		• Health authorities have broadened the eligible
			• 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
			  ○ This panel consists of a total of 35 citizens
			  ○ The aim of this panel will be to collate the concerns and queries posed by the public and present them to the federal government
			• As of 31 March 2021, a vaccine campaign has been launched via text and call to reach out to residents older than 75 years who have yet to be vaccinated
				• COVID-19 vaccinations require an appointment to be made at a select vaccination centre
				  ○ 1,700 vaccination centres are fully operational and currently administering Pfizer-BioNTech and Moderna vaccines to all residents aged 70 and older
				• The Government of France has authorized both medical practices and pharmacies to assist in the administration of the Oxford-AstraZeneca and Janssen vaccines
				• The Government of France is currently planning the launch of "mega-vaccination centres"
				  ○ 25,000 firefighters have been trained for vaccine administration
				  ○ 2,500 firefighters are in charge of logistics of this operation
				  ○ A weekly total estimate of 530,000
					• Public Health France has stated that the vaccination campaign will be coupled with publicly available surveillance, monitoring and evaluation indicators
					  ○ 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 the General Directorate of Health, the "SI Vaccin Covid" system will be used for surveillance, monitoring, evaluation, and reporting of COVID-19 vaccine data
					• Insights gleaned by the Economic, Social and

	• Ancillary supplies were mass ordered prior to the arrival of the COVID-19 vaccine
	  ○ Pharmacies and hospitals are responsible for delivering these supplies to institutional care facilities (e.g., long-term care homes)
		priority population groups in the vaccine distribution plan and as of 12 April 2021, the groups eligible to receive a COVID-19 vaccine consist of:
		  ○ All residents aged 55 and older
		  ○ Long-term care home residents and staff
		  ○ High-risk individuals (e.g., Trisomy 21, cancer, transplant patients, and rare diseases, body mass greater than 30)
		  ○ Older adults in healthcare facilities and serviced residences
		  ○ Residents aged 60 and older in migrant worker homes
		  ○ Disability care home residents
		  ○ Healthcare professionals
		  ○ Individuals aged 50 to 54 who are living with comorbidities
		  ○ Individuals who have previously contracted COVID-19
		  ○ Pregnant (from second trimester) or breastfeeding women
		• The two-dose Pfizer-BioNTech vaccine is only to be administered by nurses and physicians, and the second dose will be administered after 21 days
				doses can be administered through the addition of these centres
				• Vaccinated individuals are still required to respect and follow public-health measures (e.g., face masks and physical distancing)
					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

		• 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
		• As of 24 May 2021, France opened vaccination to all people aged 18 years and older within a priority profession
		  ○ Professionals concerned will be able to be vaccinated on presentation of proof of eligibility, such as professional card, pay slip for employees, declaration on honour for others
		• List of professionals over the age of 18 years and considered to be more exposed to COVID-19 who are eligible as of 24 May 2021 include:
		  ○ Teachers from schools, colleges, high schools
		  ○ Early childhood professionals
		  ○ National and municipal police
		  ○ Bus and taxi drivers
		  ○ Waste collection agents
		  ○ Employees and business managers of food businesses (e.g., cashiers, food vendors)			

		○ Event workers • Given the significant vaccination coverage, as of 31 May 2021 France will open vaccination to all people aged 18 years and older • As of 26 May 2021, France has administered 34,200,676 vaccines doses ○ 24,098,326 individuals have received their first dose (45.9% of the total population) ○ 10,102,350 individuals have received their second dose and are fully vaccination (19.2% of the total population)			
Germany	• Germany has approved the use of the Moderna, Pfizer-BioNTech, Johnson & Johnson, and Oxford-AstraZeneca vaccines ○ As per the distribution formula of the European Union, Germany is expected to receive over 70 million vaccine doses in the second quarter of 2021 • As of 12 May 2021, updated vaccine projections for the 2021 year include: ○ In the first quarter of the year, 12.4 million	• Group 1, the highest priority group, is eligible to receive vaccines in the first stage: ○ Individuals aged 80 and older ○ 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: ○ Individuals between 70 and 80 years of age ○ At-risk individuals who may suffer a severe outcome (e.g., transplant	• The Government of Germany has launched a COVID-19 vaccine information campaign, "Germany Pulls Up Its Sleeves", to help educate and inform the public ○ 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	• Vaccines are administered in vaccination centres and in care facilities by mobile teams during the centralized vaccination phases ○ Federal states are responsible for managing the operations of vaccination centres and ensuring safe management of vaccines • As of 5 April 2021, vaccine administration sites have expanded to include 50,000 general practitioner clinics	• 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

	doses of Pfizer-BioNTech, 1.8 million doses of Moderna, and 5.7 million doses of Oxford-AstraZeneca are expected ○ In the second quarter of the year, 50.2 million doses of Pfizer-BioNTech, 6.4 million doses of Moderna, 12.4-15.4 million doses of Oxford-AstraZeneca, and 10.1 million doses of Johnson & Johnson are expected ○ By the end of 2021, 119 million doses of Pfizer-BioNTech, 78 million doses of Moderna, 56.3 million doses of Oxford-AstraZeneca, and 36.7 million doses of Johnson & Johnson are expected • The Oxford-AstraZeneca vaccine was approved for use on 29 January 2021 • Distribution of the Pfizer-BioNTech vaccine to federal states is based on the proportion of the population that reside in those regions ○ Pfizer-BioNTech will deliver the vaccine to one of the designated	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: ○ 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) ○ Staff in the education and judiciary sector ○ Staff in retail, the meat-processing industry and seasonal workers • As of 31 March 2021, administration of the Oxford-AstraZeneca vaccine is now being prioritized for residents aged 60 years and older	Committee has been established on the federal level to help disseminate information relating to vaccine development, roll-out, and timelines ○ This committee will primarily be targeting priority groups including healthcare workers, vulnerable populations, and the general public	○ As of 24 May 2021, 12,512,810 vaccinations had been delivered to doctors' offices • In April 2021, medical practices began administering vaccinations • An additional 2,500 military personnel are scheduled to be deployed to vaccination centres in order to assist with the vaccine roll-out • An individual who suffers damage from the COVID-19 vaccine will receive care in accordance with the Federal Supply Act	• This will include monitoring: ○ Vaccination rates by conducting online surveys ○ Vaccine safety through routine pharmacovigilance, surveillance of pregnant women, short-term app-based cohort studies, and long-term hospital-based case-control studies ○ Vaccine efficacy by using case reports ○ Digital health data

	delivery centres, from where it will then be distributed to regional vaccination centres for administration
	• COVID-19 vaccine distribution to medical practices follows:
	  ○ 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
	  ○ It is projected that 250 million vaccine doses will be manufactured at this facility in the first half of 2021
	  ○ On 26 March 2021, the European Medicines Agency approved the manufacturing of the COVID-19 vaccine drug product at this facility
		○ Residents under the age of 60 years, who previously received their initial dose of the vaccine, will be able to choose whether to delay their second dose
		  ○ STIKO is scheduled to provide further recommendation(s) regarding this by the end of April 2021
		• According to the Standing Committee on Vaccination (STIKO), the Oxford-AstraZeneca vaccine requires two doses in a 12-week interval
		• As of 6 May 2021, Germany lifted restrictions banning those under 60 from getting the Oxford-AstraZeneca vaccine,
		  ○ The country is now expanding eligibility for all adults
		  ○ Second doses can be administered four weeks after receiving the first vaccine
		• As of 10 May 2021, the government lifted prioritization of the Johnson & Johnson vaccination, now allowing all adults to receive a dose
		• On 7 June 2021, the government will lift its vaccination prioritization plan and allow anyone over			

	○ Distribution of the first batch of vaccines was scheduled to begin in April 2021 • As of 23 May 2021, Germany has received 50,910,572 vaccine doses through partnerships with Pfizer-BioNTech, Oxford-AstraZeneca, and Moderna ○ On 19 March 2021, it was announced that Germany will be receiving an additional 580,000 Pfizer-BioNTech vaccine doses	the age of 16 to make a vaccination appointment • As of 24 May 2021, Germany has administered 45.4 million vaccine doses ○ 40.4% of the population has received the first dose of the vaccine, and 14.3% of the German population has been fully vaccinated ○ 669,641 doses are administered each day			
Israel	• 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	• 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	• 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	• Roles and responsibilities for administering vaccines are organized according to the following: ○ 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	• 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

	distribution processes ascribed by their central health maintenance organizations (HMO) • 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 • Vaccines are transported (and monitored under electronic surveillance to ensure proper shipping storage) from the U.S. to Israel, which are then transferred to the logistics department of a pharmaceutical company "Teva" then distributed to the Health Plans	• Human rights and health organizations have called out on inequities related to the vaccine roll-out and allocation ○ 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, with efforts to vaccinate 1,000 people per day (with additional categories to include Palestinians with relatives who live in Jerusalem, and Palestinians prisoners) ○ The vast majority of Palestinian citizens and residents (of Israel) have been vaccinated, but the majority of individuals living in the West Bank and the Gaza Strip remain unvaccinated (as of 20 May 2021, 5.5% of Palestinians have received at least one dose of COVID-19 vaccine) ○ Vaccine shipments from the COVAX facility arrived to Palestine (as of 17 March 2021) • To avoid wastage, an explicit decision was made by health authorities when there was a decline in vaccination rates, where they moved to the next priority group instead of	on vaccine roll-out, priority groups for vaccine, and safety and efficacy • 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 • Media campaigns (including messages about social responsibility and use of celebrities) have launched to promote the green pass • To increase accessibility and improve areas with low vaccination rates, mobile vaccination units have experts who travel with the units to answer questions, and also use free food or drink to persuade	• Vaccination sites and portable immunization stations in remote areas were designated by the Ministry of Health with assistance from the military and local authorities ○ Within less than a month, the campaign shifted some of these sites to a focus on primary-care clinics to increase uptake in remote areas • 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 (with vast majority administered by nurses), in addition to recruiting at least 7,000 reserve medics to vaccination centres • Adverse-event reporting was conducted electronically, with	• With the agreement, the Ministry of Health will receive weekly 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) • 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% • The Israeli Ministry of Health can transfer personal identification of people who have not received their first dose to local authorities and the Ministry of Education in order to improve low vaccination rates

		waiting for everyone in the current priority group to be vaccinated (which led to surges in people travelling from larger cities to the outskirts to get vaccinated from the unused supply) • As of 25 May 2021, 62.9% of the population in Israel have received at least one dose of COVID-19 vaccine and 59.1% of the population are fully vaccinated ○ 92% of Israelis aged 50 years and older are fully vaccinated • The Ministry of Health is currently considering vaccination for children aged 12 to 15, with current authorization to vaccinate children aged 12 years and older who belong to a high-risk group	individuals who are hesitant or undecided about vaccination	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 2021, university campuses and workplaces have launched vaccination, with the use of mobile units from the Magen David Adom (emergency care services) • As of 7 March 2021, fully vaccinated Israeli residents do not have to quarantine after entering the country (while unvaccinated individuals are required to isolate in designated hotels or in an alternate location using an electronic bracelet) • As restrictions continue to ease, the Ministry of Health unveiled a "Green Pass" system that allows fully vaccinated	(parliament bill passed on 24 February, 2021)

				(one week after last dose) or those recovered from COVID-19 to enter specific businesses with a "green pass/certificate" and photo ID (limited to six months and 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), exempt from quarantine upon international travel, and can volunteer in hospital wards ○ Occupancy restrictions have been removed for places under the green pass ○ Non-vaccinated people can enter indoor attractions ○ Private gatherings have increased to up to 500 people outdoors and 50 people indoors	

				○ It is mandatory for non-essential businesses to require people to hold a green pass to enter • The Green Pass system will end on 1 June 2021, which means that a proof of vaccination is no longer required to enter businesses (e.g., venues, stores, restaurants) • All remaining COVID-19 public-health measure restrictions on gatherings will be lifted as of 1 June 2021 ○ The requirement to wear masks indoors remains in place for the next two weeks • To increase the efficiency of the vaccination campaign, Israel has increased the hours of nurses and reduced their non-COVID-19 duties, and are also vaccinating populations confined to their homes and remote places (either home to home or carry confined people to	

				vaccination sites by ambulance) • The Ministry of Health is currently considering financial incentives for physicians for vaccinating certain population age groups	
New Zealand	• The New Zealand government has secured four pre-purchase agreements for COVID-19 vaccines ○ 750,000 courses from Pfizer-BioNTech ○ Five million courses from Janssen ○ 3.8 million courses from Oxford-AstraZeneca ○ 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	• On 10 March 2021, the New Zealand government released its official COVID-19 vaccine roll-out plan with four main groups for phased vaccination: ○ Group 1 consists of 50,000 border and MIQ workers and their household contacts (vaccination began in February 2021) ○ Group 2 includes 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 of approximately 2 million people (anticipated to begin July 2021)	• 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 United Against COVID-19 vaccine website ○ Information on the vaccination program is now available in 25 languages on the website • 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	• 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 ○ Vaccinators will be sourced from non-practising nurses, doctors or pharmacists, final-year medical, nursing or pharmacy students, and other health professionals who have vaccinations within their scope • At a press conference on 7 April 2021, Dr. Ashley Bloomfield, Director-General of Health, mentioned that an exemption was approved for non-regulated workforces to be able to be trained to be vaccinators in order to increase the	• 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 • 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 • According to the Director-General of Health, as of 27 April 2021, all employers of border workers are mandated to use the COVID-19 immunization register to upload information about their workers who require vaccination; the register is connected to

