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August 2021

Acting Chief of the Defence Staff  
Associate Deputy Minister  
Deputy Minister

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COVID-19 VACCINATION AND  
DND/CAF WORKPLACE SAFETY

1. Enclosed is a briefing note to inform you on the latest developments regarding the Federal COVID-19 Vaccination Policy in advance of the 1 September 2021 DM-level meeting on this initiative.
2. This briefing note incorporates details from the public health rationale that was drafted by the Public Health Agency of Canada, and considerations for the application of a proof of vaccination policy to the Defence Team. It notes distinct differences in the application to the Canadian Armed Forces and identifies the success that we have had to date with our voluntary COVID-19 vaccine campaign.
3. The development of this package was conducted in close collaboration with key advisors from CF H SVCs, ADM(HR-Civ), ADM(PA), ADM(Pol), and VCDS. A similar note will again be elevated to you in the near future, once the Treasury Board Secretariat Policy has been finalized.

T.J. Cadieu  
Major-General  
Director of Staff

Enclosure: 1

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**INFORMATION NOTE FOR THE A/CDS / ASSOCIATE DM / DM**

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**COVID-19 VACCINATION AND DND/CAF WORKPLACE SAFETY //  
VACCINATION COVID-19 ET SÉCURITÉ AU TRAVAIL DU MDN/FAC**

Refs: A. HC/PHAC Briefing Deck: Phased Approach to Federal COVID-19 Vaccination Policy, 12 August 2021

B. PHAC public health rationale for a Federal COVID-19 Vaccination Policy

D. BN for the CDS: COVID-19 Vaccination Requirements for the CAF, 10 Mar 21

**ISSUE**

1. The intent of this BN is to inform the A/CDS, associate DM and DM on the latest developments regarding the Federal COVID-19 Vaccination Policy and the implications for the Department of National Defence (DND) and the Canadian Armed Forces (CAF).

**BACKGROUND**

2. Recent modelling suggests that due to the higher transmissibility of the Delta variant of concern (VOC) and predicted increases in contacts as reopening strategies continue, the fourth wave presents an elevated risk of increased hospitalizations and the potential for healthcare capacity to be exceeded when compared to previous waves of the COVID-19 pandemic in Canada. Public health measures such as shuttering of businesses, school closures, cancellations of non-elective surgeries and procedures, wearing of non-medical masks (NMM), hand washing, and social distancing have been effective in flattening the curve of new cases; however, their use has greatly impacted the economy, the general functioning of society, other health issues, and children. As a result, these measures are viewed as unsustainable in the long term.

3. The Public Health Agency of Canada (PHAC) advises that COVID-19 vaccines are critical to improving the functioning of society and to achieving widespread immunity. This is supported by evidence which indicates that the vaccines are very effective at preventing severe illness, hospitalization, and death from COVID-19, and that the number of outbreaks decreases with increased vaccination coverage in the population. In accordance with Ref B, it is forecasted that 80% or more of all eligible age groups in Canada would need to be fully vaccinated to mitigate the risk of exceeding healthcare capacity during the fourth wave. Currently, Canada is below this target for COVID-19 vaccine uptake with approximately 65% of the Canadian population fully vaccinated, or approximately 75% of eligible Canadians (i.e. 12 years of age or older).

4. Evidence demonstrates that vaccine mandates may be effective in increasing coverage rates. Based on this context, the Government of Canada (GC) announced on 13 August 2021 its intent to require COVID-19 vaccination as early as the end of

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September 2021 across the federal public service (FPS). In addition, by the end of October 2021, vaccination will also be required for employees and passengers in the federally regulated air, marine, and rail transportation sectors.

5. Accordingly, policy and a regulatory framework are currently under development through interdepartmental coordination with the goal of increasing the vaccine uptake rate in Canada. The approach will require a means to address the circumstances of those who continue to be unvaccinated. This group is currently defined in terms of two categories:

- a. Unable – accommodations (e.g. telework) would be implemented for those unable to be vaccinated on medical or protected human rights grounds; and
- b. Unwilling – alternative measures (e.g. rapid testing and wearing of NMMs) would be implemented in order to limit the potential for them to impact the health and safety of their colleagues in the workplace.

6. The purpose of the Federal COVID-19 Vaccination Policy is not only to protect public health, but also for the federal government to demonstrate leadership and assist in economic recovery. By adopting a leadership role, the GC signals the importance of vaccination to provinces/territories and employers in the private and non-government sector, thereby establishing a social norm and encouraging increased uptake amongst the vaccine hesitant and complacent. This in turn fosters a resilient and sustainable economic recovery from the pandemic.

## **DISCUSSION**

7. **Defence Team Situation.** In March 2021, following the provision of thorough advice from policy, medical, and operational staffs (Ref D), the CDS directed that there would be no formal requirement for the vaccination of CAF members, except in prospective circumstances where a member is to be deployed/employed:

- a. To a foreign country that has imposed vaccination as a prerequisite for entry;
- b. To a domestic region or location to which the GC, provincial/territorial government, or Indigenous populations have imposed vaccination as a requirement; or
- c. On a named domestic or expeditionary operation to which the responsible Commander is satisfied, based on robust, evidence-based recommendation from the Canadian Forces Health Services Group, that vaccination is a reasonable requirement.

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8. As the CAF has its own healthcare system, it was allotted an allocation of COVID-19 vaccines during Q2 CY 2021 that was sufficient in quantity to vaccinate all individuals entitled to CAF medical care. The CAF COVID-19 Immunization Campaign was then completed during a 60-day surge, which was supported by a strong communication plan that focused on the benefits of COVID-19 vaccines in general, addressed misinformation, and communicated transparently about COVID-19 allocation decisions. The campaign was highly successful and the CAF has now reached the milestone of achieving 90% full vaccination of Regular Forces and eligible Reserve Forces, and a further 3% are partially vaccinated.

