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COVID-19 Recovery:  
Building Future Pandemic  
Preparedness and  
Understanding Citizen  
Engagement in the G7

# **A Matter of Trust: Building COVID-19 Vaccine Confidence Among Diverse Communities in Canada and the United Kingdom**

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Agnes Nanyonjo  
David Nelson  
Emma Sayers  
Priya Lall  
A. Niroshan Siriwardena  
Frank Tanser

Kelly Grindrod  
Nancy Waite  
Moses Tetui  
Liz Vernon-Wilson  
Bara' Abdallah AlShurman  
Ginny Wong

### **About the authors**

Agnes Nanyonjo is Research Fellow at Lincoln International Institute for Rural Health in the College of Social Science at the University of Lincoln. David Nelson is Research Fellow at the Lincoln International Institute for Rural Health in the College of Social Science at the University of Lincoln. Emma Sayers is Research Assistant in the School of Health and Social Care at the University of Lincoln. Priya Lall is Senior Research Fellow at the Lincoln International Institute for Rural Health in the College of Social Science at the University of Lincoln. A. Niroshan Siriwardena is Professor at the Community and Health Research Unit in the School of Health and Social Care at the University of Lincoln. Frank Tanser is Professor of Rural Global Health and Director of the Lincoln International Institute for Rural Health and Social Care in the College of Social Science at the University of Lincoln. Kelly Grindrod is Associate Professor in the School of Pharmacy at the University of Waterloo, Canada. Nancy Waite is Professor in the School of Pharmacy at the University of Waterloo, Canada. Moses Tetui is Postdoctoral Fellow in the School of Pharmacy at the University of Waterloo, Canada. Liz Vernon-Wilson is Research Coordinator in the School of Pharmacy at the University of Waterloo, Canada. Ginny Won is Research Assistant in the School of Pharmacy at the University of Waterloo, Canada. Bara' Abdallah AlShurman is a PhD student in the School of Public Health Sciences at the University of Waterloo.

### **About COVID-19 Recovery: Building Future Pandemic Preparedness and Understanding Citizen Engagement in the G7**

The programme aims to facilitate global and interconnected learning about the contexts, causes and factors leading to vaccine engagement. Through the programme, the Academy has awarded funding to seven research projects exploring vaccine engagement in Canada, France, Germany, Italy, Japan and the UK. The programme, which was funded by the UK's Department for Business, Energy and Industrial Strategy, builds on a series of statements developed in partnership with humanities and social sciences bodies across G7 countries. The Academy has supported another series of projects focused on the USA and UK.

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# Executive summary

COVID-19 infections are over-represented in ethnic minority groups and other deprived communities while low uptake levels for COVID-19 vaccines are observed in the same groups. The uptake of a vaccine depends not only on its perceived safety and effectiveness profile but also on how well vaccination policies are communicated by policy makers and subsequently implemented by practitioners. Scarcity of what was known about COVID-19 and its novel vaccines meant COVID-19 vaccination policies evolved quickly. We analysed how changes in government policies on COVID-19 vaccination in the UK (England) and Canada (Ontario) were communicated and experienced by diverse communities.

# Key messages and policy recommendations

- Rapid policy changes related to the Oxford/AstraZeneca vaccine, COVID-19 vaccine dose intervals, and prioritisation of children for vaccination made it hard for vaccination programmes to penetrate marginalised groups. Policy makers need to be cautious while communicating advice on the risks and benefits of vaccination.
- Although marginalised groups were earmarked for prioritisation for COVID-19 vaccines (explicitly in Canada and implicitly in the UK), it is not enough to let someone go first when prioritising them. Policy makers need to invest in infrastructure that builds trust so that underserved communities are willing to accept vaccination and go first.
- “It is not what is said but who says it”- Marginalised communities need to hear about vaccination policies from their community leaders and trusted sources. Governments need to invest in services that are close to communities on a regular rather than reactionary basis.
- Although well intended, vaccine mandates had the unintended consequences of raising fears of continued infringement of civil liberties, making vaccine hesitant groups more hesitant, and disproportionately affecting people from minority groups working in the care sector.
- Whilst policies were made using a top-down approach, as was necessary in a pandemic situation, local implementers faced challenges and delays in translating rapidly changing policies into various languages. Ultimately, this created unequal access to COVID-19 vaccination information.
- Interventions addressing vaccine hesitancy in marginalised communities should be framed within wider health promotion strategies.
- Finally, all policies need a clear justification, communication strategy and community engagement in order to be effective.

# Inequalities in COVID-19 vaccine uptake in the UK and Canada

Vaccines are the most effective tool for curtailing the COVID-19 pandemic, yet uptake remains suboptimal among certain communities in the United Kingdom (UK) and Canada.<sup>1</sup> Current evidence indicates that vaccine hesitancy can be influenced by many factors, such as vaccine efficacy and safety and misinformation/disinformation propagated over social media networks.<sup>2</sup> In both Canada and the UK, many of the communities identified as having low rates of vaccination belong to ethnic and religious minorities and/or socioeconomically disadvantaged local populations; hence, vaccination uptake can be closely tied to historical experiences of marginalisation.<sup>3</sup> Canada and the UK both have publicly funded healthcare systems and elements of a shared cultural history, offering an important opportunity to compare and contrast vaccine policy and responses to the same.

## Why is it important to study COVID-19 vaccine policy?

In this report we operationally define COVID-19 vaccination policies as the system of laws, regulatory measures, courses of action (and inaction) and funding priorities that were adopted by the government or its entity at the national, subnational or local level.<sup>4</sup> COVID-19 vaccines were developed and introduced in record time as a health innovation to slow the mortality from and transmissibility of COVID-19 infections in at-risk populations. Subsequently, policies were quickly developed to guide the rollout of the new vaccines at the community level. The existence of specific vaccination policies plays a critical role in the uptake of vaccines. However, the existence of such policies is not by itself sufficient to explain vaccine uptake in various communities. This is because vaccine uptake depends on many other factors such as how well the policies are implemented. In the earlier phases of the pandemic, little was known about the COVID-19 virus and the novel vaccines to prevent it. Thus, vaccination policies tended to change rapidly as Governments obtained more evidence on the safety and effectiveness of the vaccines. It is important to understand how policy changes were initiated, communicated and experienced by various members of the public. To this end, we examined COVID-19 vaccination policy changes between March 2020 and December 2021 in the UK (England) and Canada (Ontario). Ultimately, we share lessons learned about addressing COVID-19 vaccine hesitancy within diverse community settings.

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1 Government of the United Kingdom (2021) *Vaccinations in the United Kingdom*, 2021. Available online: <https://coronavirus.data.gov.uk/details/vaccinations> [Accessed 30/01/2022]. Health Canada (2021a) *COVID-19 vaccination in Canada*, 2021a. Available online: <https://health-infobase.canada.ca/covid-19/vaccination-coverage/>. [Accessed 30/01/2022].

2 Mills, M., Rahal, C., Brazel, D., Yan, J. & Gieysztor, S. (2020) COVID-19 vaccine deployment: behaviour, ethics, misinformation and policy strategies. *The Royal Society & The British Academy*.

3 Patel, P., Hiam, L., Sowemimo, A., Devakumar, D. & McKee, M. (2020) Ethnicity and covid-19. *British Medical Journal Publishing Group*.

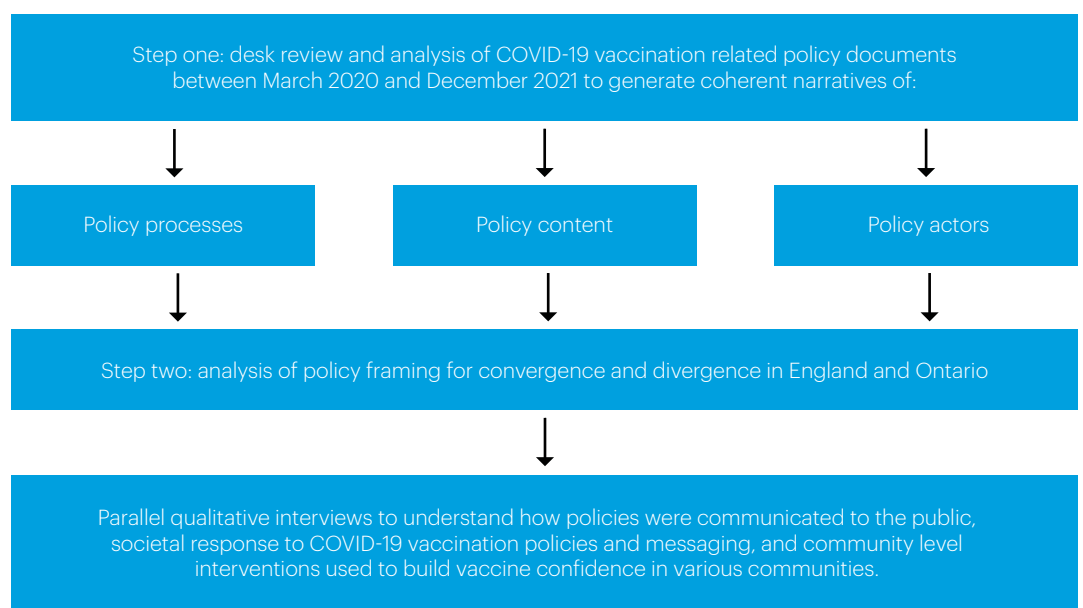
4 Richardson, L. & Crawford, A. (2020) COVID-19 and the decolonization of Indigenous public health. *Cmaj*, 192(38), E1098-E1100.