	• 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 doses in quarter one of 2021 • 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	• As of 30 April 2021, 95% of MIQ workers in New Zealand have been vaccinated • Every person in New Zealand will be eligible for free vaccination regardless of their immigration status, and any information collected will not be used for immigration purposes • The Ministry of Health is working in partnership with the Māori and Pacific neighbours to plan for their roll-out programs and determine their vaccine preferences • Medsafe has recommended a dose interval of at least 21 days between the first and second doses of the Pfizer-BioNTech vaccine • The government announced on 24 March 2021 that early vaccinations will be made available for people who need to leave New Zealand on compassionate grounds or for reasons of national significance ○ Compassionate grounds that will be considered include needing to provide critical care for a dependent, needing to access medical care that is not available in New	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 • New Zealand's COVID-19 Response Minister said on 17 March 2021 that the government introduced paid advertising with messaging about vaccines during the weekend and that the advertising campaign will ramp up throughout the year • On 17 March 2021, the COVID-19 Response Minister released a graph illustrating how the government plans to administer vaccines over the course of 2021 • On 22 March 2021, the government released an online tool to help New Zealand residents determine which vaccination group they are in and when they	vaccination workforce in Māori and other similar communities • The Ministry of Health has contracted the Immunisation Advisory Centre (IMAC) to begin training health professionals in February 2021 on COVID-19 vaccine administration • The government of New Zealand announced on 18 May 2021 that 5,358 vaccinators have completed the IMAC training program ○ Initiatives are underway to further boost the pool of vaccinators in time for vaccination roll-out peaks later in the year, including possibly allowing people with health- and disability-sector experience across the country to work as supplementary vaccinators • A small group of vaccinators received their first doses of the Pfizer-BioNTech vaccine on 19	New Zealand's NHI system • Four distinct online surveys have been taken on the attitudes and sentiments of New Zealanders towards COVID-19 vaccines, and the latest survey indicated that potential uptake overall has increased in April to 77% from 69% in March 2021 ○ Those unlikely to take a vaccine if offered has dropped to 12% from 20% in March ○ The two most common reasons for hesitancy are the quick turnaround time for development of the vaccine and the unknown about the long-term effects of the vaccine • Adverse reactions to vaccines are reported to the Centre for Adverse Reactions Monitoring (CARM), which has an independent safety monitoring board that reviews all reports of concern in country as well as from overseas reporting, according to

	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 ○ 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 vaccine and the simplification of the vaccine roll-out when only having to deal with administering one type of vaccine throughout the population • The New Zealand government is still determining how to make use of other vaccines that it has already procured	Zealand, and visiting an immediate family member who is dying ○ Requests for national significance overseas travel will need to be made by the appropriate agency on behalf of the individual and not the individuals themselves ○ Eligibility criteria include being a New Zealand citizen, resident or visa holder, needing to travel before 31 August 2021, and having arrangements for return to New Zealand • As of 25 May 2021, New Zealand has administered 562,149 doses of the Pfizer-BioNTech vaccine ○ 371,043 first doses ○ 191,106 second doses • As of 25 May 2021, New Zealand has used 98% of its vaccine stock	can expect to get a COVID-19 vaccine ○ The government is in the process of having the tool translated into 24 languages ○ The tool has been translated into • On 31 March 2021, the COVID-19 Response Minister and the Associate Minister of Health both received the first dose of Pfizer vaccine and publicly discussed their experience afterwards to demonstrate confidence in the vaccine • The Associate Minister of Health (Māori Health) indicated that several initiatives had begun to promote vaccinations within Māori communities, including a roadshow, networking by iwi leaders and communications networks, and the expansion of the engagement strategy to a number of social media platforms • An online tool was launched to help New	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 • 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 ○ 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	New Zealand's COVID-19 Response Minister

	○ 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 • At a press conference on 15 April 2021, New Zealand's Director-General of Health said that Johnson & Johnson plans to deliver the two million doses of their Janseen vaccine that the country has pre-ordered in the third quarter of 2021, giving the country time to decide if and when those vaccines will be used ○ The Janseen vaccine has not yet been approved for use in New Zealand • With regards to delivery of vaccines, vaccines arrive at a distribution centre in Auckland and then are distributed by a third-party company		Zealand residents determine which vaccination group they are in and when they can expect to get a COVID-19 vaccine • The Ministry of Health launched a dashboard on its website detailing key vaccination statistics, including the number of people vaccinated with first and second doses, the number of adverse reactions following vaccinations, and the forecasted and actual number of vaccinations administered each week • New Zealand ramped up its public information campaign around vaccines during the week of 18 April 2021, according to the Minister for COVID-19 Response ○ There are two main layers of the campaign, consisting of 1) fact-based information, and 2) encouragement for people about the benefits of vaccination	contacts of border and MIQ workers • As of 1 May 2021, all MIQ and government border workers must show proof of vaccination in order to enter their workplace ○ Initially, current workers who have received one dose of vaccine will be considered vaccinated ○ By 5 June 2021, all current workers must have had two doses of vaccine to be considered vaccinated ○ New workers will need to have had their first dose before starting work, and then have 35 days from starting work to receive their second dose • New Zealand's Ministry of Health recommends a two-week gap between the influenza vaccine and the COVID-19 vaccine ○ It is recommended that if an individual has a vaccination	

	called "PACE" to the different health regions, said Dr. Ashley Bloomfield		○ The campaign includes TV and radio ads, information booklets, videos of influential persons, and social media • Brochures have been sent to all households in New Zealand to advise residents of which group they are in and how to book an appointment for a vaccination	appointment booked for COVID-19, they should get the COVID-19 vaccine first, but if not, they should get the influenza vaccine first ○ New Zealand's 2021 influenza immunization program began on 14 April 2021 for people 65 years and older • Vaccine administration is being managed differently by each district health board (DHB) in New Zealand, and will be made available at a range of locations, including pop-up clinics, general practitioners, Māori and Pacific healthcare providers, mobile clinics, and community clinics ○ Vaccinations for group 3 of the vaccine roll-out have begun in different regions at different times in May	

				• According to the Director-General of Health, each vaccination site in New Zealand goes through an accreditation process to ensure that the site can administer vaccines safely and in a measured way • A national vaccination-booking system is in its trial phase and will be scaled up to the broader population in the second half of the year • Individuals who have booked vaccinations but missed their appointments are allowed to "walk-up" to vaccination centres and get their vaccine, according to the Minister for the COVID-19 Response • According to the Minister for the COVID-19 Response, vaccinations are being offered to staff and residents of aged residential care facilities around the country at community vaccination centres	

				○ Mobile clinics have also been deployed to some rest homes	
U.K.	• 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 • A domestic manufacturing deal was announced on 29 March 2021 with GlaxoSmithKline for 60 million doses of Novavax COVID-19 vaccine • 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	• 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 hospitalization and increased risk of exposure, and to maintain resilience in essential services • The order of priority of COVID-19 vaccination is: 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	• 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 ○ 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 • Leading businesses, employers and industry bodies, including IKEA, Asda, Metro	• 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 • 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	• 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 • Public Health England released its updated COVID-19 vaccine surveillance report, current as of 20 May 2021 ○ Findings show that one in three adults in England are already fully vaccinated with both doses

	delivered later this year if required • The U.K. government has ordered 30 million doses of the Johnson & Johnson vaccine, despite Johnson & Johnson halting deployment of its vaccine across Europe and the U.K. not yet approving the vaccine • The U.K. government released a statement on 7 May 2021 following updated advice from the Joint Committee on Vaccination and Immunisation (JCVI) on the Oxford-AstraZeneca vaccine	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 • Those remaining people in the top nine priority groups who have yet to receive their second dose can do so earlier as the interval for second doses has been shortened from 12 to eight weeks ○ This follows the latest recommendation from the Joint Committee on Vaccination and Immunization (JCVI) to reduce dosing interval to protect the most vulnerable from the B1.617.2 variant of concern identified in India • The U.K. government has hit its target for vaccinating all residents in phase 1 and is now moving into phase 2 • The Joint Committee on Vaccination and Immunization (JCVI) released advice on prioritization of age groups for the U.K. government for phase 2	Bank, and Proctor & Gamble U.K., have come together to support the COVID-19 vaccination program and encourage staff to receive their vaccine when eligible	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 • As of the week of 5 April 2021, Moderna vaccine roll-out had begun in Wales and Scotland • As of the week of 12 April 2021, Moderna vaccine roll-out has begun in England and will be available at 21 sites	

		• Four nations of the U.K. have agreed to follow JCVI's approach
		  ○ Phase 2's recommended approach will follow an age-based strategy starting with adults aged 40 to 49 years, followed by those aged 30 to 39 years and lastly 18 to 29 years
		• The U.K. government will follow updated advice that for individuals aged 30 years and younger without underlying health conditions that put them at higher risk of severe COVID-19 disease, there should be a preference for an alternative to the Oxford-AstraZeneca vaccine, if available
		• As of 5 May 2021, Northern Ireland has invited individuals 18 years and older to receive a COVID-19 vaccine
		• As of 26 May 2021, England has invited individuals aged 30 years and older to receive a COVID-19 vaccine and/or their first vaccine dose
		• As of 26 May 2021, the U.K. has administrated 61,996,062 vaccine doses
		  ○ 38,378,564 individuals have received their first dose			

		○ 23,616,498 individuals have received their second dose and are fully vaccinated			
U.S.	• 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) ○ 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 • On 12 February 2021, Pfizer-BioNTech announced that the U.S.	• 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) ○ 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 • On 13 April 2021, the CDC and FDA made a joint statement to pause the use of the Johnson & Johnson COVID-19 vaccine to review cases of cerebral venous sinus thrombosis that	• 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 • The FDA's Center for Biologics Evaluation and Research (CBER) and Office of Minority Health and Health Equity (OMHHE) collaborate to address vaccine confidence concerns in racial and ethnic minority communities through several initiatives: ○ Holding listening sessions with diverse health professional organizations and other stakeholders; ○ Building awareness about clinical trial diversity ○ Providing weekly COVID-19	• 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 and the Moderna 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 ○ Fully vaccinated people may visit other fully vaccinated people as well as unvaccinated people at low-risk for severe COVID-19 from a single	• 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 ○ They also include the CDC's National Healthcare Safety Network (NHSN), an

	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 29 March 2021, Moderna provided a vaccine-supply update for the U.S., stating that it met its goal to deliver 100 million doses by March 2021 and expects to deliver 40-50 million doses per month as part of its commitment to provide an additional 100 million doses by the end of May 2021, and the third instalment of 100 million doses by the end of July 2021 • On 1 April 2021, the FDA made two revisions to Moderna COVID-19 Vaccine Emergency Use Authorization to help increase the number of vaccine doses available by 1) clarifying the number of doses per in the vials currently available (10-11 doses) and 2) authorizing the availability of an additional multi-dose vial in which each vial contains 13-15 doses	occurred in six cases out of more than 6.8 million doses • On 23 April 2021, the FDA and the CDC lifted the recommended pause on Johnson & Johnson (Janssen) COVID-19 vaccine use following a thorough safety review • On 10 May 2021, the FDA authorized Pfizer-BioNTech COVID-19 vaccine for emergency use in adolescents (aged 12 through 15 years) • As of 25 May 2021, CDC reports that more than 359 million doses of COVID-19 vaccinations have been distributed • As of 25 May 2021, the CDC reports that more than 287 million doses of COVID-19 vaccines have been administered	communications to stakeholders ○ Supporting development and translation of information for the COVID-19 Multilingual Resources webpage that features materials in more than 20 languages ○ Launching a COVID-19 Bilingual (English/Spanish) Social Media Toolkit to promote; consistent messaging ○ Releasing English and Spanish videos about the importance of getting vaccinated ○ Hosting a webinar about the vaccine approval process and key information for minority communities to be aware of	household without wearing masks or physical distancing ○ 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 • The U.S. CDC updated its guidelines for fully vaccinated people on 13 May 2021, and made the following changes: ○ Fully vaccinated people no longer need to wear a mask or physically distance in any setting, except where required by federal, state, local, tribal, or territorial laws, rules, and regulations, including local business and workplace guidance ○ Fully vaccinated people can refrain	acute and long-term care facility monitoring system, and the FDA monitoring other large insurer/payer databases to facilitate claims-based data