9. While additional authorities were sought from and provided by the MND to administer COVID-19 vaccines to identified populations not otherwise entitled to CAF medical care, including some public servants, it is currently unknown what the rate of uptake is amongst DND employees. PHAC estimates that the number of fully vaccinated FPS employees could range from 51% to 73%.

10. **Application of Policy**

11. There are many considerations to be assessed in preparation for the process of implementing a POV requirement. These include:

- a. Public health rationale;
- c. Operational plan and implementation; and
- d. Communications.

12. **Public health rationale.** The pre-eminent consideration is the public health rationale produced by PHAC (Ref B). It notes that vaccination is a critical tool in reducing the risk of COVID-19 to individuals, and in protecting the broader public health of Canadians by reducing the ability of the SARS-CoV-2 virus to spread. It is known that the spread of the virus in areas with low vaccination coverage presents an ongoing risk of the emergence of new VOCs; thus, increased vaccination rates help to mitigate this risk and assist in bringing an end to the crisis phase of the pandemic.

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13. POV requirements applied to the federal workplace would help protect:
- a. The occupational health and safety of individual FPS employees as well as contractors and others working with them;
  - b. The collective health and safety of personnel required to sustain GC operations; and
  - c. The health and safety of citizens receiving in-person services.
14. From a public health protection perspective, individuals who are unwilling to accept COVID-19 vaccination should be afforded the same mitigation measures as those who are unable to be vaccinated. More specifically, accommodation measures that are meant to assure protection of the employee and the workforce should also be available to those who are unwilling to be vaccinated. However, recent interdepartmental discussions have identified that the intent is to require FPS employees who are teleworking to provide POV, as there remains the possibility of a requirement for in person presence in the workplace. Therefore, it is unlikely that telework will be permitted to be used as a mitigating measure for those unwilling to be vaccinated. However, given that telework has been used for over a year as a strong public health measure against COVID-19 transmission, it may be difficult to argue that this does not continue to be an appropriate mitigation measure for unvaccinated employees.

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18. **Operational Plan and Implementation.** There remains significant challenges that must be addressed before the policy and regulatory framework proposals can be finalized.

- a. **Instrument.** A regulatory instrument is the preferred approach in order to provide a framework for policy development and expand the applicability of the initiative beyond core FPS employees; however, regulation will take longer to implement as compared with policy. Further, the type of instrument to be used is an area of active discussion. It is believed that a policy will be established as an interim measure while TBS works with GC to implement regulatory or legislative mechanisms.
- b. **Data collection.** How to safely and effectively collect personal data to satisfy the needs for a POV requirement presents a challenge for implementation. There is appetite to use a centrally-directed process to require POV status from FPS employees. Health Canada's (HC) "Vax Connect" platform is a potential solution; which has already been accepted by the Privacy Commissioner as meeting privacy considerations.
- c. **Mitigation measures.** It is currently unknown what mitigation measures will be implemented for individuals that are unable and unwilling to be vaccinated. There is acknowledgement that there is a duty to accommodate those unable to be vaccinated on protected grounds, but how this will be operationalized is yet to be determined. Further, while there is currently no intent to dismiss FPS employees for remaining unwilling to be vaccinated, interdepartmental discussions have begun to focus on disciplinary measures up to and including the use of leave without pay for non-compliance. Mandatory testing and screening regimes are being investigated as potential options, along with the use of personal protective equipment and/or physical distancing, limiting exposure to the public and congregate settings, amending work hours, and reassignment to other tasks.
- d. **Consistency.** The short timeline for implementation of this policy creates challenges in developing and planning the operational implementation aspects across federal departments. It is important to ensure consistency of approach to avoid creating inequities in implementation, which could then call into question the reasonableness of the policy.

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- e. **Capacity.** Implementation of a federal POV requirement will pose significant human resource and operational challenges for tracking vaccination status, as well as for the provision of screening, testing, and other alternative measures for those unable or unwilling to be vaccinated.
- f. **Contractors.** PSPC is currently engaged in reviewing existing contract language for contractors providing services alongside the core FPS to mandate COVID-19 vaccination for that population of workers. It is expected that it will become a requirement of the contracted company to provide POV for its workers contracted to support the federal government.

19. **Communications.** Meaningful, advanced engagement of the workforce through key stakeholders, such as Indigenous groups, key industry partners, employer groups, as well as public sector unions and bargaining agents, will be essential to acceptance of a POV requirement. Further, continued messaging encouraging voluntary vaccination and the importance of widespread immunity will assist in minimizing the number of individuals that will be identified as unwilling to be vaccinated.

**DEFENCE TEAM SPECIFIC CONSIDERATIONS**

21. The DND/CAF is delivering, and will continue to strengthen, a robust communication plan that strongly encourages CAF members and DND employees to be vaccinated, informed by and coordinated with the Whole of Government communications approach. This approach has been highly successful to date, resulting in an uptake rate of over 90% of Regular Forces and eligible Reserve Forces. This indicates that the current approach of encouraging CAF members to voluntarily accept COVID-19 vaccination continues to be

The CAF's approach could be used to encourage vaccination within the DND

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employee population, and shared with federal partners as a best practice to encourage increased voluntary uptake of COVID-19 vaccines.

22. Current epidemiological modelling suggests that there lacks strong evidence to require vaccination of the remaining percentage of unvaccinated CAF members for the purpose of force health protection, as there already exists a high level of protection afforded by the CAF's vaccine uptake rate. Establishing a POV requirement for the CAF would not only be punitive in nature, but would also be counter to the successful efforts made to date to encourage maximum voluntary uptake of the COVID-19 vaccine. Additionally, medical ethical restrictions prevent CAF Health Services personnel from administering vaccines without the informed consent of the recipients. Coercion of CAF members to accept vaccination under threat of military discipline would not constitute informed consent.