5 Buse, K., Mays, N. & Walt, G. (2012) *Making health policy*. McGraw-hill education (UK).

# Documenting policy changes and societal responses in the UK (England) and Canada (Ontario)

One theory - the theory of diffusion of innovations - attempts to explain how and why innovations are adopted at the community level. The theory postulates that the adoption of an innovation depends not only on the characteristics of the innovation as perceived by its potential users but also on communication channels used, time and the social system in which it is introduced. To understand how policy changes were communicated over time and the societal response to the policy changes, we designed a research study that was informed by elements of this theory.<sup>5</sup> We explored what (content), how (processes), why and when (context), to whom and by whom (actors) and with what effect COVID-19 vaccination related policies were communicated during the pandemic. To achieve this, we conducted a comparative policy analysis complemented with qualitative interviews. The study approach is summarised in Figure 1 below.

**Figure 1: Diagrammatic representation of the study approach**



We searched government websites and official social media pages for documents, statements, laws, regulations and communication or information related to COVID-19 vaccination. We captured information on the date of policy initiation, enactment or communication, detailed policy narrative, policy source (for example, parliamentary statement, press release, guideline, directive or law) and policy communicator. We generated chronological COVID-19 vaccination policy narratives for the time between March 2020 and December 2021. The narratives were classified into policy actors (individuals, groups or government entities that participate in the policy making process), processes (the systematic political, social economic and cultural level factors that affect the policy), content (the detailed constituent parts of a policy) and context (a description of how policies are initiated, formulated, negotiated, and communicated). Furthermore, we analysed how the emergent policy narratives were framed (in terms of which aspects were communicated more saliently) for convergency and divergency between Canada and the UK. We used case studies to illustrate divergency in the policy responses to rare blood clots associated with AstraZeneca vaccine, time interval between the first and second dose, authorisation of universal vaccination and discuss how the various policies could have contributed to vaccine hesitancy.

### **Qualitative interviews**

To understand communities' experiences of the policy changes and to identify community level interventions that have been and can be used to build vaccine confidence in diverse communities, we conducted qualitative interviews in both the UK and Canada. A total of 31 in-depth online interviews were conducted with participants from the East Midlands (Derbyshire, Leicester City, Nottingham City, Lincolnshire, and North Lincolnshire) in the UK and 29 in Southwest Ontario in Canada. Our team interviewed a broad range of participants in senior public health roles, organisations working directly with vaccine hesitant groups and community members.

Our study sample aimed to cover:

- Persons involved in the COVID-19 vaccine response at different levels of governance. Some of this group included healthcare providers.
- Individuals living in urban or rural areas with varying levels of vaccine uptake.
- Persons working for a wide range of employment sectors, spanning corporate and non-corporate spheres.
- Individuals belonging to a variety of religious backgrounds.

We synthesised the information derived from the interviews and present it according to five thematic areas including (1) Communication sources, (2) Resource use, (3) Understanding and interpretation of communication, (4) Societal responses to communication, (5) Community level interventions to improve vaccine uptake.



# Convergence and divergence in COVID-19 vaccination policies between Canada and the UK

Between November 2020 and December 2021 Canada and the UK had a similar profile of vaccine types. However, variations in the framing and communication of key issues related to the vaccines led to the adoption of different policies in each country. The following case studies describe the processes through which different policies were adopted by each country for the same vaccine and target group and highlight some of the challenges that the policy approaches pose.

## Case 1: Comparative analysis of the UK's and Canada's response to rare AstraZeneca related blood issue

In March 2021, global concerns about the AstraZeneca COVID-19 vaccine arose and several European countries suspended its use. This was in the context of an ongoing investigation as to whether a rare specific type of blood clot in the cerebral veins (cerebral venous sinus thrombosis or CVST) occurring together with lowered platelets (thrombocytopenia), which can also occur naturally, was indeed caused by the AstraZeneca vaccine.<sup>6</sup> Through this case study, we will demonstrate that even though Canada and the UK had access to the same scientific evidence before, during and after approval of the AstraZeneca vaccine, the two countries had different policy responses (Boxes 1 and 2). The variation can be attributed to differences in the framing of risk, safety, effectiveness and protection offered.

### Part A: UK's Policy on Oxford/AstraZeneca Vaccine

#### Box 1: Policy decision making process in the United Kingdom following rare AstraZeneca related blood clots

One of the mandates of the Vaccine Task Force (VTF) created during the COVID-19 pandemic was to strengthen the UK's onshoring capacity and capability in vaccine development, manufacturing, and supply chain to provide resilience for future pandemics. One success story for the VTF was the Oxford/AstraZeneca vaccine that was developed by the University of Oxford. The vaccine was approved after rigorous scientific review by the Medicines and Healthcare products Regulatory Agency (MHRA). In addition to this home-grown vaccine, the UK had a history of being vigilant in securing vaccine doses from all promising vaccine candidates.

6 Wise, J. (2021) Covid-19: European countries suspend use of Oxford-AstraZeneca vaccine after reports of blood clots, British Medical Journal Publishing Group.

Following global concerns of rare blood clots, the UK continued to ask people to get vaccinated based on advice from the MHRA. However, as a precaution, the government advised that people below the age of 30 years with no known predisposing conditions would be given an alternative vaccine where possible. When the link between the AstraZeneca vaccine and thrombocytopenia became clearer, the MHRA argued that the benefits of vaccination outweighed the risks that were estimated to be four in a million people given the vaccine. The MHRA did not recommend any age restrictions but issued guidance to health providers on how to minimise the risk. Following this updated advice from the MHRA, the Joint Committee on Vaccination and Immunisation (JCVI) issued a statement that people under 40 years should receive an alternative vaccine (Pfizer or Moderna) as long as this did not cause substantial delays in vaccination. The government's reassurance of the public was constantly framed around the risk/benefit of receiving the protective effects offered by vaccination at a time when vaccines were scarce.

The UK case study<sup>7</sup> shows that the UK policy response aimed to gain as much protection as possible in the general public in the shortest possible time. Thus, a risk/benefit framing was used to come to the decision to continue using AstraZeneca vaccine. The risk of four in a million at that time, was not considered sufficient to completely discontinue the use of the vaccine. Nevertheless, efforts were made to halt the use of AstraZeneca vaccine completely in the groups where the risk was assessed to be higher such as those with a history of blood clots. The communication about AstraZeneca related blood clots was perceived both to have created doubts about vaccination in some individuals and built vaccine confidence in others through reassurance of the masses.

## Part B: Canada's Policy on Oxford/AstraZeneca Vaccine

Some policies are stable, while others undergo several changes before they stabilise.<sup>8</sup> The Canadian AstraZeneca COVID-19 policy response is a clear example of an unstable policy that is characteristic of complex policy decisions (Box 2).<sup>9</sup> It can be argued that Canadian policy makers might have not been able to consider the views

7 Department for Business Energy and Industrial Strategy (2020) *UK Vaccine Taskforce 2020 Achievements and Future Strategy*, 2020. Available online: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1027646/vtf-interim-report.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1027646/vtf-interim-report.pdf) [Accessed 30/01/2022], Department of Health & Social Care (2021b) *Statement on AstraZeneca COVID-19 vaccine following JCVI update*, 2021b. Available online: <https://www.gov.uk/government/news/statement-on-astrazeneca-covid-19-vaccine-following-jcvi-update> [Accessed 30/01/2022], Department of Health & Social Care (2021c) *Statement on AstraZeneca COVID-19 vaccine following MHRA update*, 2021c. Available online: <https://www.gov.uk/government/news/statement-on-astrazeneca-covid-19-vaccine-following-mhra-update> [Accessed 30/01/2022], Medicines and Healthcare Products Regulatory Agency (2021c) *UK regulator confirms that people should continue to receive the COVID-19 vaccine AstraZeneca*, 2021c. Available online: <https://www.gov.uk/government/news/uk-regulator-confirms-that-people-should-continue-to-receive-the-covid-19-vaccine-astrazeneca> [Accessed 30/01/2022].