	• On 26 April 2021, Moderna announced an agreement with Sanofi for fill and finish manufacturing of the Moderna COVID-19 vaccine in the U.S. • On 19 May 2021, the FDA authorized longer time for refrigerator storage of thawed Pfizer-BioNTech COVID-19 vaccine prior to dilution to make the vaccine more widely available			from testing following a known exposure unless they are residents or employees of a correctional or detention facility or a homeless shelter	

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	• Through advance purchasing agreements with seven companies developing COVID-19 vaccines, Canada has secured enough doses for all Canadians who wish to be vaccinated
	  ○ The doses were secured on the advice of the COVID-19 Vaccine Task Force
	• Health Canada authorized the use of Pfizer-BioNTech COVID-19 vaccine on 9 December 2020 and the Moderna COVID-19 vaccine on 23 December 2020
	  ○ Advance purchasing agreements were previously secured with manufacturers of both of these vaccines
	• To facilitate easier handling and distribution of the Pfizer-BioNTech vaccine, Health Canada authorized that the vaccine can be stored and shipped at "standard
		• 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 inform planning for the efficient, effective and equitable allocation of COVID-19 vaccines upon authorization for use in Canada
		  ○ 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
			• 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 guidance for
				• 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
				• Online tools have been developed to help Canadians find COVID-19 vaccination sites and determine their eligibility
				• Vaccinated individuals are still required to follow all public-health measures in Canadian provinces and territories
				• According to modelling of the Public Health Agency of Canada on 23 April 2021, by maintaining public-health measures until at least 75% of the
					• 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:
					  ○ Canada Vigilance Program, which collects and assesses reports of suspected adverse reactions to the vaccines from manufacturers and from healthcare providers,

	freezer temperatures" of -25C and -15C for up to 14 days
	• Canada has experienced delays in expected shipments of Moderna vaccine during the month of April, which has led to cancelled vaccination appointments in some provinces
	• On 26 February 2021, Canada approved the Oxford-AstraZeneca COVID-19 vaccine
	  ○ Canada pre-ordered 22 million doses of the vaccine and received the first shipment of 500,000 doses from the Serum Institute of India on 3 March 2021
	  ○ Canada expects to receive 2 million more doses of Oxford-AstraZeneca vaccines from the Serum Institute of India and a total of 1.9 million doses from the COVAX facility
	• Canada negotiated a procurement agreement with the U.S. to purchase 1.5 million doses of unused Oxford-AstraZeneca vaccine on
		elevated risk for infection
		• On 18 December 2020, NACI recommended to further sequence its initial subset of key populations using a stage-based approach
		  ○ 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
		  ○ 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
			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
			  ○ 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
			• The government of Canada's website has a designated COVID-19 webpage with links to sources and information on vaccines that have been authorized, the vaccines that have been purchased in advance, and how to get vaccinated or register
			• The Canadian government maintains a database of COVID-19
				Canadian population has received their first dose of COVID-19 vaccine and 20% of the population has received their second dose, infection rates of COVID-19 would be driven low enough to lift restrictions without overwhelming the healthcare system	patients and their families
					  ○ 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 safety in various

	loan with the understanding that they will pay the U.S. back with doses in the future ○ In order for the doses to be received, Health Canada had to approve the sites where the vaccines were made in the U.S. • A shipment of approximately 317,000 doses of Oxford-AstraZeneca vaccines procured from the COVAX facility were received in Canada on 8 April 2021 • Another 655,000 doses of the Oxford-AstraZeneca vaccine procured from the COVAX facility arrived in Canada on 13 May 2021 and have been distributed to most provinces • On 5 March 2021, Canada approved the Johnson & Johnson COVID-19 vaccine, which is the first single dose vaccine to be approved ○ Canada has pre-ordered 10 million doses of the vaccine ○ Canada received its first shipment of the	○ 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 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. • 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	announcements (inclusive of updates on vaccine efficacy and procurement) on its website that can be filtered by announcement type (e.g., news releases), minister, and government institution • The Canadian government also has a dedicated telephone line for providing COVID-19 information		age groups following vaccinations ○ The Special Immunization Clinics Network, which manages patients with adverse events following immunizations • Vaccination coverage across Canada is monitored by the government and reported on its website every Friday at 12 noon Eastern Standard Time • The Angus Reid Institute for independent research in Canada conducts ongoing surveys and research on public opinions about the COVID-19 vaccine roll-outs across Canada and vaccination in general • Canada reported its first case of rare blood clotting after vaccination with the Oxford-AstraZeneca

	Johnson & Johnson vaccine on 28 April 2021 containing 300,000 doses ○ Health Canada has held off on distributing the vaccine to provinces after learning that the doses were processed in a U.S. plant where quality control problems were reported • Health Canada announced that as a result of reported cases of rare thrombosis in combination with thrombocytopenia (blood clotting) in the U.S., the labels on Johnson & Johnson vaccine vials have been updated with information about the possible side-effects of the vaccine • Canada expects to receive more than one million doses of COVID-19 vaccines each week in April and May of 2021 and approximately 44 million doses of vaccines by the end of June 2021 • Canada's Prime Minister announced on 16 April	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 ○ NACI's Advisory Committee reconfirmed this recommendation in its updated guidance on 7 April 2021 • NACI stated that their recommendations are guidance and not rules, and that the provinces and territories can tailor their vaccination roll-out campaigns to each region • After a series of changing advice, NACI recommended on 29 March 2021 that Canadian provinces pause the use of the Oxford-AstraZeneca vaccine on people under the age of 55 because of evidence of safety concerns of blood clots caused by the vaccine reported in Europe			vaccine in Quebec on 13 April 2021 ○ The first death due to these blood clots was also reported in Quebec on 27 April 2021 • An Angus Reid survey released 26 May 2021 revealed that most Canadians showed strong support for vaccine passports use in international travel ○ 79% of respondents supported mandatory vaccine passports for international travel outside of the U.S.. while 76% supported such a requirement for travel to the U.S. ○ However, 41% of respondents did not support the idea of using vaccination proof domestically, such as when entering restaurants, malls and movie theatres

	2021 that Canada has signed a new agreement with Pfizer-BioNTech for eight million more doses of their vaccine ○ Four million of these doses will be delivered in May 2021 (for a total of 8 million doses) and two million doses will be delivered in both June and July ○ With this new agreement, Canada is now on track to receive a total of 24 million doses of Pfizer-BioNTech vaccine between April and June ○ Canada also expects to receive 9 million doses of Pfizer-BioNTech vaccine in July alone • On 23 April 2021, the Government of Canada announced that Canada has secured COVID-19 vaccines from Pfizer-BioNTech for 2022 and 2023 with flexibility to extend into 2024 ○ This agreement includes access to a guaranteed 35 million doses in 2022 and 30 million in 2023, with	• On 23 April 2021, NACI changed its recommendation on the use of the Oxford-AstraZeneca vaccine by lowering the recommended age for use of the vaccine to adults aged 30 and above ○ NACI also announced a preferential recommendation for authorized mRNA vaccines (Pfizer-BioNTech and Moderna) for adults under 55, and advised that the Oxford-AstraZeneca vaccine should only be used if the individual does not wish to wait for an mRNA vaccine and the benefits outweigh the risks • On 3 May 2021, NACI released a recommendation for the Johnson & Johnson vaccine for adults 30 years and older ○ Similar to its advice for the Oxford-AstraZeneca vaccine, NACI advised that adults under 55 should only take the Johnson & Johnson vaccine if they do not wish to wait			

	options for 30 million more doses in each year
	• An immunization National Operations Centre within the Public Health Agency of Canada was established as the federal logistical coordination entity for managing COVID-19 vaccine delivery and collaboration with provinces and territories for vaccine distribution
	  ○ 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
		for an mRNA vaccine and the benefits outweigh the risks
		• Canadian provinces are in the midst of deciding if and how to administer doses of the Oxford-AstraZeneca vaccine that arrived between 17-23 May 2021 from Health Canada after reports and concerns of rare blood clotting from the vaccine and the supply of alternative mRNA vaccines has increased in recent weeks
		• On 5 May 2021, Health Canada authorized the Pfizer-BioNTech vaccine for use in children age 12 to 15 years in Canada, followed by NACI's similar recommendation on 18 May 2021
		• As of 26 May 2021, 85.7% of doses delivered to Canada have been administered
		  ○ 20,052,430 first doses and 1,720,486 second doses of COVID-19 vaccine have been administered
		• As of 26 May 2021, about 52.8% of the Canadian population has been vaccinated with at least			

	○ 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 • Following the approval by Health Canada for the extractions of six doses of vaccine from Pfizer-BioNTech vaccines rather than five, the federal government ordered 64 million of the special syringes required to extract the additional dose • On 16 March 2021, the federal government announced that it is investing millions of dollars in domestic biomanufacturing companies to boost future vaccine and medicine development capacity • The Prime Minister of Canada announced on 18 May 2021 that Canada will be investing nearly $200 million towards a facility based in Mississauga, Ontario to produce millions of mRNA vaccines each year	one dose of COVID-19 vaccine			

	• As of 25 May 2021, Health Canada has confirmed distribution of 25,541,882 COVID-19 vaccines to the provinces and territories
	  ○ 17,095,242 doses of Pfizer-BioNTech vaccine
	  ○ 5,593,760 doses of Moderna vaccine
	  ○ 2,852,880 doses of Oxford-AstraZeneca vaccine				

British Columbia	• 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 • The province was scheduled to receive 274,950 doses of the Pfizer-BioNTech vaccine per week throughout the month of May, with shipments increasing to 337,000 doses per week in June • Health Officials also reported that between April and June an average of 203,077 doses are expected to be administered per week,	• 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	• ImmunizeBC has provided evidence-based immunization and tools specific to COVID-19 for residents of British Columbia • British Columbia's Centre for Disease Control and the Government of British Colombia have created designated public webpages that contain vaccine and eligibility FAQs, information sheets, a COVID-19 Digital Assistant Chat Box, and links to the online vaccine registration and booking system • Resources for Indigenous communities aiming to	• The fourth phase of the province's COVID-19 roll-out plan is occurring at immunization clinics throughout the province including school gymnasiums, arenas, convention halls, community halls, malls, and mobile clinics • Through a partnership between the First Nations Health Authority and First Nations communities, community-based clinics are being operated for First Nations people living on reserve and those living nearby off-reserve to be vaccinated • Youth aged 12 to 17 will be vaccinated in community clinics, not in schools	• British Columbia's Centre for Disease Control reported that they will closely monitor COVID-19 vaccine safety, uptake and effectiveness and report adverse events following vaccination to the Public Health Agency of Canada ○ Weekly reports on adverse events following vaccination are published on the B.C. Centre for Disease Control website • Vaccine providers in British Columbia are asked to refer to the B.C. Centre for

	and early indications suggest that between July and September 471,538 doses will be administered per week	long-term care placement; healthcare workers providing care for COVID-19 patients; First Nations communities in remote and isolated locations • The vaccination program expanded to 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 • On 1 March 2021, British Columbia health officials decided to follow NACI recommendations, and expand the interval between vaccine doses to four months, which will go into effect as of 8 March 2021 • Since 29 March 2021, B.C. health officers have suspended the use of the Oxford-AstraZeneca vaccine for those under the age of 55 in British Columbia following	address vaccine anxiety and hesitancy are provided	• Vaccination appointments for front-line priority workers are organized by employers, with appointment information being communicated directly to each employer and sector • 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 ○ Dentists, paramedics, midwives, pharmacy technicians and retired nurses are now among those who can join the vaccination work force over the next six months • Healthcare practitioners can sign up as immunizers and join a registry maintained by the Ministry of Health to support the COVID-19 emergency response • As of 10 April 2021, 170 mass-vaccination sites across the province are in operation	Disease Controls' reporting adverse events following immunization resource • British Colombia's Centre for Disease Control has created a public dashboard displaying vaccination dosage rates in the province

		recommendations by Canada's National Advisory Committee on Immunization
		• As of 12 May 2021, provincial health officers are allowing appointments for second doses of the Oxford-AstraZeneca vaccine to continue through pharmacies, but no new appointments may be made regardless of age group
		• As of 22 May 2021, the province is in Phase 4 of its immunization plan where residents aged 18 to 59 may call and book a vaccine appointment in five-year increments between May and June 2021
		  ○ 59 to 55 in May
		  ○ 54 to 50 in May
		  ○ 49 to 45 in May
		  ○ 44 to 40 in May/June
		  ○ 39 to 35 in May/ June
		  ○ 34 to 30 in June
		  ○ 29 to 25 in June
		  ○ 24 to 18 in June
		• As of 19 May 2021, provincial health officers announced that residents aged 12 to 17 years old can register for vaccination through the provincial booking system
				• Provincial Health Officials reported that mobile clinics in self-contained vehicles will be available for some rural communities and for people who are homebound due to mobility issues
				• On 15 March 2021 the province opened mass-immunization clinics
				• The province opened the "Get Vaccinated" online registration and vaccine booking system for the general public on 6 April 2021	