23. Development of a framework is currently underway to assess the process and levels of authority required to determine when there is an operational requirement for CAF members to provide POV. There have already been operational requirements outlined as the basis for which operational commanders may require POV for CAF members (i.e. Op NANOOK). Additional review of criteria for POV for specific operational requirements to reflect the current COVID-19 situation is underway. Given the widespread prevalence of COVID-19, this review is likely to result in POV requirements for most, if not all, CAF activity areas. A member refusing COVID-19 vaccination would then experience limits to available assignments and postings, with commensurate career limits due to lack of experience. This may encourage unvaccinated members to seek COVID-19 vaccination. Operational POV requirements, combined with the known uptake rate of COVID-19 vaccination amongst CAF members, should be sufficient to meet the federal government COVID-19 vaccination policy purpose of providing workforce protection, as well as demonstrating federal leadership in vaccine uptake to the Canadian public.

24. The DND/CAF approach toward encouraging voluntary vaccination and communications products should be shared with federal partners as a best practice to achieve increased voluntary uptake of COVID-19 vaccination. Given the demonstrated success of the CAF vaccination parades, it could be suggested to other government departments that local public health units could be invited to provide medical information and Q&A sessions in the workplace, followed immediately by a vaccination clinic (along the lines of the Canadian Red Cross blood donor clinic model). This would provide unvaccinated individuals with an opportunity to discuss their concerns with health experts and immediate access to COVID-19 vaccines.

25. Finally, it is important to establish a consistent approach across the Defence Team. If a POV policy and/or regulation is implemented for the FPS based on the existing public health rationale, it will be important to align the CAF with these same requirements. A similar application amongst DND employees and CAF members will avoid creating inequities in implementation, which could then call into question the reasonableness of the policy.



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**CONCLUSION**

26. The DND/CAF supports the GC's intent of establishing a POV policy and/or regulation. Its implementation will require prudent planning that considers the aforementioned challenges in its application. Particularly, the determination of suitable mitigation measures for unvaccinated individuals will be key to ensuring widespread acceptance of the policy. Additionally, the development of a robust communications package will be vital to provide understanding and encourage acceptance from the Defence Team. As we have proven since the beginning of the COVID-19 pandemic, the DND/CAF will continue to demonstrate leadership and contribute to whole of government efforts to keep Canadians safe, including through implementation of the Federal COVID-19 Vaccination Policy.

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<b>Date prepared:</b>	26 August 2021

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A - HC/PHAC Briefing Deck: Phased Approach to Federal COVID-19 Vaccination Policy, August 2021

B - PHAC public health rationale for a Federal COVID-19 Vaccination Policy

D - BN for the CDS: COVID-19 Vaccination Requirements for the CAF, 10 Mar 21



Health Canada and the Public  
Health Agency of Canada

Santé Canada et l'Agence  
de la santé publique du Canada

Canada

# Phased Approach to Federal COVID-19 Vaccination Policy

August 2021



## Purpose

- To outline the rationale for a potential approach to making vaccinations mandatory for the federal public service, federally-regulated sectors, and those using their services
- To outline a **proposed phased approach** to implement such a policy, building on existing efforts to vaccinate key federal public servants
- To outline **key considerations**:
  - Public Health Rationale
  - Legal Rationale
  - Operational Plan and Implementation
  - Communications

## Objectives of a more wide-reaching federal vaccine policy

Strengthening federal vaccine policy would help contribute further to **key public health objectives**:

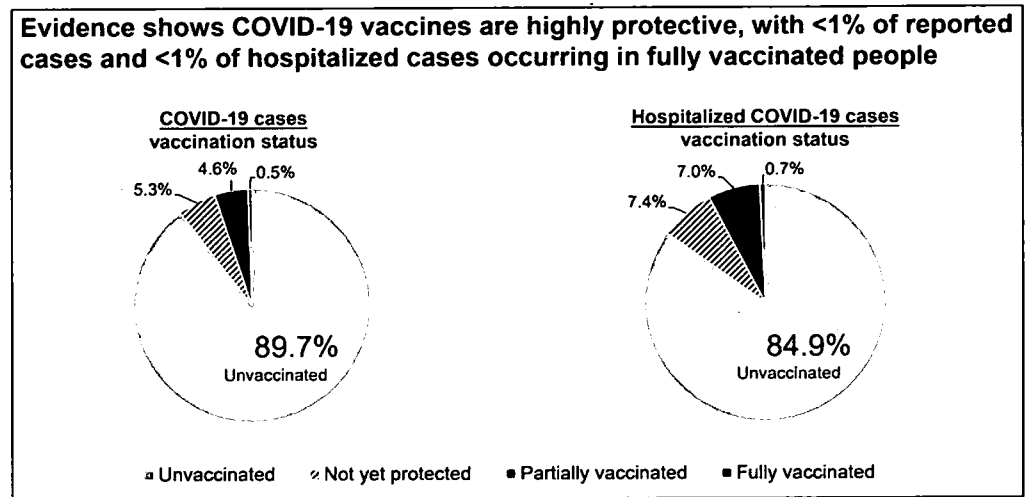
1. Help the Federal Government fulfill its **duty to protect the health and safety of its employees** further to the Canadian Labour Code
2. Further protect the **health and safety of Canadians being directly served** by federal government employees
3. Increase the **overall rate of vaccination** in support of efforts to reach the levels required to safely sustain reopening in the face of more transmissible and virulent variants of concern

It could also support the **additional goals of**:

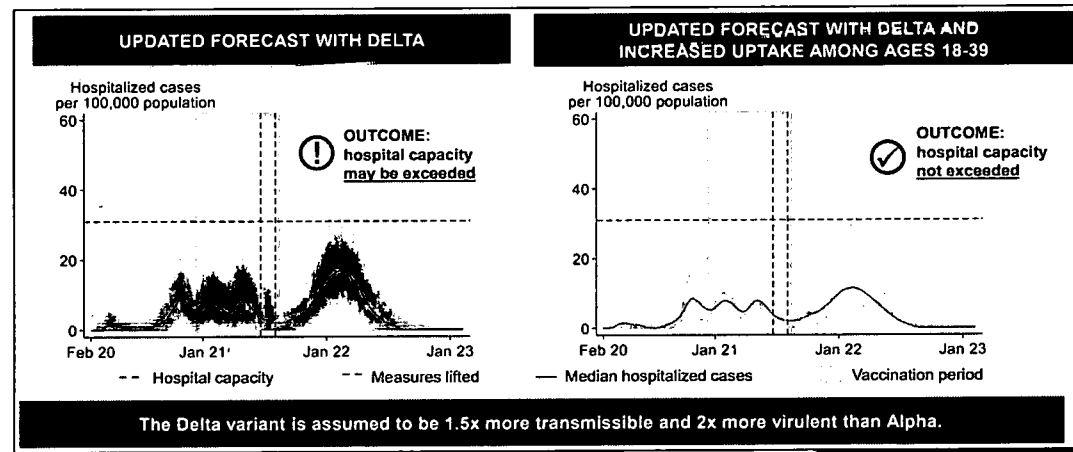
4. Providing additional impetus to the vaccination campaign by helping to **establish a social norm and sending an important signal to vaccine complacent or hesitant Canadians**
5. Provide **federal leadership by example to private sector employers and provincial and territorial governments** considering their own positions on this issue
6. Supporting public service gradual **return to the office workspace**

# Public Health Context

- The Delta variant presents a **heightened threat**:
  - **Most transmissible variant to date**
  - **Cases have increased risk for hospitalization**
- **COVID-19 vaccines are highly effective at preventing serious illness, hospitalization and death – even against the Delta variant**
- Majority of Delta cases in Canada in **unvaccinated or partially vaccinated people**
- The increased transmissibility of the Delta VOC means **a much higher vaccination coverage target is needed to prevent wider outbreaks, sustain reopening, and prevent a fourth wave** from presenting a risk to our health care system.
- Evidence demonstrates that **vaccine mandates are effective in increasing coverage rates.**



Source: PHAC Data as of July 12, 2021. Note: The above figure includes data 14 Dec – 12 Jul from 11 jurisdictions (not including Saskatchewan, Quebec). Definitions: cases not yet protected from vaccination had onset



Source: PHAC.  
 Note: For all scenarios, a two-step approach to lifting public health measures is modelled. Vaccine acceptance varies by age group and is informed by a combination of Canadian survey data and actual rates of vaccine uptake by age groups (as of July 8, 2021). In the scenario on the left, vaccine acceptance among those aged 18-39 years is 72%. In the scenario on the right, vaccine acceptance among those aged 18-39 years is 80%.

## Vaccine mandates are an important and increasingly used tool

### Uptake

**Vaccine complacency and hesitancy remains a significant and complex problem in Canada.** Pursuing multiple avenues to reach the greatest possible number of Canadians is an important focus of the current phase of immunization.

### Leadership

**The private sector is looking to the federal government for leadership** on the possibility of vaccine mandates in a wide variety of settings (e.g., where employees congregate in numbers or with clients).

On August 3, the Canadian Medical Association and Canadian Nurses Association called for mandatory vaccination for health-care workers.

### International Context

On 29 July, the **US announced strong new measures for federal public servants** requiring either vaccination or strict mandatory precautionary measures (regular testing, mask wearing, social distancing, ineligibility for work-related travel).

**California and New York State** have also now announced similar policies.

- On August 5, the Prime Minister indicated publicly that he had asked the Clerk of the Privy Council to **examine the possibility of making vaccination mandatory for the federal public service**, and possibly employees of federally-regulated industries

## Considerations and Assumptions

- Vaccination policy must be underpinned by a scientific rationale that determines that vaccination of personnel or use of alternative protective measures is a **necessary occupational health and safety protocol to protect employees, the workplace or the people they serve**
  
- More broadly, vaccination status would also **not exempt staff from ongoing public health measures** (e.g., masking) in force in the jurisdictions in which they work

## **Current context - Vaccination promotion and determination of mandatory vaccination to protect the safety of key federal workers and workplaces is already in train**

- The June 2021 COVID-19 **Vaccination Framework for the Public Service** establishes clear criteria and a list of key workplaces/employee groups, functions and contexts with **higher risk of contracting or transmitting COVID** in the workplace
- Deputy Heads have **authority to mandate which workplaces or activities** require vaccination
  - Based on risk factors e.g., **close contact** required; **vulnerability** of service users, and; nature of **work functions**
  - Departments are working to identify key groups, which will likely include groups such as: corrections officers (PS); nurses travelling to First Nations communities (ISC); front-line quarantine officers and public health nurses, select lab workers (PHAC/HC), and; CAF personnel living in close quarters (DND)
  - The policy will also apply to select contract workers, others entering workplaces (e.g., cleaning staff)
  - It will also apply to specific activities (i.e. work-related travel, site visits, etc.)
  - Coming into force of these requirements is expected for October 2021 and has been consulted with bargaining agents
- Actions will be **underpinned by a ramp up in vaccination promotion efforts** to encourage uptake, e.g., dedicated information sessions, wider communications, targeted immunization clinics



## Proposed phased approach to expand scope of federal vaccination policy

A phased approach would see the scope of mandatory vaccination applied to an increasing number of people over time

Building on the current phase whereby Deputy Heads have authority to mandate which workplaces or activities require vaccination, future phases could be rolled out as follows:

Limited  
scope



Broader  
application

1. **Include all federal employees** – Mandatory vaccination would be broadened from current targeted approach to include **all federal employees**, contract workers, and others entering the workplace (e.g., maintenance and cleaning staff)
  2. **Include all employees in federally-regulated sectors**, such as transportation and banking
  3. Expand to all citizens who **use certain federally-regulated services**, such as those wishing to board commercial passenger flights
- ***Progression between and within phases would be staged in line with operational readiness, risk, and public health context***

## Phase 1 – Mandatory vaccination for all federal employees

### Objectives:

- Maximize public service population **occupational health and safety**
- Contribute to **wider public health** objectives
- Send **signal and incentive for other Canadians** to get vaccinated.