8 Walt, G., Shiffman, J., Schneider, H., Murray, S. F., Brugha, R. & Gilson, L. (2008), 'Doing' health policy analysis: methodological and conceptual reflections and challenges, *Health policy and planning*, 23(5), 308-317.

9 Government of Canada (2021) *COVID-19 vaccination requirement for federal public servants 2021*. Available online: <https://www.canada.ca/en/government/publicservice/covid-19/vaccination-public-service/vaccination-requirements.html> [Accessed 30/01/2022], Health Canada (2021b) *Health Canada provides update on safety review of AstraZeneca and COVISHIELD COVID-19 vaccines 2021b*. Available online: <https://www.canada.ca/en/health-canada/news/2021/04/health-canada-provides-update-on-safety-review-of-astrazeneca-and-covishield-covid-19-vaccines.html> [Accessed 30/01/2022], Ministry of Health (2021a) *Executive Officer Notice: Administration of Publicly Funded COVID-19 vaccines in Ontario Pharmacies - Billing*, 2021a. Available online: [https://www.health.gov.on.ca/en/pro/programs/drugs/opdp\\_eo/notices/exec\\_office\\_20210325\\_3.pdf](https://www.health.gov.on.ca/en/pro/programs/drugs/opdp_eo/notices/exec_office_20210325_3.pdf) [Accessed 30/01/2022], National Advisory Committee on Immunization (2021a) *Archived 11: Summary of National Advisory Committee on Immunization statement of May 28, 2021*, 2021a. Available online: <https://www.canada.ca/en/public-health/services/immunization/national-advisory-committee-on-immunization-naci/recommendations-use-covid-19-vaccines/summary-updated-statement-may-28-2021.html> [Accessed 30/01/2022], National Advisory Committee on Immunization (2021b) *Archived 13: Recommendation on the use of the Pfizer-BioNTech COVID-19 vaccine in adolescents 12 to 18 years of age [2021-05-18]*. Government of Canada, National Advisory Committee on Immunization (2021d) *National Advisory Committee on Immunization (NACI): Summary of updated vaccine statement of March 16, 2021*, 2021d. Available online: <https://www.canada.ca/en/public-health/services/immunization/national-advisory-committee-on-immunization-naci/recommendations-use-covid-19-vaccines/summary-updated-statement-16-march-2021.html> [Accessed 30/01/2022], National Advisory Committee on Immunization (2021e) *Recommendations on the use of COVID-19 vaccines [2021-03-16]*, 2021e. Available online: <https://www.canada.ca/en/public-health/services/immunization/national-advisory-committee-on-immunization-naci/recommendations-use-covid-19-vaccines/march-16-2021.html#appc> [Accessed 30/01/2022], Ontario government (2021) *Ontario Safely Expands Age Eligibility for AstraZeneca COVID-19 Vaccine to 40+* 2021. Available online: <https://news.ontario.ca/en/statement/61204/ontario-safely-expands-age-eligibility-for-astrazeneca-covid-19-vaccine-to-40> [Accessed 30/01/2022], World Health Organization (2021) *WHO lists two additional COVID-19 vaccines for emergency use and COVAX roll-out*, 2021. Available online: <https://www.who.int/news/item/15-02-2021-who-lists-two-additional-covid-19-vaccines-for-emergency-use-and-covax-roll-out> [Accessed 30/01/2022].

of all actors at the same time to create a unified policy. Thus, the problem of blood clotting with the AstraZeneca vaccine could only have served as a trigger event for competing policy actors with varying interests and issues at hand, such as increased vaccination coverage, vaccine equity, mRNA brand loyalty and what degree of risk is ethically acceptable. For Canada, specifically Ontario, the framing around safety prevailed. The communication about vaccine AstraZeneca related blood clots in Canada was perceived to have contributed to vaccine hesitancy among some people but was also perceived to build vaccine confidence for others through reassurance that safety concerns were taken seriously.

### **Box 2: Policy decision making process in Canada following rare AstraZeneca related blood clots**

Previously a leading country in vaccine research and manufacturing, Canada gradually trimmed its domestic manufacturing capacity in favour of a globalised outsourcing approach in the decades leading to the COVID-19 pandemic. The outbreak of COVID-19 left Canada with no choice but to rely on procurement from other countries. Thus, Canada's COVID-19 vaccine response was framed around access to the most promising vaccine candidates developed elsewhere. Due to overwhelming global demand and scarcity of vaccines, Canada had to compete with other countries in securing early access to the vaccine.

The AstraZeneca vaccine gained global approval by the World Health Organization (WHO) when Canada was going through an Alpha variant driven wave that had resulted in spikes in hospital admissions. While the WHO and the European Medicines Agency (EMA) approved the AstraZeneca vaccine in January 2021, Health Canada reviewed the safety and effectiveness and approved the vaccine a month later. Health Canada also had reservations on approving the AstraZeneca product for those aged 65 years and above due to limited efficacy data in that age group. Thus, NACI recommended the use of AstraZeneca vaccine only in adults aged 18-64 years. This was despite the high demand for the vaccine in older age groups. In a matter of a few days, NACI revised its recommendations to authorise use among older adults aged 65 and above, citing real-world data from the UK, whilst emphasising that mRNA vaccines should still be prioritised for individuals at high risk. This created confusion at the provincial and territorial level as there were no clear criteria for deciding who should get which vaccine. Concerns were raised as to whether there was such a thing as a "better" vaccine in the context of scarcity.

Following global concerns over the association between AstraZeneca's COVID-19 vaccine and rare blood clots that led to the suspension of the use of the AstraZeneca product in most European countries, NACI recommended suspension of its use in all adults under the age of 55 just a month following its approval. Health Canada did not make any labelling changes but the Chief Medical Officers of Health from each province collectively decided to pause the use of AstraZeneca in under 55-year-olds. However, an independent review of the data by Health Canada concluded that the blood clots were linked to AstraZeneca vaccine, but no age restrictions were added to the vaccine's labelling. Provincial governments were tasked to make a case-by-case decision on the use of this vaccine based on local disease epidemiology, overall vaccine supplies and equality concerns. By mid-April the province of Ontario, through the Chief Medical Officer of Health, declared that the province would resume administering the AstraZeneca vaccine, but only to those aged 40 years and above.

Within a few weeks, provincial advisory groups, including the Ontario Science Table, estimated that the risk of blood clots could be as high as eight in a million, and then further increased the estimate to almost 37 per million. This higher risk motivated Ontario to halt the use of the AstraZeneca vaccine. In the aftermath, people who had received the AstraZeneca jab were praised by the Chief Medical Officer for having done the right thing protecting themselves and their families, but they were encouraged to take an alternative mRNA vaccine for their second dose, resulting in mixed vaccine schedules. NACI, which had preferentially recommended mRNA vaccines over the AstraZeneca product, was heavily criticised for causing confusion and contributing to vaccine hesitancy.

Early on, Health Canada and NACI framed their reluctance to recommend the AstraZeneca COVID-19 vaccine around efficacy. Later, as the framing shifted to safety, the provinces were tasked with making much more complex decisions that weighed vaccine scarcity against local risks and benefits. In contrast to the UK's constant reassurance of risk vs benefit, the Canadian approach did not reassure the public. The AstraZeneca vaccine was ultimately abandoned in Canada in favour of alternative vaccines.

## **Case 2: Comparative study of primary vaccination dose interval between the UK and Canada**

In this case study we describe the vaccination schedules for adults in the UK and Canada. Using two case studies, we show how by reviewing real world data, Canada and the UK made different policies on vaccination schedules. The first case study highlights constantly emerging evidence on viral variants which led to complex vaccination policy processes.