		○ Parental consent forms will not be required to receive a vaccination under the Infants Act • As of 12 May 2021, the province passed the 50% threshold of eligible adults receiving a first vaccination dose, with health officials reporting that all eligible adults should receive at least their first dose by the middle of June 2021 • By 20 May 2021, 142,406 residents had received their second vaccination dose • As of 20 May 2021, there has been a total of 3,298,560 doses delivered to the province, and 82.3% of doses delivered have been administered			
Alberta	• Forecasted weekly allocations for Alberta for each of the COVID-19 vaccines approved in Canada are updated regularly on the Government of Canada's website • As of 25 May 2021, Alberta has received 2,708,685 doses of COVID-19 vaccines from the Government of Canada	• Alberta began its vaccination roll-out in December 2020 with a phased approach to vaccinating prioritized groups ○ Phase 1a group (started in December 2020): workers and residents of acute-care sites in Edmonton and Calgary with the highest COVID-19 concerns (e.g., front-line healthcare workers and	• 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 roll-out and how to book an appointment • The government of Alberta's COVID-19	• 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 • Alberta Health Services has an online booking tool for eligible	• Alberta's Immunization Regulation requires health practitioners to report immunizations electronically to Alberta Health within a week, effective 1 January 2021 • Alberta Health Services provides a COVID-19 Client

	• The Alberta government has a policy describing the requirements for storing and handling the Pfizer-BioNTech and Moderna vaccines, as well as vaccines that require storage between 2˚C and 8˚C
	  ○ Although Health Canada approved eased temperature requirements for the Pfizer-BioNTech vaccine, Alberta continues to follow the original guidelines for transport and storage of the vaccine
	• In a recent interview, an executive director in Alberta Health Services' (AHS) central zone described how COVID-19 vaccines are moved in the province from the airport to people's arms
	  ○ All of Alberta's vaccine supply is flown into Calgary International Airport and AHS staff check the shipments to make sure that the cold-chain temperature did not get disrupted during transport
		residents of long-term care homes)
		  ○ 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 on 19 February 2021
		  ○ 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 (began 15 March)
		  ○ Group B: Albertans aged 16 to 64 with high-risk underlying conditions (began 30 March)
		  ○ Group C: Residents and staff in congregate-living settings, healthcare workers who have a high potential for spread, and caregivers who are most at risk of severe outcomes (began 12 April)
			vaccine program webpage provides information on:
			  ○ 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
			• Information on the efficacy of the Oxford-AstraZeneca vaccine after the first dose and
				healthcare workers to book immunization appointments
				  ○ 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 75 years and older in retirement centres, lodges, supportive living facilities, and other congregate-living facilities
				• As of 12 April 2021, eligible individuals in
					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
					• Alberta reported its first case of rare blood clotting following vaccination with the Oxford-AstraZeneca vaccine on 17 April 2021, and its first death due to the blood clotting on 5 May 2021

	○ Contracted courier companies transport the vaccines from the airport to 36 vaccine-storage sites set up around the province that are capable of administering vaccines ○ In the case where vaccines need to be transported from storage sites to other sites, like pharmacies, the vaccines are thawed and transported within a limited six-hour window ○ Thawed Pfizer-BioNTech vaccine can be stored in refrigerators at administration sites for up to five days and thawed Moderna vaccine for up to 30 days ○ Additional complications that must be managed include that both the Pfizer-BioNTech and the Moderna vaccines must be used within six hours of the vaccine vials being punctured, and the Pfizer-BioNTech vaccine must be	○ Group D: Albertans aged 50 to 74 and First Nations and Métis people aged 35 to 49 on and off reserve (began 30 April) • Starting 27 April 2021, vaccines were offered to more than 15,000 workers at 136 federal and provincial meat-packing plants in Alberta ○ Meat-packing plant workers were identified as an eligible group for vaccination under Phase 2C of Alberta's roll-out plan • Starting 4 May 2021, Alberta expanded its vaccine eligibility groups under Phase 2C again to include teachers, early childhood educators and support staff provincewide to help protect schools ○ Bookings for this group operate on an honour system and no proof of employment is required to attend a vaccination appointment • Alberta began Phase 3 of its vaccine roll-out on 6 May 2021, opening vaccine appointment bookings to the general public	the second dose when administered at different intervals is provided on the Alberta government's website	Phases 1, 2A, 2B, and 2C of the vaccine roll-out are able to book appointments for vaccination through the AHS online booking tool or by calling 811 • A tool has been provided to help eligible individuals find a pharmacy that is providing COVID-19 vaccinations in the province • At a press conference on 12 April 2021, Alberta's Prime Minister announced that the province is administering vaccines in more than 1,300 pharmacies and 103 clinics ○ The Prime Minister also said that Alberta is on track to distribute over 300,000 vaccine doses per week if supplies allow • Starting 10 March 2021, eligible Albertans were able to book first dose appointments only in accordance with the province's decision to extend the second dose interval to 16 weeks ○ Individuals will receive a reminder	

	diluted with sodium chloride prior to administration	○ On 6 May 2021, residents 30 years and older became eligible to book a vaccination appointment ○ On 10 May 2021, every resident of Alberta age 12 and older became eligible to book a vaccination appointment ○ Residents 12 to 15 years old are only eligible to receive the Pfizer-BioNTech vaccine as authorized by Health Canada • Alberta aims to offer all adult residents a vaccine before 30 June 2021 • Alberta's Premier announced on 7 May 2021 that the province had reached an agreement with the U.S. state of Montana to allow about 2,000 Alberta truck drivers who transport goods into the U.S. to receive the Johnson & Johnson vaccine at a rest stop in Montana at no cost • On 29 March 2021, Alberta temporarily paused the administration of the Oxford-AstraZeneca vaccine for people under 55 years old after rare blood clots were		from AHS or participating pharmacies to book a second dose appointment at a later date • 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 • As of 21 April 2021, all employees covered by the Employment Standards Code in Alberta are allowed three hours of paid, job-protected leave to get each dose of COVID-19 vaccine • The Alberta government has announced a three-stage Reopening Plan for summer 2021 based partially on vaccination rates ○ Stage one of the plan is anticipated to begin on 2 June 2021 and requires two weeks to have passed after 50% of Albertans 12 years	

		reported in people in Europe several days after taking the vaccine • Alberta adjusted its roll-out of Oxford-AstraZeneca vaccines during Phase 2 following changes to recommendations on use of the vaccine by NACI ○ Starting 6 April 2021, Albertans aged 55 to 64 who do not have underlying health conditions became eligible to receive the vaccine ○ On 19 April 2021, Alberta lowered the age eligibility for the Oxford-AstraZeneca vaccine to adults 40 years and older in response to increasing levels of COVID-19 transmission in the province • Due to limited supply of the Oxford-AstraZeneca vaccine, existing doses in Alberta will be reserved for individuals who have a contraindication to an mRNA vaccine or are eligible to receive their second dose of the vaccine • On 4 March 2021, Alberta's Minister of Health announced that the		and older have received at least one dose of a COVID-19 vaccine ○ As of 25 May 2021, 49.7% of the population in Alberta have received their first dose	

		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 ○ 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 province to fully vaccinate every resident of long-term care and designated supportive living • As of 24 May 2021, Alberta has administered 2,552,317 doses of COVID-19 vaccines ○ 49.7% of the population in Alberta have received their first dose ○ 354,462 Alberta residents have been fully vaccinated with two doses			

Saskatchewan	• Forecasted weekly allocations for all COVID-19 vaccines distributed to Saskatchewan are updated regularly on the Government of Canada's website
	• As of 25 May 2021, Saskatchewan has received 752,795 doses of COVID-19 vaccines from the Government of Canada
	• Efforts have been made to secure COVID-19 vaccine storage equipment (freezers, fridges, power generators) for Saskatchewan First Nations communities
		• 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
		  ○ Second doses were received 21 days later during Phase 1 of the vaccination plan
		• After completing the pilot program, Saskatchewan began Phase 1 of its vaccine roll-out, 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
		  ○ Allocations of the Pfizer-BioNTech vaccine for these groups began to be received on 22 December 2020
		  ○ The Moderna vaccine has been allocated to the Far North Region of Saskatchewan
		• The Saskatchewan government announced
			• 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
			  ○ Information will be included in local and social media, direct mail, posters, and news conferences
			• The Saskatchewan Health Authority launched a website with information on COVID-19 vaccine drive-thru and walk-in sites as well as their wait times
				• 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
				  ○ 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-19 vaccines during Phase 2, and approximately 675 healthcare workers will be redeployed to deliver vaccines
					• 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
					• Saskatchewan reported its first case of rare blood clotting after vaccination with the Oxford-AstraZeneca vaccine on 14 May 2021

		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 began on 18 March 2021 and focuses on vaccinating the general population in 10-year age increments, with targeted vaccinations being administered in select congregate living and extremely clinically vulnerable populations ○ 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 • On 13 April 2021, the government added pregnant women, young adults ages 16 and 17 who are clinically extremely vulnerable, and everyone over the age of 40 in the far north to the Phase 2 priority groups • As of 8 April 2021, individuals aged 55 and		• 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 • Saskatchewan's immunization system, Panorama, will be updated to set reminders for second-dose follow-ups • Plans are underway to open 230 vaccination clinics in 180 communities throughout rural, urban and northern Saskatchewan • Saskatchewan opened its first drive-thru and walk-	

		older in Saskatchewan became eligible to book vaccination appointments ○ The eligible age for booking vaccination appointments online was lowered from 55 to 52 province-wide on 14 April 2021 • Eligibility was expanded on 13 April 2021 at the Regina drive-thru vaccination clinic to residents ages 49 to 54 only in response to increasing COVID-19 transmission risk in that region • On 12 April 2021, the Saskatchewan government announced that several groups will be prioritized for COVID-19 vaccination ○ First responders, such as police officers and firefighters, will be targeted by mobile vaccination units following completion of the targeted vaccination of individuals who are extremely vulnerable ○ However, vaccination of Regina police officers already began on 10 April 2021 in response to a significant increase in transmission		in immunization site in Regina on 3 April 2021 and its second on 5 April 2021 ○ Several more sites opened during the week of 12 April 2021 • Eligible residents for vaccination at the Regina drive-thru vaccination clinic are vaccinated on a first-come first served basis • In addition to mass immunization sites, the province has made an agreement with the Pharmacy Association of Saskatchewan to follow the influenza immunization model to administer COVID-19 vaccines in pharmacies ○ This agreement establishes the fee for pharmacist delivery of COVID-19 vaccines along with increases in dispensing fees for prescription drugs and influenza vaccines for the 2021 flu season • Select pharmacies in Saskatchewan are part of a pilot program to offer COVID-19 vaccines where bookings for appointments began as of 26 April 2021	

		of COVID-19 variants in the region ○ Once they begin receiving vaccines, pharmacies will be offering vaccines to all pharmacy and grocery store staff working in the facilities where vaccines are offered • Unused vaccines from Phase 1 of the roll-out have also been allocated to the remaining healthcare workers not included in Phase 1 • Following the national advice not to give the Oxford-AstraZeneca vaccine to people under age 55, Saskatchewan suspended administration of the vaccine to individuals under 55 years as of 30 March 2021 • Saskatchewan lowered the eligible age for use of the Oxford-AstraZeneca vaccine from 55 years to 40 years on 20 April 2021 to increase access to vaccines for its population • However, by 12 May 2021, Saskatchewan stopped giving out first doses of Oxford-AstraZeneca vaccine due to supply issues and instead decided to reserve remaining and		○ As of 3 May 2021, 102 pharmacies in 37 Saskatchewan communities are approved to receive vaccines as part of this program ○ Pharmacies were advised to offer vaccines to pharmacy and grocery staff working in facilities where vaccines are being offered • Extremely vulnerable individuals who are now eligible to be vaccinated must book their appointments over the phone as the online booking system is aged-based and will not allow those under the eligible age range to book • Saskatchewan announced on 12 April 2021 that its mobile vaccination units would target first responders once vaccinations in congregate-living settings were completed ○ First responders and front-line workers were also prioritized at mass-vaccination sites when Saskatchewan residents 40 years and	

		incoming shipments for second doses • Individuals 16 years and older in Saskatchewan became eligible to book a vaccination appointment on 18 May 2021 • Saskatchewan has added youth 12 to 15 years to their vaccine roll-out sequencing, and this group became eligible to book vaccination appointments on 20 May 2021 ○ Written consent is required for all youth prior to vaccination • Saskatchewan requires two doses of vaccine per person and both first and second doses must be of the same vaccine • Once an individual becomes eligible for vaccination in Saskatchewan, they will continue to be eligible even if the province has moved on to a different phase of the roll-out • Beginning 5 March 2021, all vaccines administered in Saskatchewan will be a first dose, and second doses will be administered within an interval of up to four months		older became eligible to receive the Oxford-AstraZeneca vaccine on 20 April 2021 ○ Proof of employment is required at the vaccination site • On 4 May 2021, the Government of Saskatchewan released a three-step Re-opening Plan for the province based on vaccination thresholds and vaccine availability ○ The first step of the plan is expected to commence once three weeks have passed since 70% of the population 40 years and older have received their first dose of COVID-19 vaccine, and all adults over 18 years old are eligible ○ A target date was set by the Saskatchewan government to reach the threshold to enter step one of the plan on 30 May 2021 • The SHA will begin administering the Pfizer-BioNTech vaccine in elementary and high schools across the	