### What does it entail?

- **Entry to the federal workplace and activities** (e.g., travel, site visits, participation in operations) **would be contingent on employees and others being fully vaccinated**
- **Provisions for alternative arrangements/measures** for those unable/unwilling

## Phase 2 – Mandatory vaccination federally regulated industries

### What does it entail?

- Building on phase 1, **mandatory vaccination would be required for all those working in or wishing to access federally-regulated workplaces**
- **Federally-regulated sectors include:** air transportation; banks; grain elevators; First Nations **band councils**; most **Crown corporations**; road transportation services; **telecommunications** (see Annex for full list)
- **Provisions would be made for those employees unable or unwilling to be vaccinated, as in other phases**

## Phase 3 – Mandatory vaccination for those using federally regulated services

### What does it entail?

- Mandatory vaccination would be **required for all those wishing to use federally-provided or regulated services**
- This could include, for example, those wishing to board **commercial flights or trains**, visit the **Passport Office**, those **seeking entry to the country** on work or study permits
- **Provisions would be made for those citizens unable or unwilling to be vaccinated**

## Options for how vaccination policy is implemented

In addition to the scope of application, **for each phase there are graduated options for implementation that could be considered, if there is a desire to further calibrate risk:**

- 1. Strengthened Voluntary:** A more modest approach could rely on **voluntary participation but stronger encouragement from employers**, through mandatory education sessions and the like, and through affording certain privileges to those employees who are vaccinated (e.g., reducing additional requirements such as screening/testing while continuing to adhere to public health measures).
- 2. Mandatory disclosure of vaccination status:** Employees could be asked only to disclose their vaccination status, which could then lead to certain activities being off limits for the unvaccinated.
- 3. Mandatory vaccination due to context :** A more stringent approach would require employees to have up to date proof of vaccination on file as a condition for entering the workplace.
- 4. Vaccination as a condition of employment:** This approach would make vaccination a condition of employment in letters of offer (could also be applied only to new employees, with existing employees grandfathered)

**Page 22**

**is withheld pursuant to section  
est retenue en vertu de l'article**

**23**

**of the Access to Information Act  
de la Loi sur l'accès à l'information**

## Considerations: Privacy

- Vaccine mandates must be **developed and implemented in compliance with applicable privacy laws**. They should also incorporate best practices in protecting the sensitivity of the personal health information that will be collected, used or disclosed.
- In light of the risks to privacy in collecting information on vaccination status, the **necessity, effectiveness and proportionality** of a vaccine mandate must be established for the context in which they will be used.
- There must be no other less privacy-intrusive measures available that are equally effective in achieving the objectives.
- **Data minimization should be applied** so that the least amount of personal health information is collected, used or disclosed.
- **Operational implementation should be structured to minimize privacy risks**
  - i.e. keeping vaccination status in a protected file with limited access rather than requiring proof of vaccination to be repeatedly presented on entry, seeking to avoid unnecessary differential treatment that would reveal vaccination status
- Additional steps/accommodations (such as continued work from home, where possible) could help mitigate privacy concerns in some cases

**Pages 24 to / à 25  
are withheld pursuant to section  
sont retenues en vertu de l'article**

**21(1)(a)**

**of the Access to Information Act  
de la Loi sur l'accès à l'information**



## Considerations: Communications and Timing

- A central feature of mandatory vaccinations is that **timing is an important factor for success** - the announcement of the policy itself can lead to increased uptake
  - After French announcement of July 12, 2021 that vaccinations would be mandatory for healthcare workers beginning September 15, one million appointments were booked in approximately 24 hours
- **Full implementation of the current phase or additional phases will take time** - coming into force for Phase 1 would likely be in October to allow time for consultation with bargaining agents, for information initiatives to be put in place, and for employees to seek vaccination.
  - Current policy is being implemented now with a low-profile communications approach
  - An intention to move to Phase 1 and/or subsequent phases could be announced now, or delayed until later in the fall following full implementation of current policy.
  - Earlier announcement has greater immediate benefits in terms of stimulating uptake.
  - It is possible to announce general intent to proceed now with Phases 1-2, with later date for formal policy announcement and entry into force
- **Detail strategic communications plan required to lead public opinion** – targeted for employees, with PTs, industry and bargaining agents - is critical to success.

## Considerations: PT examples

- **QUEBEC**

- In April, Quebec's Ministry of Health decreed that health care workers in critical sectors (Emergency units, Intensive care units, COVID-19 clinics, Residential and long-term care centres, Pulmonology units) were required to show proof of vaccination.
- If they refuse to do so they are subjected to "recurrent preventative screening."
- If they refuse this screening, they are reassigned to similar work in a sector not impacted by the decree.

- **ONTARIO**

- On July 1, 2021, Ontario issued a ministerial directive requiring long term care homes to have in place a policy on COVID immunization.
- Under that policy, all employees must provide either proof of vaccination, proof of a medical exemption, or proof of completion of an education program on COVID-19 vaccines.

- **ALBERTA**

- Note that Bill 66, the Public Health Amendment Act, repeals powers the government gave itself through legislation passed in April 2020. The previous act allowed for mandatory vaccinations but was challenged on its constitutionality.