### **Part A: The primary dose interval for adults in the UK**

#### **Box 3: Vaccination schedule for adults in the UK**

By December 2021, in the UK, four vaccines had received approval for use in healthy adults aged 18 years and above with no contraindications. Pfizer/BioNTech was the first to be approved and had a recommended vaccination schedule of two doses given 21 days apart. The second vaccine to receive approval was the Oxford/AstraZeneca with a vaccination schedule of two doses 4-12 weeks apart. This was followed by Moderna with a schedule of two doses to be given 28 days apart. Lastly, the Janssen's single-dose COVID-19 vaccine was approved. Despite the manufacturer's recommendations, the JCVI recommended that as many people on the priority list as possible should receive their first dose of the primary series of vaccination, putting this before offering second doses. They also expanded the time span between the first and second dose of the Pfizer/BioNTech vaccine to between 3-12 weeks. The extension was based on the argument that for both vaccines, the second dose completes the course and is likely to be important for longer-term protection. A pending global vaccine shortage was expected to linger for several months through the winter, a critical pressure period for the NHS. UK medical officers agreed with the JCVI that prioritising the first dose for as many people as possible offered the greatest protection to the population from COVID-19, reducing incidences of mortality, severe disease and hospitalisations. This would conserve NHS resources and whole population health in the shortest possible time compared with prioritising second doses in a small number of people. Due to the emergence of the B.1.617.2 variant (Delta), the JCVI recommended accelerating vaccination for all persons in priority groups 1-9 with their second dose being moved from 12 weeks to eight weeks, where vaccine supply allowed. The JCVI argued that this was possible because everyone in the most vulnerable groups had already been given the opportunity to receive their first dose.

**In the UK (Box 3), the primary vaccination schedule was initially influenced by scarcity and efficacy data, but later updated to reflect the emergence of more**

aggressive COVID-19 variants.<sup>10</sup> While there were some shifts in the intervals between dose 1 and 2 and differed by vaccine, the policy was relatively stable. In contrast, Canada had a much more complex policy process.<sup>11</sup>

## Part B: The evolution of the primary dose interval for adults in Canada

### Box 4: Canada's longer four-month vaccine interval

In Canada, a country with low vaccine manufacturing capacity and completely dependent on vaccine imports, the government aggressively negotiated contracts for promising COVID-19 vaccine candidates. While successful in signing contracts with several manufacturers, there was concern that the reliance on global partners would lead to a very slow vaccine rollout in Canada. In fact, the first phase of Canada's vaccine roll-out lasted five months and was constantly framed around the need for equitable access during vaccine scarcity.

**Vaccine scarcity:** In December 2020, Health Canada approved the Pfizer-BioNTech and Moderna mRNA vaccines, with 2-dose regimens spaced 21 days and 28 days apart, respectively. The initial vaccine supplies were prioritized for long-term care homes, healthcare staff working in higher risk settings, and remote Indigenous (First Nations, Métis, and Inuit) communities. In February 2021, Health Canada approved the Oxford/AstraZeneca vaccine with a 4–12 weeks interval. As the vaccination programme shifted to the general at-risk population, an age-based approach was used to prioritise individuals for vaccination, starting with individuals aged 90 and older. In March 2021, given the limited vaccine supplies, NACI made a controversial recommendation that Canada should focus on administering first doses only, delaying the second dose for up to four months

**Equitable, ethical, and efficient allocation:** At the time of the recommendation, NACI stated that their recommendation was informed by PHAC and other national-level stakeholders. Canada's Chief Public Health Officer supported the recommendation, calling for the "equitable, ethical, and efficient allocation of authorized COVID-19 vaccines in the context of staggered arrival of vaccine supply."

**Controversy:** One day after NACI's recommendation, Canada's Chief Scientific Officer publicly questioned the recommendation, calling it a "population-level experiment" in a national news broadcast. However, in early April 2021, an updated statement showed the models had estimated that a delayed second dose policy would result in 12.1-18.9% fewer symptomatic cases, 9.5-13.5% fewer hospitalisations, and 7.5-9.7% fewer deaths in Canada over one year.

**Implementation in Ontario:** Prior to the recommendation, Ontario had already been gradually extending the dose interval from 3-4 weeks to 5-6 weeks, for all vaccines, due to concerns that reductions in the allocation of Pfizer-BioNTech doses would have a substantial impact on vaccination distribution and create difficulties for organisations and communities obtaining second doses. With NACI's recommendation, Ontario adopted the four-month dosing interval, highlighting that the "one

10 Department of Health & Social Care (2020) *Statement from the UK Chief Medical Officers on the prioritisation of first doses of COVID-19 vaccines* 2020. Available online: <https://www.gov.uk/government/news/statement-from-the-uk-chief-medical-officers-on-the-prioritisation-of-first-doses-of-covid-19-vaccines> [Accessed 30/01/2022]. Medicines and Healthcare Products Regulatory Agency (2020) *Regulatory approval of Pfizer/BioNTech vaccine for COVID-19*, 2020. Available online: <https://www.gov.uk/government/publications/regulatory-approval-of-pfizer-biontech-vaccine-for-covid-19> [Accessed 30/01/2022]. Medicines and Healthcare Products Regulatory Agency (2021a) *Moderna vaccine becomes third COVID-19 vaccine approved by UK regulator*, 2021a. Available online: <https://www.gov.uk/government/news/moderna-vaccine-becomes-third-covid-19-vaccine-approved-by-uk-regulator> [Accessed 30/01/2022]. Medicines and Healthcare Products Regulatory Agency (2021b) *One-dose Janssen COVID-19 vaccine approved by the MHRA*, 2021b. Available online: <https://www.gov.uk/government/news/one-dose-janssen-covid-19-vaccine-approved-by-the-mhra> [Accessed 30/01/2022].

11 Brown, K., Stall, N., Joh, E., Allen, U., Bogoch, I. I. & Buchan, S. (2021) COVID-19 Vaccination Strategy for Ontario Using Age and Neighbourhood-Based Prioritization, Ministry of Health (2021b) *Extension of the Second Dose Interval*, 2021b. Available online: [https://mcusercontent.com/52d9e9dfa66c8bca909aa4569/files/5bf00393-47ba-465c-9bdd-28a0bd32eccc/2021\\_03\\_24\\_Extended\\_Dose\\_Key\\_Messages\\_2021\\_03\\_19\\_FINAL\\_EN\\_AODA.01.pdf](https://mcusercontent.com/52d9e9dfa66c8bca909aa4569/files/5bf00393-47ba-465c-9bdd-28a0bd32eccc/2021_03_24_Extended_Dose_Key_Messages_2021_03_19_FINAL_EN_AODA.01.pdf) [Accessed 30/01/2022]. Peter Zimonjic, V. K. (2021) *Canada's chief science adviser issues warning about B.C.'s 'experiment' with vaccine timing* | CBC News, 2021. Available online: <https://www.cbc.ca/news/politics/nemer-henry-vaccine-interval-experiment-1.5932714> [Accessed 30/01/2022].

dose provides good protection” slogan and that the approach “maximizes the number of people protected in the shortest period of time.” At this point, the roll-out was focused on older age groups and was not applied to long-term care or remote Indigenous (First Nations, Métis, and Inuit) communities. Other Canadian provinces followed similar processes.

**Equity for whom?** At the time of the NACI recommendation, the Ontario Science Table also released a report highlighting the disproportionate impact of the pandemic on older adults living in racialised urban neighbourhoods. Two months later, Ontario finally prioritized vaccine access in high-risk postal codes, though it continued to use the delayed second dose approach.

**Impact of the Policy:** The extended interval policies rapidly accelerated Canada’s first dose vaccine rates ahead of most other developed countries. Once vaccine supply increased, questions arose about when to give the second dose, particularly for those vaccinated early on. Factors considered included the ongoing variable vaccine supply, effectiveness of one dose, duration of first dose protection, and balancing individual protection with population coverage (and the protection this provides for everyone). In addition, real world data from Israel, the UK, the US and the provinces of Quebec and British Columbia indicated the first dose offered 70-80% protection for up to two months. Once Canada had sufficient vaccine supply, NACI recommended an eight-week interval between doses.

This case study illustrates how vaccine scarcity must be balanced with population and individual risk. However, the initial policy decisions to delay the second dose of the primary course of vaccination in both countries were prone to fluctuation as new variants emerged and as vaccine supplies became more widely available. In Canada, several changes were made over time that created confusion and potentially impacted vaccine confidence.<sup>12</sup> While it appeared relatively simple to adapt an interval based on supply, it was far more complex to implement an evolving policy at a population level. This highlights how when a policy is modified to optimize a response to a short-term problem, it can have lasting effects even as it is adapted to reflect changing supply or emerging evidence or risk or benefit.

### **Case 3: Evolution of universal vaccination policies for adolescents in the UK and Canada**

In this case study we demonstrate that although the UK and Canada had similar access to vaccine manufacturers’ efficacy and safety data for children and young people, each country made different choices when deciding whether to recommend universal vaccination for teens. Despite the variation in the approaches, vaccine hesitancy remains a problem in younger people as it was mainly perceived to be driven by the perceived lack vulnerability.