		○ This delayed second-dose strategy does not 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 • The Saskatchewan government announced that as of 17 May 2021, second dose administration of COVID-19 vaccines would begin in adults 85 years and older and will continue in lowering age increments ○ Priority for second doses will also be given to individuals diagnosed with or being treated for cancer, and individuals who have received solid organ transplants • The province aims to have all Saskatchewan residents fully vaccinated with two doses by 31 July 2021 • As of 25 May 2021, 665,193 doses have been administered in Saskatchewan ○ 609,936 first doses ○ 58,257 second doses		province in the month of June	

Manitoba	• 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
	• The province maintains a complex data set to link vaccine deliveries with inventory levels and known appointments
	• A published vaccine delivery schedule indicates that 512,700 doses of the Pfizer-BioNTech vaccine are to be delivered to Manitoba between the weeks of 24 May 2021 and 26 June 2021
		• 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 Medical Advisory Table have been established
		• The province released detailed eligibility criteria for Stages 1 to 4 of the vaccine roll-out on 27 January 2021
		• Adults aged 18 years of age and older, as well as youth aged 12 to 17 years of age, are eligible to book appointments to receive their first dose
		• All Indigenous people aged 12 years and older, as well as people with certain priority health conditions, are eligible to book an appointment for their
			• Manitoba maintains a constantly updated webpage dedicated to outlining in detail the specific groups of people currently eligible to book an appointment to receive their first or second vaccination
			• 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 queue calculator for residents to understand their place in the vaccine priority line
			• The province has released a Supersite operational manual
			• Manitoba launched the #ProtectMB campaign to encourage vaccine uptake
			  ○ The campaign includes a dedicated website, an e-mail newsletter, and targeted advertising
			  ○ The program is based on research about the
				• 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
				• A 28-day campaign was launched to vaccinate all eligible personal care home residents in 135 sites across Manitoba, using focused immunization teams who visit locations in all regional health authorities
				  ○ This campaign used the Moderna and Pfizer-BioNTech vaccines
				• Focused immunization teams have administered second doses to all personal-care home residents in the province
				• As of 10 March 2021, focused immunization teams were focused on congregate-living settings, with priority given to sites with the most vulnerable residents
				• Staff working in personal-care homes and
					• 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 Program ACTive (IMPACT)
					• 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

		second dose (if the minimum time interval between doses has been met)
		• On 29 March 2021, the province limited the use of the Oxford-AstraZeneca vaccine to individuals aged 55 to 64 due to concerns regarding blood clots
		  ○ On 19 April 2021, the decision was made to allow use amongst all individuals aged 40 and older
		  ○ On 30 April 2021, the eligibility for the Oxford-AstraZeneca vaccine expanded to include people aged 30 to 39 with priority health conditions
		• The province is modelling vaccine roll-out and distribution projections under high-supply and low-supply scenarios
		  ○ Under a low-supply scenario, 70% of Manitobans aged 12 and older are forecasted to have a second dose by 31 July 2021, while under a high-supply scenario, 70% of Manitobans aged 12 and older are forecasted to have a second dose by 29 July 2021
			province's vaccine-intent profile
			  ○ The research has identified groups that are keen to get vaccinated, those who are likely to get vaccinated but are not in a rush, and those who are ambivalent/concerned about vaccination
			  ○ Data-driven advertising is being used and is initially going to be targeted at those who are keen and likely to share information in their networks (this demographic skews older and female)
			  ○ To continually refine the campaign's strategy, the province is using EngageMB (the provincial public engagement platform), monitoring trends in vaccine uptake, and continuing to conduct research
			  ○ A #ProtectMB coordinating table has been established that includes Data Science, Public Health,
				congregate-living settings are to be vaccinated at fixed vaccination sites
				• At supersites and pop-up clinics, adults aged 18 years of age and older, as well as youth aged 12 to 17 years of age, are eligible to book appointments to receive their first dose
				• Supersites are currently in operation in Winnipeg (where there are two supersites), Brandon, Thompson, Selkirk, Morden, Dauphin, and Steinbach, with plans to open a new site in Gimli on 29 May 2021
				• Supersites serve the dual purpose of administering vaccination while also serving as distribution hubs for focused immunization teams and pop-up/mobile clinics
				• Pop-up clinics are being deployed to serve northern and rural communities
				  ○ The locations and operating hours of these time-limited clinics are detailed on the province's vaccination website
				  ○ Eligible Manitobans can call a dedicated
					• 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 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
					• Manitobans who have been vaccinated can access their individual immunization record online with their health card

		• As of 25 May 2021, Manitoba has administered 761,132 total vaccine doses
		  ○ This represents 60.3% of Manitobans aged 18 and older (or 55.8% of those aged 12 and older) being vaccinated
		• On 25 May 2021 the province had scheduled 17,436 doses to be administered
		• As of 20 May 2021, 71,326 vaccine doses had been allocated to First Nations communities
		  ○ Most of these doses (72.1%) have been administered on reserves
		• The province is collaborating with First Nations groups to use the Moderna vaccine to address First Nations priorities, including vaccination in northern and remote communities
		  ○ 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
			Communications and Engagement, and Vaccine Task Force officials to guide the campaign and determine its informational needs
			• The province has established a 'vaccine shot finder' webpage with a map to aid individuals in finding pharmacies and medical clinics participating in the vaccination campaign
			  ○ The map distinguishes between sites that are and are not currently taking appointments
				phone line to book vaccination appointments at pop-up sites and use the phone lines or the online booking portal
				  ○ Some pop-up clinics operate on a walk-in basis while others require patients to call a dedicated phone line to book an appointment
				• At medical clinics and pharmacies, all individuals aged 40 years of age and older, as well as individuals between 30 and 39 years of age with certain priority conditions, are eligible to book an appointment for vaccination with the Oxford-AstraZeneca vaccine
				• A distributed model of doctors' offices and pharmacists was expected to administer 25% of daily doses in the second quarter, subject to approval of suitable vaccines
				  ○ As of 18 May 2021, 10% of doses have been distributed through the distributed-channel model
					number and email address
					• Family doctors also have access to immunization records

		• 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
		• Manitoba has adopted the National Advisory Committee on Immunization guidance and extended the spacing between first and second vaccine doses to four months
		• 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
		  ○ 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
				• As of 19 May 2021, approximately 67% of vaccination appointments are being made through the online booking portal, with the remainder being made over the phone
				• 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 pilot project at 'Vaxport' was opened in Thompson to provide immunization for residents of remote northern First Nations, and municipal and Indigenous and Northern Affairs communities
				  ○ The pilot project at Vaxport has concluded and it now serves as a backup location for the Thompson supersite
				• Five Indigenous-led COVID-19 immunization clinics have been established in Winnipeg, Brandon, Portage la Prairie, and Thompson to increase vaccine accessibility and	

				provide culturally safe spaces for First Nations (status and non-status), Metis and Inuit peoples • 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 ○ 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 include the administering COVID-19 vaccine • 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 18 May 2021, there are 4,007 staff 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	• The province has published vaccine storage and handling guidance for vaccines including information regarding freezer setup, inspections, monitoring of storage equipment, vaccine transport, temperature excursion, preparation for immunization clinics, what to do when product is damaged, storage requirements for vaccines, recommendations for onward transport of vaccine beyond the initial point of delivery, guidance about insulated containers, and guidance on extracting additional doses from vaccine vials	• The provincial government's COVID-19 Vaccine Distribution Task Force, with input 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 • 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	• The province has published vaccine administration guidelines and information packets for healthcare providers regarding the Pfizer-BioNTech, Moderna, and Oxford-AstraZeneca vaccines • 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	• General guidelines for vaccination sites and priority populations served are available but the 34 public health units of the province will determine how best to roll-out vaccination • 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	• The Pfizer-BioNTech and Moderna vaccine administration guidelines for healthcare providers include guidance regarding adverse events following vaccination • 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

	• Between the weeks of 24 May 2021 and 26 July 2021, Ontario is forecasted to receive 5,255,640 doses of the Pfizer-BioNTech vaccine	workers; adults in First Nations, Métis, and Inuit populations; adults 80 years of age and older; and adult chronic home-care recipients ○ Phase I of the vaccination campaign has concluded • Phase II prioritizes older adults (beginning with those 79 years of age and decreasing in five-year increments); adults living in COVID-19 hot spot communities; those living and working in high-risk congregate settings; caregivers in select congregate care settings; individuals with health conditions and their caregivers; and essential frontline workers who cannot work from home • Phase II vaccinations began with older adults, people who live and work in high-risk congregate settings, caregivers in select congregate-care settings, individuals with health conditions and essential caregivers, and people who cannot work from home ○ The province has expanded phase II eligibility ahead of	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 and ensuring patient confidence in vaccines • 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	• 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 • A "COVID-19 vaccine clinic operations planning checklist" was published to assist in local planning • The province is anticipating that by the end of May 2021 more than 2,400 pharmacies across the province will be offering either the Pfizer or Moderna vaccines • Primary-care providers in six public-health units have begun contacting eligible patients to book vaccination appointments; they are not taking appointments by request	vaccination surveillance • The province has begun voluntarily collecting socio-demographic data from those being vaccinated ○ 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 investigate and provide support • Guidance has been published for managing healthcare workers with symptoms within 48 hours of receiving COVID-19 vaccination

		schedule, and currently all adults and youth aged 12 years and older are eligible to book an appointment for a first dose
		• The province is targeting hot-spot communities (defined as those with historic and ongoing high rates of COVID-19, death, and severe illness) as part of phase II
		  ○ Provincial data as well as local public-health unit knowledge and discretion are used to define 'Forward Sortation Areas' that are considered hot sports
		  ○ Within hot spots, vaccinations are to begin with the oldest adults, but specific neighbourhoods or sub-populations may also be used to prioritize initial doses
		  ○ Low-barrier methods to verify age and residence in a hot-spot community are to be used
		  ○ Public-health units are to leverage community-based organizations and local healthcare organizations to reach residents, build vaccine
				• The Ministry of Health has published a "Pre-screening assessment tool for health care providers
				• Mobile sites can deliver vaccination to populations who need prioritization due to social or geographical factors, such as congregate-living settings, urban Indigenous populations, and racialized communities
				• Mobile teams and pop-up clinics are being deployed to vaccinate individuals in hot-spot communities, beginning in Peel and Toronto
				  ○ The mobile teams and pop-up clinics will (for now) not be using the provincial booking system
				  ○ Mobile vaccine units for small to medium-sized businesses in hot spot areas began rolling out on 7 May 2021
				• The province is working with public-health units, business groups, and large employers to set up employer-operated vaccination clinics for	

		confidence and address misinformation, and identify unique needs and barriers (for example, linguistic barriers) to accessing vaccination ○ Public-health units are to ensure that vaccination clinics in hot-spot communities are readily accessible (for example by locating clinics in popular community centres or large workplaces where community members may work) • On 6 April 2021, Ontario announced it would be increasing vaccine allocations to hot-spot communities in 13 public-health units in the province that have had elevated rates of virus transmission, hospitalizations and deaths ○ The increased allocation delivered more vaccines via all the established delivery channels ○ A news release from 29 April 2021 shows that during the weeks of 3 May 2021 and 10 May 2021 the province was planning to allocate		hot-spot communities at greatest risk ○ These clinics are meant to be set up, operated and funded by employers, and to supplement publicly run vaccination clinics ○ These clinics are meant to vaccinate employees as well as members of local communities ○ Employers operating these clinics must meet certain conditions and have the support of local public-health units and hospitals ○ As of 5 May 2021, several employer-led workplace vaccination clinics have been completed, are being started, or are being planned • Public-health units and family health teams are developing strategies to reach homebound patients for vaccination • Phase II will see vaccine administration occur at municipally run vaccination sites, hospitals, mobile vaccination sites, pharmacies, clinics,	