## Analysis of options and considerations

### International examples

#### Many of Canada's likeminded partners have implemented limited/targeted vaccine mandates by sector

##### NEW ZEALAND

Mandatory vaccinations for quarantine staff and all frontline border workers

##### AUSTRALIA

Mandatory vaccinations for high-risk aged-care workers and quarantine staff

##### ENGLAND

Mandatory vaccinations for care workers and care home visitors

##### ITALY

Mandatory vaccination for health workers, pharmacists

##### FRANCE

Mandatory vaccinations for health workers and public attending social venues

#### The United States has implemented a broad mandate with alternative strict precautionary measures

##### UNITED STATES

Requires either vaccination or a set of strict mandatory precautionary measures (regular testing, mask wearing, socially distancing, and being ineligible for work-related travel) for all public servants.

##### CALIFORNIA

Vaccine verification policy requiring all public servants to either get vaccinated or wear masks and undergo regular testing. Also applies to all healthcare, jails, care homes and other high risk congregate settings.

##### NEW YORK

Requires all state employees to either get vaccinated or undergo weekly testing. NYC also requires same from municipal staff.

#### Complete vaccine mandates are much less common, usually in more centralized states

##### ZIMBABWE

Mandatory vaccination for all public servants

##### TURKMENISTAN

Mandatory vaccination for all residents 18 and over

##### INDONESIA

Vaccinations mandatory for all residents –fines for refusing to vaccinate

##### SAUDI ARABIA

Mandatory vaccinations for all public and private sector workers

## Next steps

- **Refine public health rationale:** formalize the public health basis for the proposed approach
- **Departmental analysis:** identify impacted employees for mandatory vaccination under current policy
- **Consultation with bargaining agents:** building on outreach already undertaken, which resulted in support for the current policy
- **Develop an implementation plan that includes:**
  - Roll-out logistics, data management for vaccination info, alternate screening/health protocols, immunization promotion and access
  - Information for employees on benefits of vaccination
  - Detailed communications plans required for employees, P/Ts, private sector and Canadians, including an approach to counteract misinformation with regards to “forced vaccination”
  - Timelines for operationalization

# ANNEX

## Guiding Principles for Federal COVID-19 Vaccination Policy

- Anchored in **public health authorities' recommendations** and medical evidence
- Ensure **health and safety of employees** and workplace safety
- Fosters stewardship and **excellence in delivery of programs** and services
- Aligns with **distributed accountability** of the public service governance
- **Compliant with collective agreements** and terms and conditions of employment
- **Sets an example as a key employer** driving vaccination in Canada

## Considerations: Ethics

- ✓ **Necessity: Is it necessary to achieve an important public health goal?** Evidence that vaccination is necessary to ensure the health and safety of the workplace and Canadian population, and also that other, less intrusive measures, are insufficient.
- ✓ **Safety: Is there sufficient evidence of vaccine safety?** Data demonstrates that the HC-approved COVID-19 vaccines are safe for the population for whom the vaccine is required.
- ✓ **Proportionality: Are the risks and challenges associated with the policy proportionate to the public health benefits?** The public health rationale is compelling, though the implementation of the policy could be complex, e.g., requiring significant human resources to obtain and validate records. An estimate of the relative numbers of already vaccinated employees and relative gain from a mandatory policy would help determine the benefit of the policy in this context.
- ✓ **Effectiveness: Is there sufficient evidence of vaccine effectiveness?** Data on efficacy and effectiveness show the vaccine is effective in the population for whom vaccination is to be mandated and that the vaccine is an effective means of achieving an important public health goal.
- ✓ **Accessibility: Is there sufficient supply and free, equitable access?** Supply of the vaccine is sufficient and reliable, and reasonable, free access to it can be provided for those for whom it is to be made mandatory.

## Potential Reach of Options Affecting the Public Service

- The tables on the next slide show numbers of priority federal staff identified for inclusion in PT vaccine roll-out plans earlier this year, and can be used for a proxy of the number of staff who might be included under current policy (note that it does not include members of the CAF)
- Approximately 52,000 staff could be included in Phase 1, though assuming ~80% will be fully vaccinated or on course to be so, the number of staff affected could be in the range of 10,000
- There is a relatively high concentration in certain provinces on the per capita basis (e.g., BC), due in part to the RCMP presence
- Should there be a desire to pursue phase 2, the core public service, CAF full time, and CAF reserve are approximately 300,000, 71,500, and 30,000 people respectively. With uptake of ~80%, this would mean the number of staff affected could be in the range of 80,000



**Pages 34 to / à 35  
are withheld pursuant to section  
sont retenues en vertu de l'article**

**21(1)(a)**

**of the Access to Information Act  
de la Loi sur l'accès à l'information**

## Existing Non-COVID-19 Occupational Health Vaccinations

- As part of its regular operations, Public Service Occupational Health Program (PSOHP) provides non-COVID immunization recommendations for certain occupational groups (e.g. correctional officers, Coast Guard) based on occupational risk of exposure (e.g. Hepatitis B, seasonal influenza).
- These vaccinations are recommended under the Occupational Health Assessment Guide (OHAG) based on a risk assessment of tasks and settings.
- **Currently, the OHAG or PSOHP does not make any vaccinations mandatory for federal employees.**
- Some collective agreements indicate that the employer will make occupational risk-related vaccinations available (e.g. via PSOHP or PT health system) but collective agreements do not require employees to take them.