#### **Part A: Canada’s policy on universal vaccination of adolescents**

Canada adopted a relatively simple approach to universal vaccination as illustrated in Box 5.<sup>13</sup>

12 Ministry of Health (2021b) *Extension of the Second Dose Interval*, 2021b. Available online: [https://mcusercontent.com/52d9e9dfa66c8bca909aa4569/files/5bf00393-47ba-465c-9bdd-28a0bd32eccc/2021\\_03\\_24\\_Extended\\_Dose\\_Key\\_Messages\\_2021\\_03\\_19\\_FINAL\\_EN\\_AODA.01.pdf](https://mcusercontent.com/52d9e9dfa66c8bca909aa4569/files/5bf00393-47ba-465c-9bdd-28a0bd32eccc/2021_03_24_Extended_Dose_Key_Messages_2021_03_19_FINAL_EN_AODA.01.pdf) [Accessed 30/01/2022]. National Advisory Committee on Immunization (2021c) *NACI rapid response : Extended dose intervals for COVID-19 vaccines to optimize early vaccine rollout and population protection in Canada* 2021c. Available online: <https://www.canada.ca/en/public-health/services/immunization/national-advisory-committee-on-immunization-naci/rapid-response-extended-dose-intervals-covid-19-vaccines-early-rollout-population-protection.html> [Accessed 30/01/2022].

13 NACI (2021) *Archived 13: Recommendation on the use of the Pfizer-BioNTech COVID-19 vaccine in adolescents 12 to 18 years of age [2021-05-18]*, 2021. Available online: <https://www.canada.ca/en/public-health/services/immunization/national-advisory-committee-on-immunization-naci/recommendation-use-pfizer-biontech-covid-19-vaccine-adolescents.html> [Accessed 30/01/2022].

### Box 5: Canadian policy on vaccination of adolescents

By December 9, 2020, Health Canada had approved the use of Pfizer-BioNTech COVID-19 vaccine for people aged 16 years and older, allowing the early vaccination of teens aged 16 and 17 years. Canada was also one of the first countries in the world to authorise the Pfizer-BioNTech vaccine for children aged 12-15 years in May 2021, following a review by Health Canada. However, Health Canada placed conditions on the authorisation requiring Pfizer-BioNTech to continue providing information on efficacy and safety in teens. Prior to the authorisation, NACI had made a discretionary recommendation on the use of Pfizer in adolescents 12 to 15 years of age for select high-risk groups, as they were included in limited numbers in the original clinical trial. Immediately after the approval, NACI recommended that the vaccine should be offered to all adolescents aged 12 to 18 years who did not have contraindications to the vaccine. They later updated the advice in August 2021 to include the recommendation to discuss the risk of myocarditis in the context of risk of the virus.

## Part B: Evolution of UK's policy on universal vaccination of adolescents

The UK,<sup>14</sup> with a similar approach to vaccine approval and vaccination to Canada, reached a different vaccination policy for its adolescents in the context of uncertainty (Box 6). The vaccination of adolescents for COVID-19, a condition where risk is closely tied to age, requires a careful consideration of the immediate risk of illness and the potential for long-term complications from infection compared to long-term immunity from a virus or vaccine. The complexity of the issues that need to be considered and the diversity of stakeholder opinions can make it difficult to come to a global unified policy, especially in a rapidly changing situation. The approval of vaccines for adolescents, made it clear that the UK policy makers favoured a wait-and-see approach in terms of the short- and long-term effects of the virus, whereas Canada focused on the safety and efficacy of the vaccine. The decisions were not only influenced by real-world data but by risk/benefit analysis of wider societal impacts. By the end of our analysis period (December 2021), the UK had not yet authorised the universal vaccination of healthy children below the age of 12 years, whereas Canada approved the vaccine for all Canadians aged 5 years and older and had begun to offer booster doses to the highest risk teens.

### Box 6: Prioritisation of children and young people for universal vaccination in the UK

The UK's policy decision to vaccinate children and young people was characterised by a lengthy process involving deliberations between the Department of Health and Social Care (DHSC), UK Chief Medical Officers (CMO), JCVI and the MHRA, among other actors. While the Pfizer vaccine was already being used for the universal vaccination of children in other countries, its use in the UK was limited.

14 Department of Health & Social Care (2021a) *Chief medical officers to consider vaccinating people aged 12 to 15 following JCVI advice*. 2021a. Available online: <https://www.gov.uk/government/news/chief-medical-officers-to-consider-vaccinating-people-aged-12-to-15-following-jcvi-advice> [Accessed, Department of Health & Social Care (2021b) *Universal vaccination of children and young people aged 12 to 15 years against COVID-19* 2021b. Available online: <https://www.gov.uk/government/publications/universal-vaccination-of-children-and-young-people-aged-12-to-15-years-against-covid-19> [Accessed 30/02/2022], Department of Health & Social Care (2021a) *Letter from UK health ministers to UK CMOs on COVID-19 vaccination of 12 to 15 year olds* 2021a. Available online: <https://www.gov.uk/government/publications/letter-from-uk-health-ministers-to-uk-cmos-on-covid-19-vaccination-of-12-to-15-year-olds> [Accessed 30/01/2022], Department of Health & Social Care (2021d) *Young people aged 12 to 15 to be offered a COVID-19 vaccine* 2021d. Available online: <https://www.gov.uk/government/news/young-people-aged-12-to-15-to-be-offered-a-covid-19-vaccine> [Accessed 30/01/2022], Public Health England (2021a) *JCVI issues advice on COVID-19 vaccination of children and young people - GOV.UK*, 2021a. Available online: <https://www.gov.uk/government/news/jcvi-issues-advice-on-covid-19-vaccination-of-children-and-young-people> [Accessed 30/01/2022], Public Health England (2021b) *JCVI issues updated advice on COVID-19 vaccination of children aged 12 to 15 - GOV.UK*, 2021b. Available online: <https://www.gov.uk/government/news/jcvi-issues-updated-advice-on-covid-19-vaccination-of-children-aged-12-to-15> [Accessed 30/01/2022], Public Health England (2021c) *JCVI issues updated advice on COVID-19 vaccination of young people aged 16 to 17* 2021c. Available online: <https://www.gov.uk/government/news/jcvi-issues-updated-advice-on-covid-19-vaccination-of-young-people-aged-16-to-17> [Accessed 30/01/2022].

During the second phase of vaccine rollout, the government considered the possibility of vaccinating young people below the age of 18 years. The DHSC asked the JCVI for advice on the possibility of this extension.

**June 2021:** Following an extensive review of the available evidence, the JCVI recommended vaccination in three groups of young people but cautioned against their universal vaccination:

- Children aged 12-15 years and over with specific underlying health conditions
- Vaccination of young people aged 16 to 17 years at higher risk of serious COVID-19 outcomes
- Children and young people aged 12 years and over to protect their immunosuppressed household contacts

**August 2021:** With time, the JCVI updated its advice to allow the vaccination of 16–17-year-olds to receive the first dose of their primary course of vaccination but withheld recommendations on the second dose until further evidence was available. The underlying assumption was that in a setting such as the UK, where the uptake of vaccines in the adult population is good, a precautionary approach to vaccine rollout among young people at a lower risk of serious harm from COVID-19 should be taken. Younger people were also expected to generate greater immune protection from the first dose of a COVID-19 vaccine, which often offered 80% protection.

**Early September 2021:** According to the JCVI, the available data at that time pointed to mild infections in 12–15-year-olds and infections that tended to resolve on their own without treatment in most children. The very few children who required hospitalisations generally had underlying health conditions. Thus, the health benefits of vaccination were only marginally greater than potential known harms of COVID-19 infection for healthy children. These marginal benefits were too small to support universal vaccination unless there were other societal benefits for vaccination in the age group. However, the list of children who were defined as having an underlying condition was soon expanded to include a broad list of conditions that were previously excluded.

**Role of the CMOs:** The judgement about societal impacts for universal vaccination of 12–15-year-olds was left with the CMOs, who subsequently undertook a consultative process with experts from various Royal Colleges, Associations of Directors of Public Health, regional public health specialist and experts in data modelling. The CMOs recommended that universal vaccination should be considered in this age group on the premise that it was likely to help curb transmission of the virus in schools, which had the potential to house the so-called super-spreader events. Infections from schools were likely to cause local outbreaks. Vaccination was also expected to reduce the chances of individual children getting sick, thus preventing further school disruptions. The CMOs argued that should their universal vaccination recommendation stand, the JCVI should advise on the recommended dose and vaccination schedule. They cautioned that consent issues should be considered an accessible, balanced risk/benefit communication to parents and their children, and that no parent, or child should be shamed for either taking or refusing the vaccine.