		50% of all doses to hotspots ○ The same news release states that as of the week of 17 May 2021 the province would be returning to allocating vaccine doses on a per capita basis (based on the remaining eligible population in each region) • As of 4 May 2021, adults aged 18 years of age and older have been eligible for vaccination in hot-spot communities • In Phase III, the province will move into a steady state to vaccinate all remaining eligible Ontarians who wish to be vaccinated • 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 • As of 3 April 2021, individuals 55 years and older became eligible to book vaccinations for the Oxford-AstraZeneca vaccine at the nearly 700 pharmacies and primary-		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 • Expanded healthcare professionals (including nurse practitioners, registered nurses, registered practical nurses, pharmacists, pharmacy students and interns, and pharmacy technicians) are able to register and apply to participate in vaccination efforts via Ontario's Matching Portal • The University of Toronto Department of Family and Community Medicine and the Ontario College of Family Physicians developed a self-learning series to build capacity amongst primary-care providers to support COVID-19 vaccination • The province is operating an online booking system and provincial customer service desk to support vaccination appointment	

		care settings participating in the roll-out
		• On 21 May 2021 the province announced it will move forward with second doses of the Oxford-AstraZeneca vaccine
		  ○ The province is enabling people to receive their second dose with a minimum of a 10-week interval between doses and informed consent
		  ○ The province published an information sheet that outlines the options for second doses for individuals who have already received one dose of the Oxford-AstraZeneca vaccine
		• Ontario's Vaccine Clinical Advisory Group recommended on 26 March 2021 that the following populations be exempted from the extended second dose interval of four months: transplant recipients and individuals with malignant hematologic disorders and non-hematologic malignant solid tumours receiving active treatment (excluding individuals receiving solely hormonal
				bookings at mass-immunization sites across all local public-health units in Ontario
				  ○ Pharmacies are responsible for establishing and operating their own systems for vaccination-appointment booking and management
				  ○ Individuals booking through the provincial portal can book both their first and second dose appointments at the same time
				• The province has directed public health units and vaccination clinics to implement processes to distribute end-of-day leftover doses (due to no-shows or cancellations) to priority populations	

		therapy or radiation therapy)
		• Operation Remote Immunity, which is led by Ornge, aims to vaccinate adults in 31 fly-in First Nations communities and Moosonee in Northern Ontario
		  ○ 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 aimed 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 harms and maximizing benefits; equity; fairness; transparency; legitimacy; and public trust
		• Several organizations involved in primary care in Ontario have published a document titled "Partnering with primary care for local COVID-19 vaccine roll-out in Ontario: A practical guide"			

		• As of 25 May 2021, Ontario has administered 8,251,642 total doses and 544,288 people have been fully vaccinated ○ The province is administering an average of 86,927 doses on a daily basis			

Quebec	• The Ministry of Health and Social Services is responsible for the centralized distribution of vaccines
	• As of 25 May 2021, Quebec has received 5,829,449 doses of vaccines from Health Canada
		• 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
		  ○ The first priority group includes vulnerable people in long-term care and intermediate resources and family-type resources homes
		  ○ The second priority group includes health- and social-care workers
			• 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 regarding the risks of vaccination
			• The Ministry of Health and Social Services has published a common
				• 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
				  ○ 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
				  ○ These groups include midwives, respiratory therapists, and pharmacists
					• 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 Infections Committee has made recommendations and produced

		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 younger than 60 years of age without risk factors but who work in essential services ○ The tenth priority group includes the rest of the adult population • The Quebec Immunization Committee has recommended that	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 for the general public (in English and French)	• 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 recommending that people who have had severe reactions to other injections (that do not	algorithms regarding how to manage patients and healthcare workers with symptoms following COVID-19 vaccination • 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: ○ Events requiring medical attention or hospitalization ○ Events leading to permanent disability ○ Events that place patients' lives at risk ○ Events that lead to death • The province has released guidance

		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 25 May 2021, the following groups of people are eligible for vaccination: ○ Adults 18 years of age and older throughout Quebec ○ Adolescents 12 to 17 years of age throughout Quebec ○ Health and social-services workers aged 16 years and older throughout Quebec ○ People aged 16 years and older who have a chronic disease or health problem that increases the risk of complications of COVID-19 throughout Québec ○ Essential workers aged 16 years and older throughout Québec ○ People aged 16 years and older with a physical disability, an intellectual disability or autism spectrum disorder throughout Québec		have common components with the COVID-19 vaccine) do not need specific pre-assessment, but should be monitored for 30 minutes following vaccination ○ 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 ○ 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 Committee has recommended that people with prior confirmed COVID-19 infection may only need	regarding the surveillance, management and reporting of vaccine-induced prothrombotic immune thrombocytopenia in vaccinated patients • The Ministry of Health and Social Service established a directive to introduce quality assessment audits of vaccine management and handling at administration sites ○ These audits are to occur at least every three months • The government of Quebec is beginning to make digital proof of vaccination available through the clicsante.ca portal ○ Individuals are required to input a valid email address or phone number as well as their health insurance number to

		○ Pregnant women throughout Québec • Quebec stopped administering the Oxford-AstraZeneca vaccine as a first dose vaccine on 13 May 2021, but still offers it as a second dose ○ This suspension came after the province temporarily suspended the use of the Oxford-AstraZeneca vaccine among people younger than 55 years of age due to ongoing investigations into cases of blood clots following vaccination on 29 March 2021 ○ The suspension comes after the Quebec Immunization Committee released guidance and recommendations regarding the use of the Oxford-AstraZeneca vaccine in the context of signals of vaccine-induced immune thrombotic thrombocytopenia • The Quebec Immunization Committee issued recommendations regarding the use of the Johnson & Johnson vaccine on 13 May 2021		one vaccine dose to develop sufficient immunity ○ 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 • The provincial government has launched a program to engage private companies in establishing vaccination centres to complement public-sector vaccination efforts and to serve their employees, families and local communities ○ The province called for companies to propose establishing vaccination sites, but also let companies indicate resources they would be willing to contribute towards vaccination efforts ○ More than 450 companies responded with their interest in participating in this	receive proof of vaccination via email or text message

		○ The committee recommended that the vaccine be offered to individuals aged 18 and older who present a contradiction for receiving an mRNA vaccine ○ The committee notes that the vaccine may be considered for women aged 60 and older and men aged 30 and older who prefer a single dose vaccine or do not want to wait for an mRNA vaccine ○ The committee notes that the vaccine may be suitable for people aged 18 and older in exceptional circumstances, for example when logistics preclude the use of an mRNA vaccine or the probability of a patient for a second dose of a vaccine is low ○ The committee stresses the importance of making patients aware of the advantages and risks of the vaccine and ensuring providers are aware of the signs of vaccine-induced immune thrombotic thrombocytopenia		campaign and 13 companies have thus far been selected to participate as vaccination centres ○ As of 3 May 2021, 23 company-led vaccination centres have been established • The Public Health Ethics Committee has published a bulletin on the topic of immunity passports ○ The committee's analysis concludes that immunity passports are justifiable and can play a complementary and temporary role in deconfinement efforts ○ The committee estimates that the benefits from immunity passports slightly outweigh the disadvantages ○ The committee will not issue any formal recommendation until August 2021	

		• 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
		  ○ 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 to people with a very high risk of sickness and complications (for example, residents of long-term care homes and immunocompromised people)
		• The Quebec Immunization Committee 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: o Minimum age for administering mRNA vaccines o Counter-indications and precautions for certain groups of people o Interchangeability of COVID-19 vaccines o Second-dose intervals o Interactions between mRNA vaccines and other products o Vaccination of people with confirmed COVID-19 infection o 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 • On 23 April 2021, the Quebec Immunization Committee has issued the following recommendations regarding second doses for long-term care residents in the context of a third wave and suboptimal vaccine coverage in health workers: o Immediately consider the administration of second doses to long-term care residents, respecting the minimum 28-days interval between doses o Improve vaccine coverage amongst health workers using effective and adaptable strategies o Monitor in quasi-real time the impacts of vaccination in Quebec and the international evidence to evaluate risks and benefits • As of 25 May 2021, 5,051,681 doses have been administered and 55.7% of the population has been vaccinated o As of 25 May 2021, the province is averaging			

		82,074 vaccine doses administered per day			
New Brunswick	• To ensure optimal storage of the vaccine new ultra-low freezer units have been delivered to regional hospitals	• 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 ○ 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 ○ 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 New Brunswick Ministry of Health website provides information for the general public on the province's vaccine roll-out plan ○ 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 site and Moderna's COVID-19 vaccination site • A press release from the Government of New Brunswick provided a COVID-19 vaccination update detailing the allocation of vaccine clinics. ○ Vaccination clinics were set-up within eight long-term care facilities, as well as clinics in Campbellton, Edmundson,	• 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 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 • Due to the Pfizer-BioNTech vaccine delivery delays, vaccinations for some healthcare workers were postponed to ensure there were enough	• 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 • Enhancements have been made to the MyHealthNB website allowing New Brunswickers to access their COVID-19 test results faster and print an official copy of their recent test results

		• The province is continuing to work with long-term care facilities to improve their vaccination rates
		  ○ As of 20 May 2021, 67.2% of long-term healthcare staff have received at least one dose
		• Details on the priority groups for each phase was adjusted
		  ○ 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 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
		  ○ 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-
			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 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
			• 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
				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
				  ○ 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 vaccination in the coming weeks
				• Details on how and when to register for vaccinations will be announced publicly closer to the start of phase 2
				• Selecting a vaccination clinic is based on specific criteria
				  ○ Pharmacies will be vaccinating individuals aged 70 years and older, people who travel	

		secondary students aged 16 to 24 • 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 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 • 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 ○ With these changes the province will be revising its roll-out plan in the coming weeks • At a press conference on 8 April 2021, Health Minister Dorothy Shephard stated that the	○ 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 • Scheduling a vaccine appointment with a Regional Health Authority is booked through the Government of New Brunswick website • Vaccine appointments through a pharmacy are scheduled by contacting the pharmacy directly ○ A list of participating pharmacies is provided on the Government of New Brunswick website • A chart listing all eligible individuals as well as where they can get the vaccine has been	regularly across the border and rotational workers ○ Regional Health Authorities will be vaccinating individuals aged 70 years and older, people with complex medical conditions, people aged 40 years and older with select chronic conditions, first responders, health-care workers, health-system staff, people who work in high schools ○ Oxford-AstraZeneca vaccines will be available at both locations for people 55 years of age and older	

		province would be focusing on age-based eligibility to maximize the efficiency of their COVID-19 vaccine schedule
		• The province has updated its vaccine roll-out schedule
		  ○ In March and April, priority will be given to individuals 70 years of age and older, all First Nations 16 years of age and older, individuals who travel across the border, rotational workers, health-care workers, health-system staff and individuals with complex medical conditions
		  ○ Priority will also be given to individuals 40 years of age and older with three or more select chronic conditions, and individuals 60 to 69 years of age
		• The province anticipates that individuals between the ages of 16 and 59 will be eligible for vaccination in June
		• On 18 May 2021, the province updated its vaccine schedule
			updated on the Government of New Brunswick website
			• A list of the communities hosting vaccination clinics has been updated on the Government of New Brunswick website		

		○ Individuals aged 18 years and older are now eligible to receive their first dose from either a pharmacy or vaccination clinic • The province has 3,500 doses of Oxford-AstraZeneca vaccine that will expire on 31 May 2021, and is urging individuals 55 years of age and older who received the first dose to register for their second dose before the end of the month • As of 23 May 2021, 422,010 doses have been administered ○ From that total, 385,997 people have been vaccinated with at least one dose			
Nova Scotia	• Five storage sites have been developed with ultra-low freezers to store vaccines safely ○ 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 Nova Scotia Ministry of Health developed a vaccine-distribution strategy prioritizing groups throughout three phases ○ 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,	• The Government of Nova Scotia website provides information about the vaccine, how its citizens are being prioritized and the three-phase distribution program ○ The website links to the vaccines and treatments for COVID-19 page on the Government of Canada's website	• 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	• 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

	the best possible methods for transporting the vaccine to confirm that it remained at a stable temperature
	• 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
	  ○ The objective is to deliver approximately 10,000 doses per day
	• With more clinics opening across the province, vaccine distribution in the province is based on census data and population estimates
	• 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
		residents and staff of residential-care facilities, adult 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
		  ○ 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
		• Premier Iain Rankin announced at a press conference that all adults could have at least the first dose by the end of June 2021
		• The Oxford-AstraZeneca vaccine will be administered to individuals aged 63 and 64 starting 20 March 2021
		• Vaccination appointments for individuals in phases two and three will be prioritized by age to ensure timely distribution
			• The Government of Nova Scotia's YouTube channel provides regular updates on the pandemic as well as allocation and distribution of vaccines
			• 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
			• An update to the COVID-19 vaccine
				vaccinate healthcare workers
				• Within the month of March 2021, clinics in New Minas, Sydney and 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
				• Future prototype clinics will also be established in pharmacy settings and Mi'kmaq communities
				  ○ 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 1 March, the first of 13 vaccination clinics in Mi'kmaq communities across the province will open at Millbrook First Nations
				  ○ Mi'kmaq elders will receive their vaccinations starting the week of March 1st
				• All First Nations clinics will be managed by the
					○ From that total 11,533 are second doses
					• 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