## List of federally regulated industries and workplaces

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The *Canada Labour Code* (the Code) regulates the following industries and workplaces:

- Federally regulated private sectors (**parts I, II, III and IV of the Code**):
  - air transportation, including airlines, airports, aerodromes and aircraft operations
  - banks, including authorized foreign banks
  - grain elevators, feed and seed mills, feed warehouses and grain-seed cleaning plants
  - first Nations band councils (including certain community services on reserve)
  - most federal Crown corporations, for example, Canada Post Corporation
  - port services, marine shipping, ferries, tunnels, canals, bridges and pipelines (oil and gas) that cross international or provincial borders
  - radio and television broadcasting
  - railways that cross provincial or international borders and some short-line railways
  - road transportation services, including trucks and buses, that cross provincial or international borders
  - telecommunications, such as, telephone, Internet, telegraph and cable systems
  - uranium mining and processing and atomic energy
  - any business that is vital, essential or integral to the operation of one of the above activities
- Federally regulated public sector (**parts II and IV of the Code only**):
  - the federal public service
  - Parliament (such as, the Senate, the House of Commons and the Library of Parliament)
- Private-sector firms and municipalities in Yukon, the Northwest Territories and Nunavut (**part I of the Code only**)

<https://www.canada.ca/en/services/jobs/workplace/federally-regulated-industries.html>

## Public Health Considerations

- COVID-19 vaccines are **very effective at preventing severe outcomes** (hospitalization, deaths, etc.) against all current VOCs. Waning of protection could occur and is being monitored (ongoing assessment for boosters)
- **Delta variant transmission rate is much higher** than previous COVID-19 variants
- Covid-19 vaccines are **less effective at preventing any COVID-19 infection**, and this is reduced for Delta variant (about 60% for mRNA vaccines) and viral vector vaccines
- There is evidence that **mRNA vaccines can reduce transmission** to close contacts (around 50%)
- There is evidence that outbreaks in congregate settings with vulnerable populations can be caused by introduction of the virus by an infected worker, mostly in health care and continuing care settings.
- For these settings, vaccination alone is not considered sufficient and other measures are layered to protect the vulnerable individuals and the workers.
- The precedent set until now with vaccine mandates has been more focused on health care settings than other settings, and all mandates have an alternative to vaccination based on testing.

## Public Health Considerations (cont.)

- Vaccine mandates are effective in increasing coverage rates
  - Other strategies are also effective in increasing uptake (recalls, motivational interviewing, increased access, etc.).
  - The evidence for mandates is mostly for educational settings, policies have exemptions, and exclusion of unvaccinated is usually during outbreaks
- Vaccine obligations can also increase vaccine resistance.
  - Mandates may polarize groups and lead to legal challenges.
  - Other strategies for example motivational interviewing can be more effective with vaccine hesitant individuals.
- There is some emerging evidence documentating that COVID-19 cases (Delta variant) in fully vaccinated individuals may have similar viral loads than unvaccinated cases.
  - This raises the question about their ability to transmit to others and the need to layer additional measures such as masking. The science on the capacity of vaccinated individuals to transmit will continue to evolve.
- In the light of the evolution of the epidemiology of the Delta variant, some jurisdictions and public health experts are now recommending masking for indoor settings (i.e. CDC has recently changed masking recommendation for fully vaccinated)
  - Measures in addition to vaccination are likely to continue to be needed in some settings.
- COVID-19 vaccines are less effective in protecting severely immunocompromised individuals.
  - A third dose may not overcome lack of response for these individuals. Other measures are also needed to protect them.
- Strict isolation and testing strategies can be very effective to limit introduction of cases in some settings (ex: remote areas)
- Outbreak risk is variable depending on the workplace characteristics and measures in place.

# Draft public health considerations related to the implementation of COVID-19 vaccine requirements for the federal workforce

Version: August 17, 2021

Prepared by: The Public Health Agency of Canada

The Government of Canada (GOC) announced on August 13th its intent to require COVID-19 vaccination as early as the end of September across the federal public service. In addition, as soon as possible in the Fall and no later than the end of October, the GOC will require employees in the federally regulated air, rail, and marine transportation sectors to be vaccinated. The vaccination requirement will also extend to certain travellers. This includes all commercial air travellers, passengers on interprovincial trains, and passengers on large marine vessels with overnight accommodations, such as cruise ships. Further, the GOC expects that Crown Corporations and other employers in the federally regulated sector will also require vaccination for their employees. The government will work with these employers to ensure this result<sup>1</sup>. As The GOC is currently exploring options for implementing these COVID-19 vaccine requirements, the Public Health Agency of Canada (PHAC) has been asked to provide scientific and public health evidence or considerations of relevance.

The COVID-19 pandemic has had an unprecedented impact on the health of Canadians. Reducing the direct health impacts of COVID-19 and maintaining health care capacity with various public health measures (closures, physical distancing and masking) has been extremely challenging and has affected a larger range of health outcomes across populations in Canada.<sup>2</sup> COVID-19 vaccines are a critical tool<sup>3</sup> that will help bring an end to the crisis phase of the pandemic, resume societal functioning and achieve widespread immunity in a safe way.

This document highlights key evidence in the areas of epidemiology, vaccine science and immunization programs related to COVID-19 vaccine requirements. The strength of the evidence presented is qualitatively labelled as strong, medium or weak.

## Summary of key points:

- The fourth wave of COVID-19 has started in Canada and will most likely be driven by the Delta variant. The majority of cases, hospitalisations and fatal outcomes are occurring among unvaccinated people. The Delta variant is much more contagious than other SARS-CoV2 viruses that have circulated in Canada; it spreads faster and increases risk of hospitalizations. SARS-CoV2 is known to be more transmissible in indoor crowded spaces, including workplaces.

<sup>1</sup> News release: <https://www.newswire.ca/news-releases/government-of-canada-to-require-vaccination-of-federal-workforce-and-federally-regulated-transportation-sector-818056331.html>

<sup>2</sup> [From risk to resilience: An equity approach to COVID-19 – The Chief Public Health Officer of Canada’s Report on the State of Public Health in Canada 2020 - Canada.ca](https://www.canada.ca/content/conceptual/2021/08/17/from-risk-to-resilience-an-equity-approach-to-covid-19-the-chief-public-health-officer-of-canada-s-report-on-the-state-of-public-health-in-canada-2020-canada.ca)

<sup>3</sup> <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/covid-19-vaccines>