**Late September 2021:** The government expanded the first dose of the primary immunisation programme to healthy children aged 12-15 years in concordance with advice from the four UK CMOs. The necessity of second doses would be announced at a later stage as more data became available.

## **Prioritisation of ethnic minority groups in Canada and the UK**

The UK used a purely risk and age-based approach for prioritisation of populations for vaccination whilst acknowledging structural and ethnic inequalities. This was perceived to be the most cost-effective way to ensure faster and better uptake of the vaccine. On the other hand, Canada used both the risk and age-based criteria for prioritisation in addition to explicitly prioritising ethnic minority and Indigenous



groups. This was in the context of reconciliation efforts following recognition of previous injustices experienced by the First Nations, Indigenous, Métis and Inuit communities. It was also in the context of the wider Black Lives Matter Movement. Whilst the prioritisation was well intended, policy changes and challenges related to for example AstraZeneca, rolling eligibility and vaccine scarcity made it hard to materialise this prioritisation. Therefore, it is not enough to let someone go first by merely prioritising them. Investments need to be made in infrastructure so that they are willing to trust the system and go first.

# How were COVID-19 vaccination policies communicated in Canada and the United Kingdom and with what effects?

We identified the following five thematic areas that reflect the diffusion of information related to COVID-19 vaccine specific policies, how the policies were interpreted, and efforts that were taken to improve vaccine uptake.

## **(1) Communication sources**

Based on qualitative interview participants, there were three layers of communication sources identified. Primary sources, created and initially broadcast COVID-19 vaccine specific policies. In the UK, primary sources were considered to be the Government, with senior leaders being the Prime Minister - Boris Johnson, and governmental scientific advisors, Professors Chris Whitty and Jonathan Van-Tam. In Canada, primary sources were the Federal Government, Prime Minister - Justin Trudeau, NACI and provincial governments who developed new policies to accommodate the needs of their region.

Secondary sources contextualised and further enriched the information provided for the purpose of dissemination to the general public. In each country, formal secondary sources encompassed those tasked with interpreting vaccination policy to support implementation measures, including local vaccine task forces, healthcare providers, public health advisors, professional associations and pharmacies. Secondary sources also included businesses and non-profit organisations needing to create workable schemes of delivering their organisational goals from the framework provided by primary policies.

Tertiary sources, added further contextualisation for the public through translations and production of new formats, including discussion. These sources were sometimes viewed as being more 'in touch' with the public, as well as isolated individuals. Recipients of tertiary sources information may not be able to fact check and may therefore pick up hearsay, assumptions and bias made in secondary and tertiary communication.

## **(2) Means of communicating COVID-19 vaccination policy**

Information on COVID-19 vaccine related policies were formally communicated

textually and verbally through a wide variety of online and offline channels within both countries. These channels included: institutional websites, announcements and press releases, social media, TV coverage or radio media.

Policy guidance was communicated textually. The length, tone, style, reading age and formatting of written documents were viewed as key factors in the reception of policy. Written text was translated into a variety of languages to reach a multicultural audience. In both countries, official translations did not encompass all languages spoken by the population, causing inequalities of access to information and were at times done late. In both countries, healthcare professionals engaged in verbal communication either to large audiences or as part of their daily work routine to discuss options of vaccination and details about the vaccine with their patients. Regarding communication with large audiences, professional associations used webinars to provide a platform for question-and-answer sessions.

### **(3) Understanding and interpretation of communication**

Interview participants' interpretation of communication on vaccination policies were influenced by technological advancement/vaccine approval. In both countries there were concerns over the rapid approval of COVID-19 vaccines, additionally there were concerns over the "newly developed technology" of mRNA vaccines. However, there was acceptance that medical science had thrown every resource available at the problem and laboured to produce a vaccine fast.

They also interpreted communications through their perception of political considerations in the decision-making process. Policies about COVID-19 were viewed by sections of the population as politically motivated in both countries. Communications from governments, pharmaceutical companies and other entities perceived to have vested private interests attracted negative public perceptions. Political transparency and trustworthiness of rationale selected for decision making seemed to play a significant role in how vaccine policy was understood.

Perceptions of transparency and trustworthiness were influenced by complexities of recommendations. The rapidity of evolving policies meant operational staff felt they had difficulty breaking down policies into understandable guidance and ensuring it was contemporaneous.

Finally, trust in the source of the policy information was perceived as critical in shaping people's responses to vaccine specific communication. Sources deemed to be credible by participants encompassed: health care personnel (such as physicians, nurses, pharmacists) and scientists undertaking independent research about COVID-19.

### **(4) Societal responses to communication**

In the UK, local community groups choice of communication channels was often informed by a combination of their experiences pre-COVID-19 and data on vaccine hesitant groups within their region. The ability of these community groups to communicate were sometimes limited by the availability of funding and resources. Organisations often maintained that they could have done more to extend their reach to additional groups but had limited staff capacity and time due to being reliant on short-term funding from the UK Government. Some participants felt that communication of policy changes occurred for health workers and the public primarily via media outlets rather than official DOH channels. Consequently, health and social care professionals were relying on media sources to learn of changes to

vaccination guidance at the same time as the public.

Meanwhile in Canada, initial hope that vaccines could deliver freedom from restrictions segued into COVID-19 weariness. Dissatisfaction with ongoing public health measures to control the pandemic was directed at the government, whilst those who hadn't taken up vaccination were perceived by some as a burden on healthcare systems. The roll-out of the national vaccination programme required many layers of implementation management. Coordinating this complex approach and frequent policy amendment was difficult and was viewed by participants as a common cause of frustration, stress and anxiety amongst the public and health professionals.

For some, vaccine safety fears were believed to stem from historic injustices within the healthcare system and concerns that government's action to prioritise some communities was not motivated by improving well-being. Directives to enforce vaccination or require proof of vaccination increased uptake of vaccines but provoked resentment and fears about infringement of civil liberties too.

### **(5) Community level interventions to improve vaccine uptake**

Vaccination buses were used in both rural and urban areas to reach hesitant vaccine groups in the UK. For example, a public health professional in Nottingham commented on a successful strategy to engage with the Gypsy/Roma and Traveling community. They maintained that these buses were not used solely for vaccinations but, firstly, for information to break down barriers and, secondly, to provide a nurse to answer questions. Mobile vaccination clinics and novel vaccination sites were employed to reach rural Canadian communities too. There were also interventions in which trusted and recognisable community members, such as professional sports teams and healthcare professionals, co-produced materials and messages via videos. These types of interventions focusing on vaccine hesitant groups were deemed as effective.

At a local level in Canada, public health units established community engagement groups to assist targeting different cultural and religious communities. Identification of neighbourhoods with low vaccination uptake was partly driven by analysis of public health records, including school immunisation programs, and demographic information such as residency status. Community engagement working groups acted collaboratively to find gaps in education about vaccines and, or barriers to accessing immunisation programs. Efforts were made to motivate people to take up the vaccine offer by using incentives like gift cards, children's activities or by offering food. Reducing access barriers like transport, childcare and registration in formal databases also alleviated hesitancy. Special adaptations were successful for individuals where barriers arose from needle phobia, agoraphobia, or concerns about stigmatisation. Community interventions were limited by numerous cultural barriers, including language barriers and or lack of adequate range of translated materials as well as lack of cultural awareness. This particular barrier was ameliorated through taking time to listen and adapt messaging so that it covered areas of concern. For example, whether adjuvants and stabilisers in vaccine met halal rules, or how vaccination could align with holistic healthcare. Additionally, there were difficulties in collecting data demonstrating the effectiveness of interventions.

# Key messages and implications of our findings

Canada and the UK have many points of cultural alignment despite differences in policy detail and communication; commonalities within the results are no surprise. The policy analysis shows how both countries used a top-down approach to policymaking, with high-level policy actors developing policies that were subsequently adapted or adopted by local policy actors, such as provincial or regional governments, and further interpreted by public health workers, healthcare providers and community leaders. This top-down approach, while efficient for policymaking, made it difficult to implement vaccine policy on the ground. The policy analysis showed a frenetic pace of change in vaccine guidance in both countries, owing to rapidly changing variables such as infection rates, vaccine supply, and emerging variants of concern. The interviews show how the subsequent layering of updates hampered vaccination operations' effectiveness and prompted frustration continuously challenging outreach efforts and attempts to build trusted transparent relationships within communities.