	• As of 6 April 2021, 200,250 doses have been delivered to the province	• Individuals 25 years of age and older are now eligible to book a vaccination appointment
		• Individuals who are not a permanent resident and do not have a Nova Scotia Health Card can book a vaccination appointment when their age group becomes eligible
		• As of 21 May 2021, 483,549 doses have been administered
		  ○ As of 18 May 2021, 48% of the population over 16 years of age have been vaccinated
		  ○ From that percentage, 43.3% have received their first dose and 4.8% have received their second dose
			booking site includes a postal code look-up to help users find available appointment times and which vaccine is available at specific clinics in their area
			• On 12 April 2021, a video explaining how the COVID-19 vaccines are being distributed was posted on the government of Nova Scotia Twitter account
				health centres located within each reserve
				  ○ 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
				  ○ 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 long-term care facilities will receive their vaccination ○ 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 ○ 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 ○ 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	

				• 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.
				  ○ 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
				  ○ 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	

				Pharmacy Association of Nova Scotia and Doctors Nova Scotia ○ 25 pharmacies and family-physician clinics will be offering vaccinations, and their locations are posted on the Government of Nova Scotia website • During the week of 6 April 2021, the first African-community vaccination clinic opened at the Emmanuel Baptist Church • In a press conference on 6 April 2021, Chief Medical Officer of Health Dr. Robert Strang stated that the province has been cautious with their vaccine program due to the unstable vaccine supply ○ Appointments dates are only released once supply is confirmed • Two drive-thru clinics have been set-up to increase the number of vaccinations administered daily ○ The first drive-thru clinic opened on 10 May 2021, at the Dartmouth General	

				Hospital for individuals 50 years of age and older • The province has partnered with the Rural Transportation Association to offer low-cost transportation for individuals unable to get to a vaccination appointment ○ A link to find a provider to arrange transportation can be found on the Government of Nova Scotia website	
Prince Edward Island	• 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	• 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 ○ 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	• 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 ○ 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	• 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 ○ Clinics will be located in O'Leary, Summerside, Charlottetown and Montague • Homecare nurses will begin assisting with vaccinations at clinics for	• 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

		other residential or shared-living facilities, and truck drivers and other rotational workers ○ 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 roll-out shifted to providing second doses to individuals in community care by 26 February 2021 • Starting 11 March 2021, individuals aged 18 to 29 who work in the food and beverage industry, including food delivery service, can register to receive the Oxford-AstraZeneca vaccine	available on the Government of Prince Edward Island website • A telephone number was made available to the general public to answer any health-related questions about COVID-19 • Links for booking appointments as well as the locations of vaccination clinics, pharmacies and local schools offering the vaccine are posted on the Government of Prince Edward Island website • A video titled, "Vaccine Clinic Walkthrough" was posted on the Government of Prince Edward Island's YouTube channel on 14 May 2021, outlining how to prepare for, and what to expect at your vaccination appointment • A public service announcement titled, "When it's your turn, get vaccinated" was posted on the Government of Prince Edward Island's YouTube channel on 6 April 2021 to promote	Islanders over the age of 80 who do not live in long-term care facilities • Beginning on 4 February 2021, Islanders 80 years and older not living in long-term care facilities can book an appointment to receive their vaccination • 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 ○ Seniors may call a toll-free number or use the online webform to	Government of Prince Edward Island website •

		○ Appointments can be made directly through participating pharmacies listed on the Government of Prince Edward Island website • Updates have been made to the vaccine roll-out phases on the Government of Prince Edward Island website ○ Phase 2 will take place between April and June 2021 and will include adults 18 years of age and older, front-line essential workers between the ages of 18-59 who work in the food service and retail industry, gas station attendants, clerks, teachers, school administration, early childhood educators, veterinarians, public transit drivers and seafood and meat 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	Islanders to get their vaccination once they become eligible	submit their request and receive a phone call from public health to book their appointment • International rotational workers including commercial airline pilots and members of the military will begin to be contacted by public health to schedule a vaccination appointment ○ Individuals in this category will be contacted with age prioritizing who will be contacted first (oldest to youngest) • To ensure adults 75 years of age and older receive their vaccine in a timely fashion, appointment dates are being scheduled according to an individual's date of birth ○ Appointments are scheduled online through the Government of Prince Edward Island website • The Oxford-AstraZeneca vaccine will be administered at participating pharmacies ○ These pharmacies are listed on the	

		○ 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 • An update to Phase 2 of the province's vaccine roll-out plan lists the week each age group is able to receive the vaccine during the months of April and May • Phase 3 will take place from summer to September 2021 and will offer second doses to individuals vaccinated in Phase 2 ○ Youth younger than 12 years of age will be eligible for a vaccine during this phase if one is approved for this age category • As of 19 May 2021, 78,817 doses have been administered ○ From that total, 66,661 are first doses and 12,156 are second doses		Government of Prince Edward Island website • Starting the week of 6 April 2021, 12 partner pharmacies began administering the Oxford-AstraZeneca vaccine to individuals 55 years of age and older • Individuals aged 18-29 who qualify for the Oxford-AstraZeneca vaccine can book their appointments directly through participating pharmacies • As of 29 March 2021, six vaccination clinics running six days a week have opened across the province administering the Pfizer-BioNTech and Moderna vaccines • To assist with the timely booking of appointments the province has outlined who is eligible to schedule an appointment each week during the month of April • In a press conference on 6 April 2021, Chief Public Health Officer Dr. Heather Morrison reassured all islanders that wherever they	

				receive their vaccination • all personnel are trained at administering the vaccine • Students aged 12-15 will have the option of receiving their vaccination either at school or at a vaccine clinic beginning the week of 4 June 2021	
Newfoundland and Labrador	• 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 Medical Officer Dr. Janice Fitzgerald announced that the province is working with the federal government to secure low headspace syringes • In a news conference on 20 January 2021, Chief	• The Newfoundland and Labrador Ministry of Health developed a phased approach to administering the vaccine prioritizing specific populations ○ 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 individuals living in remote and/or isolated Indigenous communities ○ 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	• 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 ○ Information sheets outlining how the Pfizer BioNtech, Moderna and Oxford-AstraZeneca vaccines protect against COVID-19 are linked on the website • 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 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 ○ 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 • Vaccinations are being administered at Inuit communities in Labrador ○ The vaccine is being offered to anyone 17 years of age and older with priority given to healthcare workers and seniors	• Vaccination after-care information sheets for the Pfizer BioNtech and Moderna vaccines can be downloaded from the Government of Newfoundland and Labrador website ○ Attached to each information sheet is an immunization record to be filled out after receiving the vaccination • 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.

	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	○ 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 ○ 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	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 • An updated chart outlining a timeline for when priority groups are eligible to receive their COVID-19 vaccine has been posted on the Government of Newfoundland and Labrador website • Links to book a vaccination appointment at one of the regional health authorities is found on the Government of Newfoundland and Labrador website • The Newfoundland and Labrador Centre for Health Information posted on their YouTube channel a video explaining how to book a COVID-19 vaccination appointment online	• 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 ○ 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 • 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	○ The website links to the Government of Canada's website providing more detail about the safety of the vaccines

		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 ○ 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 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 ○ Phase 3 will take place from July to September 2021, and will include anyone in priority	• Information about the COVID-19 variants was posted on the Government of Newfoundland and Labrador website	• An updated chart outlining a timeline for when priority groups are eligible to receive their COVID-19 vaccine has been posted on the Government of Newfoundland and Labrador website • Vaccination clinics are offering the Oxford-AstraZeneca vaccine to individuals between the ages of 55 and 64 years	

		groups 1 and 2 who were not vaccinated, and individuals aged 16-59 who have not been vaccinated • On 9 March 2021, 7,000 doses of Oxford-AstraZeneca vaccine arrived in the province • In a news conference, Chief Medical Officer of 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 • As of 12 April 2021, 144,700 doses have been delivered to the province • The province has updated Phase 3 of its vaccine roll-out plan allowing individuals 12 years of age and older to book a vaccination appointment ○ The goal is to have children 12 – 15 years of age fully vaccinated by early in the next school year • As of 24 May 2021, 272,562 doses have been administered			

		○ From that total 262,096 people have been vaccinated with at least one dose			
Yukon	• Vaccines will be distributed to the Yukon and across Canada by the Immunization National Operation Centre for COVID-19 ○ The Government of Yukon has partnered with experts under the Joint Task Force North to plan for vaccine distribution	• 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: ○ Staff and individuals residing in group-living settings for vulnerable groups or older adults ○ 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	• The Government of Yukon will provide accurate and updated information to Yukoners through news conferences and Yukon.ca updates ○ 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 • A COVID-19 vaccine after care information package is also available on the Government of Yukon website for residents ○ The package discusses steps to take after receiving the vaccine, what side-effects to expect after the immunization, when to return for the second dose and things to remember when signing up for immunization	• The Government of Yukon's Department of Health and Social Services is the designated authority in delivering vaccines to Yukoners ○ 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 and one proof of residency document to receive vaccination ○ Yukoners are also asked to bring their COVID-19 vaccine record cards, received during their first dose	• 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 • Yukoners can also download the CanImmunize app to keep track of their COVID-19 vaccine and other vaccines • In Yukon, all serious side-effects, such as hives, swelling, or difficulty breathing, are asked to be reported to the Whitehorse Health Centre or to a local community health centre

		• Individuals are eligible to receive vaccination if they are:
		  ○ 12 years of age and older
		  ○ Are no longer infectious if they had a previous COVID-19 infection
		• Individuals may be offered the vaccine with informed discussion if they are:
		  ○ Currently pregnant or planning to be pregnant before receiving the full two Moderna doses
		  ○ Currently breastfeeding
		  ○ Have immune system problems or autoimmune conditions
		• Individuals should not receive the vaccine if they are:
		  ○ Have symptoms of a COVID-19 infection
		  ○ Feel unwell from a recent COVID-19 infection
		  ○ Allergic to polyethylene glycol or had an allergic reaction without a known cause
		  ○ Had a serious allergic reaction with the previous dose of the COVID-19 vaccine
		  ○ Received another non-COVID-19 vaccine in the past 14 days
			• An information package about Moderna is also available on the government website
			  ○ The package discusses COVID-19, how the vaccine protects Yukoners, who is eligible to receive the vaccine, what to tell the healthcare provider when being vaccinated, and how the vaccine is administered
				immunization, to their second immunization
				• Vaccine clinics will be established at centralized locations for COVID-19 vaccine roll-out
				  ○ 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 2021, there are 14 mobile clinics scheduled to visit rural and remote communities across the Yukon for vaccine administration
				• As of 31 May 2021, clinics will be held in schools across every Yukon community, and clinics located in Whitehorse will allow	

		• As of 31 May 2021, youth in rural areas between 12 and 17 years of age are eligible to receive the Pfizer-BioNTech vaccine
		  ○ Youth in Whitehorse are eligible to receive their first dose starting June 1 and their second dose starting June 23
		  ○ Clinics will be held in school and at central locations in Whitehorse
		• As of 27 January 2021, 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
		• On 10 December 2020, the Minister of Health announced that 50,400 doses of the Moderna vaccine will be received by March 2021
		  ○ 75% of the population in Yukon is expected to be vaccinated during this time period
		• Yukoners are encouraged to get their second vaccine
				youth to receive their first and second Pfizer-BioNTech doses
				• As of 19 May 2021, all individuals above 18 years of age are able to receive their first and second vaccine doses at a Whitehorse-based clinic
				• Individuals in rural communities, who are 18 years or older, can call local clinics to schedule a vaccine appointment or visit the Whitehorse clinic
				• Clinics will be held in school and at central locations in Whitehorse to vaccinate youth aged 12 to 17 years
				• 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
				  ○ All home-bound people have also been fully vaccinated
				• A public website allows for residents to self-schedule appointments for the first and second vaccine doses
				• Yukoners are asked to wait a minimum of 15	