## **Building trust in COVID-19 vaccines**

Canada and the UK have differences in geographic, economic and political landscapes. These differences led to significant variations in implementation policy for mass vaccination programmes. In Canada, the federal government procured, and distributed vaccines and national bodies provided policy guidance. Responsibility for developing vaccine policy was delegated to the provinces and territories. Canada, which is often described as having 13 health systems, had 13 vaccine policies. This delegation meant that community members received policy information at a national, provincial and local level, which led to disparities and confusion over perceived inconsistencies. Furthermore, Canada, unlike the UK, was not a producer of COVID-19 vaccines, meaning vaccine scarcity informed policy decisions. Scarcity policies, related to dose intervals and mixed vaccine protocols, worsened communication issues and led both the public and local health administrators to question authenticity of data and diminished trust in government.

Language translation efforts demonstrate this problem well. While higher levels of government developed policies, local governments, public health, and healthcare workers were responsible for interpreting them for their communities. These efforts often included the development of high-quality information sheets translated into multiple languages. Repeated policy changes meant it was difficult to develop and maintain these critical tools and keep them up-to-date, which added costs — both time and money — but also left actors to source lower-quality translation services or to delay the translation of materials. The constant changes also led to problems in communicating policy to all communities equitably. As many communities at higher risk of COVID-19 infection were made up of diverse ethnic groups, lack of high-quality translated materials contributed to confusion about individuals' eligibility and suitability for vaccination. The complexity was attributed to several factors such as the prioritisation frameworks, vaccine brand availability, vaccine intervals, emerging variants of concern, waning immunity, and mis/disinformation. These multiple, competing factors also forced vaccine programmes to be reactive rather

than proactive, making it difficult to offer the right vaccine, to the right people, at the right time.

Certainly, one solution is to implement simpler policies at the expense of longer relationship- and trust-building. The UK appeared to adopt that approach when it developed a prioritisation framework that focused on age as a risk factor. Canada did this as well and both countries also prioritised frontline healthcare workers. However, Canada's prioritisation framework was developed in the context of the Black Lives Matter movement and amid ongoing Truth and Reconciliation efforts with Indigenous (First Nations, Métis, and Inuit) communities. Canada's more nuanced framework may have been tougher to implement, but it reflected a growing awareness of the role of systemic racism in perpetuating disparities in health care. Both countries' approaches were heavily criticised and tested government relationships with their communities. In Canada, ongoing strained relationships also led to uncertainty and confusion among marginalised and racialised populations about why they were being prioritised when this had not historically been the case. Further, many of these groups were not consulted by policy makers during policy making, highlighting how inclusive policy cannot be made in a vacuum, but rather through long-term efforts aimed at building autonomy and trust within diverse communities.

This report shows how mistrust in government and healthcare systems can be seeded or reinforced by rapid policy change at the expense of clarity. One lesson learned is that policy changes, even emergency policies, need to be clearly justified, and that the repeated refining of policies to optimise an outcome may have unintended costs and consequences not visible to policy makers. Further, in times of scarcity, policies that restrict access to an intervention such as a drug or vaccine, can lead to systems that unintentionally exclude marginalised citizens—even when those citizens would be otherwise eligible. This will be an important lesson as countries that can be extended to other COVID-19 interventions, such as booster doses, monoclonal antibodies or antiviral treatments.

### **Community uptake of COVID-19 vaccines**

Vaccine confidence is a key characteristic governing individuals' acceptance of vaccination. In both countries, the policy analysis clearly identified a top-down approach to developing vaccine policy that satisfied most of the population. Early efforts focused on access, using prioritisation policies to limit vaccines to those at highest risk of severe COVID-19. These policies were complex but aimed more to restrict access than to promote it. This meant that the first several months of the vaccine rollouts in both countries focused on meeting the demand for groups whose members had faith in scientific arguments and could clearly identify a benefit to vaccination. However, the interviews were better able to highlight how top-down vaccine policies that focus on access may have come at the expense of later adopters, who were less connected with policy makers. As discovered by many vaccine programmes, later vaccine adopters with a wait and see approach needed more support to access vaccines compared to earlier groups who were willing to get the first vaccine they could access. This group of people benefitted from observing the benefits of the vaccine in other people and understanding how vaccines are aligned with their beliefs. As a result, early efforts focused on providing access through mass vaccination clinics, but later efforts needed to rely more heavily on multilingual communication and mobile clinics. Yet, the constantly changing policies made it difficult for later adopters to decide about the vaccines. Certainly, vaccine mandates and passports had some impact in this later group as they tied vaccination to employment and access of venues— a finding consistent with the diffusion of innovations theory, which posits that later adopters may need to feel they

will lose something if they do not adopt the new intervention. However, even though mandates and passports may have led to vaccine uptake, they may have also lowered vaccine confidence among those most resistant to vaccination. Furthermore, the vaccine mandates had disproportionate impacts on minority groups working within the health care sector who already had higher rates of vaccine hesitancy.

Furthermore, in times of scarcity, policies that restrict access to an intervention such as a drug or vaccine, can lead to systems that unintentionally exclude marginalised citizens—even when those citizens would be otherwise eligible. This will be an important lesson as countries expand their use of other COVID-19 interventions, such as booster doses, monoclonal antibodies or antiviral treatments.

# Conclusion

Ultimately, this report highlights that robust vaccination policy needs the engagement of communities to be accepted by them. As was noted in our qualitative interviews, “It is not what is said, but who says it.” For policy makers, the diffusion of innovation model demonstrates how efforts to ensure vaccine access are distinct from efforts to ensure vaccine uptake. Early wins from policies aiming to get doses into willing arms may come at the expense of trust, meaning later adopters feel pressured rather than convinced to accept vaccines. While there are clear shorter-term benefits to promoting high vaccine uptake in a pandemic, it may lead to unintended consequences with future vaccine programs. Thus, it is critical that there is ongoing support for community-level efforts that aim to build trust and the engagement of marginalised and racialised groups in policy-making. This will likely require a major shift in the systems used to make policies, but a change of this magnitude can have much greater long-term benefits in areas far beyond pandemic vaccine policies.



# References

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Brown, K., Stall, N., Joh, E., Allen, U., Bogoch, I. I. & Buchan, S. (2021) COVID-19 Vaccination Strategy for Ontario Using Age and Neighbourhood-Based Prioritization.

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Buse, K., Mays, N. & Walt, G. (2012) *Making health policy*. McGraw-hill education (UK).

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Department for Business Energy and Industrial Strategy (2020) *UK Vaccine Taskforce 2020 Achievements and Future Strategy, 2020*. Available online: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1027646/vtf-interim-report.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1027646/vtf-interim-report.pdf) [Accessed 30/01/2022].

---

Department of Health & Social Care (2021a) *Chief medical officers to consider vaccinating people aged 12 to 15 following JCVI advice*. 2021a. Available online: <https://www.gov.uk/government/news/chief-medical-officers-to-consider-vaccinating-people-aged-12-to-15-following-jcvi-advice> [Accessed 30/01/2022].

---

Department of Health & Social Care (2021b) *Universal vaccination of children and young people aged 12 to 15 years against COVID-19* 2021b. Available online: <https://www.gov.uk/government/publications/universal-vaccination-of-children-and-young-people-aged-12-to-15-years-against-covid-19> [Accessed 30/02/2022].

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Department of Health & Social Care (2020) *Statement from the UK Chief Medical Officers on the prioritisation of first doses of COVID-19 vaccines* 2020. Available online: <https://www.gov.uk/government/news/statement-from-the-uk-chief-medical-officers-on-the-prioritisation-of-first-doses-of-covid-19-vaccines> [Accessed 30/01/2022].

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Department of Health & Social Care (2021a) *Letter from UK health ministers to UK CMOs on COVID-19 vaccination of 12 to 15 year olds* 2021a. Available online: <https://www.gov.uk/government/publications/letter-from-uk-health-ministers-to-uk-cmos-on-covid-19-vaccination-of-12-to-15-year-olds> [Accessed 30/01/2022].

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Department of Health & Social Care (2021b) *Statement on AstraZeneca COVID-19 vaccine following JCVI update*, 2021b. Available online: <https://www.gov.uk/government/news/statement-on-astrazeneca-covid-19-vaccine-following-jcvi-update> [Accessed 30/01/2022].

---

Department of Health & Social Care (2021c) *Statement on AstraZeneca COVID-19 vaccine following MHRA update*, 2021c. Available online: <https://www.gov.uk/government/news/statement-on-astrazeneca-covid-19-vaccine-following-mhra-update> [Accessed 30/01/2022].

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Department of Health & Social Care (2021d) *Young people aged 12 to 15 to be offered a COVID-19 vaccine* 2021d. Available online: <https://www.gov.uk/government/news/young-people-aged-12-to-15-to-be-offered-a-covid-19-vaccine> [Accessed 30/01/2022].

---

Government of Canada (2021) *COVID-19 vaccination requirement for federal public servants* 2021. Available online: <https://www.canada.ca/en/government/publicservice/covid-19/vaccination-public-service/vaccination-requirements.html> [Accessed 30/01/2022].

---

Government of the United Kingdom (2021) *Vaccinations in the United Kingdom, 2021*. Available online: <https://coronavirus.data.gov.uk/details/vaccinations> [Accessed 30/01/2022].

---

Health Canada (2021a) *COVID-19 vaccination in Canada, 2021a*. Available online: <https://health-infobase.canada.ca/covid-19/vaccination-coverage/>. [Accessed 30/01/2022].

---

Health Canada (2021b) *Health Canada provides update on safety review of AstraZeneca and COVISHIELD COVID-19 vaccines* 2021b. Available online: <https://www.canada.ca/en/health-canada/news/2021/04/health-canada-provides-update-on-safety-review-of-astrazeneca-and-covishield-covid-19-vaccines.html> [Accessed 30/01/2022].

---

Medicines and Healthcare Products Regulatory Agency (2020) *Regulatory approval of Pfizer/BioNTech vaccine for COVID-19*, 2020. Available online: <https://www.gov.uk/government/publications/regulatory-approval-of-pfizer-biontech-vaccine-for-covid-19> [Accessed 30/01/2022].

---

Medicines and Healthcare Products Regulatory Agency (2021a) *Moderna vaccine becomes third COVID-19 vaccine approved by UK regulator.*, 2021a. Available online: <https://www.gov.uk/government/news/moderna-vaccine-becomes-third-covid-19-vaccine-approved-by-uk-regulator> [Accessed 30/01/2022].

---

Medicines and Healthcare Products Regulatory Agency (2021b) *One-dose Janssen COVID-19 vaccine approved by the MHRA.*, 2021b. Available online: <https://www.gov.uk/government/news/one-dose-janssen-covid-19-vaccine-approved-by-the-mhra> [Accessed 30/01/2022].

---

Medicines and Healthcare Products Regulatory Agency (2021c) *UK regulator confirms that people should continue to receive the COVID-19 vaccine AstraZeneca.*, 2021c. Available online: <https://www.gov.uk/government/news/uk-regulator-confirms-that-people-should-continue-to-receive-the-covid-19-vaccine-astrazeneca> [Accessed 30/01/2022].

---

Mills, M., Rahal, C., Brazel, D., Yan, J. & Gieysztor, S. (2020) COVID-19 vaccine deployment: behaviour, ethics, misinformation and policy strategies. *The Royal Society & The British Academy*.

---

Ministry of Health (2021a) *Executive Officer Notice: Administration of Publicly Funded COVID-19 vaccines in Ontario Pharmacies - Billing*, 2021a. Available online: [https://www.health.gov.on.ca/en/pro/programs/drugs/opdp\\_eo/notices/exec\\_office\\_20210325\\_3.pdf](https://www.health.gov.on.ca/en/pro/programs/drugs/opdp_eo/notices/exec_office_20210325_3.pdf) [Accessed 30/01/2022].

---

Ministry of Health (2021b) *Extension of the Second Dose Interval*, 2021b. Available online: [https://mcusercontent.com/52d9e9dfa66c8bca909aa4569/files/5bf00393-47ba-465c-9bdd-28a0bd32eccc/2021\\_03\\_24\\_Extended\\_Dose\\_Key\\_Messages\\_2021\\_03\\_19\\_FINAL\\_EN\\_AODA.01.pdf](https://mcusercontent.com/52d9e9dfa66c8bca909aa4569/files/5bf00393-47ba-465c-9bdd-28a0bd32eccc/2021_03_24_Extended_Dose_Key_Messages_2021_03_19_FINAL_EN_AODA.01.pdf) [Accessed 30/01/2022].

---

NACI (2021) *Archived 13: Recommendation on the use of the Pfizer-BioNTech COVID-19 vaccine in adolescents 12 to 18 years of age [2021-05-18]*, 2021. Available online: <https://www.canada.ca/en/public-health/services/immunization/national-advisory-committee-on-immunization-naci/recommendation-use-pfizer-biontech-covid-19-vaccine-adolescents.html> [Accessed 30/01/2022].

---

National Advisory Committee on Immunization (2021a) *Archived 11: Summary of National Advisory Committee on Immunization statement of May 28, 2021.*, 2021a. Available online: <https://www.canada.ca/en/public-health/services/immunization/national-advisory-committee-on-immunization-naci/recommendations-use-covid-19-vaccines/summary-updated-statement-may-28-2021.html> [Accessed 30/01/2022].

---

National Advisory Committee on Immunization (2021b) *Archived 13: Recommendation on the use of the Pfizer-BioNTech COVID-19 vaccine in adolescents 12 to 18 years of age [2021-05-18]*. Government of Canada.

---

National Advisory Committee on Immunization (2021c) *NACI rapid response : Extended dose intervals for COVID-19 vaccines to optimize early vaccine rollout and population protection in Canada* 2021c. Available online: <https://www.canada.ca/en/public-health/services/immunization/national-advisory-committee-on-immunization-naci/rapid-response-extended-dose-intervals-covid-19-vaccines-early-rollout-population-protection.html> [Accessed 30/01/2022].

---

National Advisory Committee on Immunization (2021d) *National Advisory Committee on Immunization (NACI): Summary of updated vaccine statement of March 16, 2021*, 2021d. Available online: <https://www.canada.ca/en/public-health/services/immunization/national-advisory-committee-on-immunization-naci/recommendations-use-covid-19-vaccines/summary-updated-statement-16-march-2021.html> [Accessed 30/01/2022].

---

National Advisory Committee on Immunization (2021e) *Recommendations on the use of COVID-19 vaccines [2021-03-16]*. 2021e. Available online: <https://www.canada.ca/en/public-health/services/immunization/national-advisory-committee-on-immunization-naci/recommendations-use-covid-19-vaccines/march-16-2021.html#appc> [Accessed 30/01/2022].

---

Ontario government (2021) *Ontario Safely Expands Age Eligibility for AstraZeneca COVID-19 Vaccine to 40+* 2021. Available online: <https://news.ontario.ca/en/statement/61204/ontario-safely-expands-age-eligibility-for-astrazeneca-covid-19-vaccine-to-40> [Accessed 30/01/2022].

---

Patel, P., Hiam, L., Sowemimo, A., Devakumar, D. & McKee, M. (2020) *Ethnicity and covid-19*. British Medical Journal Publishing Group.

Peter Zimonjic, V. K. (2021) *Canada's chief science adviser issues warning about B.C.'s 'experiment' with vaccine timing* | CBC News, 2021. Available online: <https://www.cbc.ca/news/politics/nemer-henry-vaccine-interval-experiment-1.5932714> [Accessed 30/01/2022].

---

Public Health England (2021a) *JCVI issues advice on COVID-19 vaccination of children and young people* - GOV.UK, 2021a. Available online: <https://www.gov.uk/government/news/jcvi-issues-advice-on-covid-19-vaccination-of-children-and-young-people> [Accessed 30/01/2022].

---

Public Health England (2021b) *JCVI issues updated advice on COVID-19 vaccination of children aged 12 to 15* - GOV.UK, 2021b. Available online: <https://www.gov.uk/government/news/jcvi-issues-updated-advice-on-covid-19-vaccination-of-children-aged-12-to-15> [Accessed 30/01/2022].

---

Public Health England (2021c) *JCVI issues updated advice on COVID-19 vaccination of young people aged 16 to 17* 2021c. Available online: <https://www.gov.uk/government/news/jcvi-issues-updated-advice-on-covid-19-vaccination-of-young-people-aged-16-to-17> [Accessed 30/01/2022].

---

Richardson, L. & Crawford, A. (2020) COVID-19 and the decolonization of Indigenous public health. *Cmaj*, 192(38), E1098-E1100.

---

Rogers, E. M. (2010) *Diffusion of innovations*. Simon and Schuster.

---

Walt, G., Shiffman, J., Schneider, H., Murray, S. F., Brugha, R. & Gilson, L. (2008) 'Doing' health policy analysis: methodological and conceptual reflections and challenges. *Health policy and planning*, 23(5), 308-317.

---

Wise, J. (2021) Covid-19: European countries suspend use of Oxford-AstraZeneca vaccine after reports of blood clots. British Medical Journal Publishing Group.

---

World Health Organization (2021) *WHO lists two additional COVID-19 vaccines for emergency use and COVAX roll-out* 2021. Available online: <https://www.who.int/news/item/15-02-2021-who-lists-two-additional-covid-19-vaccines-for-emergency-use-and-covax-roll-out> [Accessed 30/01/2022].

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