		28 to 35 days after receiving their first dose
		• As of 25 May 2021, 57,020 doses have been delivered to the Yukon
		  ○ Approximately 91.4% of all delivered doses have been administered
		• As of 19 May 2021, 50,998 doses of Moderna vaccines have been administered
		  ○ This includes 27,153 first doses and 23,845 second doses
		  ○ 76% of individuals in Northern Yukon, 83% in West Yukon, 54% in Central Yukon, 61% in Southeast Yukon and 78% in Whitehorse have received their first dose of Moderna
		  ○ 69% of individuals in Northern Yukon, 76% in West Yukon, 48% in Central Yukon, 56% in Southeast Yukon and 69% in Whitehorse have received their second dose of Moderna
				minutes at the vaccine clinic after receiving their immunization
				  ○ For individuals with a history or concern about vaccine allergy, a waiting period of 30 minutes is recommended
				  ○ Individuals are asked to inform a health provider if they feel unwell during the waiting period
				• Public health measures, such as practising the Safe 6 Plus 1, getting tested if necessary, and following self-isolation requirements will be kept in place for all Yukoners
				• The Safe 6 Plus 1 includes physically distancing six feet, practising hand hygiene, staying at home when feeling sick, avoiding crowds, following guidelines when travelling to communities, self-isolating when necessary and staying connected with the outside world
				• As of 25 May 2021, Yukoners who are fully vaccinated and can provide confirmation of their vaccine status, do	

				not have to self-isolate when entering the territory from anywhere in Canada • As of 25 May 2021, Yukon bars and restaurants will return to full capacity with no physical distancing given that nearly 75% of Yukoners have received their first vaccine dose	
Northwest Territories	• 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	• A phased approach will be used to administer the vaccine and priority will be given to high-risk groups including individuals who: ○ are seniors ○ have chronic conditions or co-morbidities ○ reside in remote communities ○ have a high risk of transmitting or contracting a severe case of COVID-19 ○ 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: ○ People 18 years or older who have one or more specified chronic condition	• Residents of Northwest Territories will be provided with updates to the vaccine strategy, evidence or recommendations through multiple plain-language materials ○ An update of vaccine information and allocation in the Northwest Territories will be posted on a weekly basis ○ Weekly updates of the vaccine are also provided on the Government of NWT's Facebook page • Local health personnel will be made available to community residents to answer questions about the vaccine before	• 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 ○ Mobile clinics will stay in the communities as long as needed and will return for the second dose • As of 13 April 2021, residents who are interested in being vaccinated are asked to contact their local health centre or public-health office ○ A community visit may be organized if there is enough demand for vaccination in a particular community	• 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 being forwarded to the Public Health Agency of Canada • The Canadian Vaccine Monitoring System will be used to share and exchange information with other jurisdictions on adverse vaccine events

		○ 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 risk for contracting COVID-19 ○ 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	mobile-vaccine clinics arrive ○ 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 • Between 19 May and 22 May 2021, youth have the opportunity to submit anonymous vaccine questions to be answered by NWT's top doctor	• 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 • While proof of vaccination is not required for travel outside the territory, proof of vaccination can be provided to individuals who complete and submit a COVID-19 vaccine-record form • As of 24 May 2021, Pfizer-BioNTech vaccines will be provided during school to youth • As of 17 May 2021, the Government of NWT is	

		vaccine clinics that meet community needs • 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: o Yellowknife residents 50 years or older o Residents in Inuvik who are 18 or older o Residents in Hay River who are 18 or older o 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, drug stores, banks, libraries, postal service, liquor stores, gas stations, convenience stores, customer service		offering funding to Indigenous and community governments to promote vaccines at the local and regional levels	

		agents at airports, and media personnel)
		• As of 13 April 2021, vaccination clinics in all communities across NWT are providing a second immunization for individuals who have received their first dose, and first doses for any resident older than 18 years of age
		• As of 24 May 2021, all youth aged 12 to 17 are eligible to receive the Pfizer vaccine
		  ○ The Pfizer vaccine is exclusively reserved for youth due to limited supply
		• Residents who have received their first Moderna dose are asked to wait at least four weeks before getting their second dose
		• As of 25 May 2021, 63,510 doses have been delivered
		  ○ 82.3% of all delivered doses have been administered
		  ○ As of 15 May 2021, 59% of all eligible individuals in NWT have been fully vaccinated and 67% have been partially vaccinated			

Nunavut		• 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 supply of vaccines is shipped to Nunavut • Individuals over the age of 18 who have missed the first dose of the vaccine must travel to Arviat for vaccination • The Government of Nunavut will not be releasing specific details about the level of	• 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 • An information package is additionally available on the Government of Nunavut website describing what residents can expect when visiting vaccine clinics • Information about the Moderna COVID-19 vaccine, ingredients, side-effects and roll-out plan are also available on the Government of Nunavut website	• 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 valid IDs to prove residency before receiving a dose • Reminders will be sent by local healthcare centres to patients to remind them of their second dose	• 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

		vaccination in communities to prevent stigma
		• As of 10 March 2021, residents 18 years and older in Nunavut became eligible to schedule a vaccination
		• As of 25 May 2021, 45,100 doses of the COVID-19 vaccine have been delivered to Nunavut
		  ○ Approximately 69.3% of all delivered doses have been administered
		• As of 25 May 2021, a total of 31,272 vaccine doses have been administered
		  ○ 17,052 individuals have received at least one dose of a COVID-19 vaccine, and 14,220 individuals have been fully vaccinated
				• Individuals must receive the second dose of the COVID-19 vaccine in the same location as where they received the first dose
				• Individuals are asked to wait 15-30 minutes after being vaccinated to monitor side-effects or adverse reactions	

Appendix 5: Documents excluded at the final stages of reviewing

Type of document	Hyperlinked title
Guidelines	Clinical investigation and management of COVID-19 vaccine induced thrombosis and thrombocytopenia Canadian Rheumatology Association position statement on COVID-19 vaccination Data collection on COVID-19 outbreaks in closed settings with a completed vaccination program: Long-term care facilities Information for healthcare professionals on blood clotting following COVID-19 vaccination National protocol for COVID-19 Vaccine AstraZeneca (ChAdOx1-S [recombinant]) COVID-19 vaccination and blood clotting Echocardiography during the COVID-19 pandemic, an impact of the vaccination program: A 2021 update of the expert opinion of the Working Group on Echocardiography of the Polish Cardiac Society SEPAR recommendations for COVID-19 vaccination in patients with respiratory diseases COVID-19 and mandatory vaccination: Ethical considerations and caveats Overview of the implementation of COVID-19 vaccination strategies and vaccine deployment plans in the EU/EEA For immunization providers: Interim national vaccine storage, handling and transportation guidelines for ultra-low temperature and frozen temperature COVID-19 vaccines Italian association for the study of the liver position statement on SARS-CoV2 vaccination COVID-19 vaccination of patients with allergies and type-2 inflammation with concurrent antibody therapy (biologicals) - A position paper of the German Society of Allergology and Clinical Immunology (DGAKI) and the German Society for Applied Allergology COVID-19 vaccination in mastocytosis: Recommendations of the European Competence Network on Mastocytosis (ECNM) and American Initiative in Mast Cell Diseases (AIM) AstraZeneca ChAdOx1-S/nCoV-19 [recombinant], COVID-19 vaccine explainer Interim recommendations for use of the ChAdOx1-S [recombinant] vaccine against COVID-19 (AstraZeneca COVID-19 vaccine AZD1222, SII Covishield, SK Bioscience)
Full systematic reviews	Factors influencing the efficacy of COVID-19 vaccines: A quantitative synthesis of phase III trials Mini-review discussing the reliability and efficiency of COVID-19 vaccines Development and implementation of a potential coronavirus disease 2019 (COVID-19) vaccine: A systematic review and meta-analysis of vaccine clinical trials
Rapid reviews	Safety and efficacy of vaccines during COVID-19 pandemic in patients treated with biological drugs in a dermatological setting
Protocols for reviews that are underway	None identified
Titles/questions for reviews that are being planned	None identified

Type of document	Hyperlinked title
Single studies that provide additional insight	Safety and efficacy of single-dose Ad26.COV2.S vaccine against COVID-19 Immunogenicity and safety of a SARS-CoV-2 inactivated vaccine in healthy adults: Randomized, double-blind, and placebo-controlled phase 1 and phase 2 clinical trials Phase 1 randomized trial of a plant-derived virus-like particle vaccine for COVID-19 Effectiveness of the Pfizer-BioNTech and Oxford-AstraZeneca vaccines on COVID-19 related symptoms, hospital admissions, and mortality in older adults in England: Test negative case-control study The effectiveness of the TWO-DOSE BNT162b2 vaccine: Analysis of real-world data Short-term antibody response after 1 dose of BNT162b2 vaccine in patients receiving hemodialysis Immunogenicity of COVID-19 mRNA vaccines in pregnant and lactating women Impact and effectiveness of mRNA BNT162b2 vaccine against SARS-CoV-2 infections and COVID-19 cases, hospitalizations, and deaths following a nationwide vaccination campaign in Israel: An observational study using national surveillance data Antibody response to mRNA SARS-CoV-2 vaccine among kidney transplant recipients: A prospective cohort study Arterial events, venous thromboembolism, thrombocytopenia, and bleeding after vaccination with Oxford-AstraZeneca ChAdOx1-S in Denmark and Norway: Population-based cohort study Association between vaccination with BNT162b2 and incidence of symptomatic and asymptomatic SARS-CoV-2 infections among healthcare workers Efficacy of NVX-CoV2373 Covid-19 vaccine against the B.1.351 variant Interim findings from first-dose mass COVID-19 vaccination roll-out and COVID-19 hospital admissions in Scotland: A national prospective cohort study COVID-19 vaccine coverage in healthcare workers in England and effectiveness of BNT162b2 mRNA vaccine against infection (SIREN): A prospective, multicentre, cohort study Safety and immunogenicity of the SARS-CoV-2 BNT162b1 mRNA vaccine in younger and older Chinese adults: A randomized, placebo-controlled, double-blind phase 1 study Safety and immunogenicity of SARS-CoV-2 recombinant protein vaccine formulations in healthy adults: Interim results of a randomized, placebo-controlled, phase 1-2, dose-ranging study Safety and immunogenicity of an MF59-adjuvanted spike glycoprotein-clamp vaccine for SARS-CoV-2: A randomized, double-blind, placebo-controlled, phase 1 trial Proportion of SARS-CoV-2 positive tests and vaccination in Veterans Affairs Community Living Centers Short-term impact of nursing home SARS-CoV-2 vaccinations on new infections, hospitalizations, and deaths Efficacy of ChAdOx1 nCoV-19 (AZD1222) vaccine against SARS-CoV-2 variant of concern 202012/01 (B.1.1.7): An exploratory analysis of a randomized controlled trial Data and safety monitoring of COVID-19 vaccine clinical trials Public health impact of delaying second dose of BNT162b2 or mRNA-1273 covid-19 vaccine: Simulation agent-based modelling study Applying machine learning to identify anti-vaccination tweets during the COVID-19 pandemic An observational study to identify the prevalence of thrombocytopenia and anti-PF4/polyanion antibodies in Norwegian healthcare workers after COVID-19 vaccination COVID-19 vaccination scenarios: A cost-effectiveness analysis for Turkey

Type of document	Hyperlinked title
	Preliminary findings of mRNA Covid-19 vaccine safety in pregnant persons Side-effects of BNT162b2 mRNA COVID-19 vaccine: A randomized, cross-sectional study with detailed self-reported symptoms from healthcare workers Non-life-threatening adverse effects with COVID-19 mRNA-1273 vaccine: A randomized, cross-sectional study on healthcare workers with detailed self-reported symptoms Self-reported real-world safety and reactogenicity of COVID-19 vaccines: A vaccine recipient survey A targeted geospatial approach to COVID-19 vaccine delivery: Findings from the Johns Hopkins Hospital Emergency Department Cost-effectiveness of COVID-19 vaccination in low- and middle-income countries Expanding COVID-19 vaccine availability: Role for combined orthogonal serology testing (COST) Pregnancy and birth outcomes after SARS-CoV-2 vaccination in pregnancy Optimal allocation of limited vaccine to control an infectious disease: Simple analytical conditions Analysis on action tracking reports of COVID-19 informs control strategies and vaccine delivery in post-pandemic era Survey data of COVID-19 vaccine side-effects among hospital staff in a national referral hospital in Indonesia Prevalence of COVID-19 vaccine side-effects among healthcare workers in the Czech Republic Surveillance of COVID-19 vaccination in U.S. nursing homes, December 2020-April 2021 COVID-19 vaccine allocation: Modelling health outcomes and equity implications of alternative strategies Accelerated vaccine roll-out is imperative to mitigate highly transmissible COVID-19 variants Clinical outcomes and cost-effectiveness of COVID-19 vaccination in South Africa When can we safely return to normal? A novel method for identifying safe levels of NPIs in the context of COVID-19 vaccinations COVID-19 vaccine prioritization in Japan and South Korea Vaccination against COVID-19 and society's return to normality in England: A modelling study of impacts of different types of naturally acquired and vaccine-induced immunity Potential impact of introducing vaccines against COVID-19 under supply and uptake constraints in France: A modelling study A simple mathematical tool to help distribute doses of 'two-dose' COVID-19 vaccines among non-immunized and partly-immunized population Safety monitoring of the Janssen (Johnson & Johnson) COVID-19 vaccine — United States, March–April 2021 The cost of procuring and delivering COVID-19 vaccines in low- and middle-income countries: A model of projected resource needs Objectives of vaccination strategies against COVID-19

Bhuiya A, Bain T, Wang Q, Al-Khateeb S, DeMaio P, Ahmad A, Drakos A, Rintjema J, Sharma K, Matthews M, Gauvin FP, Lavis JN, Wilson MG. Appendices for COVID-19 living evidence profile #1 (version 1.7): What is known about anticipated COVID-19 vaccine roll-out elements? Hamilton: McMaster Health Forum, 28 May 2021.

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