- Most recent modelling and forecasting studies indicate that with the current vaccination coverage levels, although very good, the health care capacity could be exceeded during this wave. To minimize this possibility, 80% or more of all eligible age groups would need to be fully vaccinated. However, overall 2-dose coverage for the eligible general population in Canada is 71.3% and much lower in the younger age groups (51% in the 18-29 year olds) as of mid-August 2021. Increasing the coverage rate in the 18 to 39 year old group is a priority, as they are the group with the most cases at this time. However, a strong resurgence of cases may not necessarily be associated with a sharp increase in hospitalizations given high Canadian vaccine coverage in older age groups (who are more likely to be hospitalized compared to younger age groups).
- COVID-19 vaccines are very effective (including against the Delta variant) the benefits outweigh any safety risks. It is strongly recommended that all eligible Canadians receive a full course of vaccines as soon as possible. Before we had vaccines, public health measures that were implemented to “flatten the curves” were effective to preserve hospital capacity and save lives, but with some important limits. Closings and physical distancing have major impacts on other health issues, children, the economy and societal functioning and are not sustainable in the long term. Vaccines are a critical tool to resume societal functioning and achieve widespread immunity in a safe way. Indeed, once the vaccination campaign started for priority groups, deaths and severe outcomes in the most vulnerable, including the elderly, have sharply declined.
- Vaccine uptake has plateaued and other countries are facing this challenge. To stimulate uptake, an increasing number of countries as well as provinces and territories are implementing or contemplating vaccine mandates or passports for specific sectors. The impact of these policies on vaccine uptake will be better known as they roll out.
- For non COVID-19 vaccines, vaccine mandates exist and they can be effective to increase uptake. This strategy is mostly effective for individuals that are complacent or not prioritizing vaccination in their day to day life. Other strategies that are more dialogue based are effective to motivate vaccine hesitant individuals. Combinations of strategies are most effective to optimize uptake.
- While COVID-19 vaccines are very effective, particularly against severe outcomes, no vaccine works perfectly, and there is a percentage of the population who are vaccinated that will become infected. The currently available vaccines are somewhat less effective against infection and symptomatic disease for the Delta variant compared to the ancestral and Alpha strains. Therefore, until widespread immunity is attained in the Canadian population, some additional public health measures such as masking and reductions in contacts will still be needed at times, especially in crowded indoor settings. These measures are also needed to protect people who do not respond as well to vaccines, have contraindications and cannot receive them or who are not vaccinated. These considerations are likely to have implications for occupational health.

Epidemiology (strong level of evidence unless indicated otherwise)

- The fourth wave of COVID-19 has started in Canada and it will be different than previous waves because it is occurring in the context of the significant uptake in vaccination. While incidence rates remain low after the end of the third wave, rates are starting to increase in British Columbia, Alberta, Saskatchewan, Ontario, Quebec, and New Brunswick, following the relaxation of public health measures. Incidence is highest, and increasing most rapidly, in the 20-39 years age group,

which constitute an important proportion of the workforce. The  $R_t$  in Canada is now above 1.0, indicating that transmission will continue to increase in the following weeks<sup>4</sup>.

- The B.1.617.2 (Delta) variant is now well established in Canada and will likely be the dominant strain of the fourth wave. Most recent modelling and forecasting studies indicate that with the current vaccination coverage levels, and predicted increases in contacts as reopening continues, the health care capacity could be exceeded<sup>5</sup> (medium level of evidence). This highlights the importance of continuing efforts to increase vaccine uptake in Canada, with at least 80% of the all eligible age groups fully vaccinated, given that the Delta variant is much more contagious than previous strains/variants circulating in Canada and a complete two-dose series of COVID-19 vaccine provides substantial protection against the variant<sup>28</sup>.
- The majority of SARS-CoV-2 cases in Canada are in unvaccinated people. Since December 14, 2020, when the vaccination program began, 89.4% (n=554,523) of all cases were unvaccinated; An additional 5.4% (n=32,845) were cases not yet protected from vaccination (within 14 days from the first dose) and 4.7% (n=29,279) were partially vaccinated. Only 0.6% (n=3,457) of cases were fully vaccinated. Among unvaccinated cases 10.7% (n=55,706) were asymptomatic, while 14.9% (n=4,041) of partially vaccinated cases were asymptomatic and 28.1% (n=891) of fully vaccinated cases were asymptomatic<sup>6</sup>.
- Being unvaccinated has become an important risk factor for hospitalization. Since May 1, 2021 the COVID-19 hospitalization rates among unvaccinated populations are considerably higher than the hospitalization rates for both partially and fully vaccinated populations (see Figure 1 in the Annex)
- Although mortality rates are currently low for all populations, mortality rates in unvaccinated populations are higher than those that are partially and fully vaccinated.

Delta variant (strong level of evidence)

- Genetic variations of viruses are common and expected. A variant of concern or VOC may be more contagious, cause more severe illness or impact tests, treatments or vaccines<sup>7</sup>.

<sup>4</sup> <https://health-infobase.canada.ca/covid-19/epidemiological-summary-covid-19-cases.html>

<sup>5</sup> <https://www.canada.ca/content/dam/phac-aspc/documents/services/diseases-maladies/coronavirus-disease-covid-19/epidemiological-economic-research-data/update-covid-19-canada-epidemiology-modelling-20210730-en.pdf>

<sup>6</sup> <https://health-infobase.canada.ca/covid-19/epidemiological-summary-covid-19-cases.html#a9>

<sup>7</sup> <https://www.who.int/en/activities/tracking-SARS-CoV-2-variants/> (consulted August 12<sup>th</sup>)



- Four Variants of Concern (VOCs) have been detected in Canada, the Delta variant is the most contagious variant observed to date, spreading an estimated 50% faster than the Alpha variant<sup>8 9 10</sup>
- The number of cases with the Delta variant has increased more than 6-fold from early June to mid-July and is the main strain detected in most affected provinces and territories. Unvaccinated cases of Delta are over two times more likely to be hospitalized compared to unvaccinated Alpha cases<sup>11</sup>.
- A higher proportion of partially and fully vaccinated cases with Delta are hospitalized compared to other VOCs and non-VOCs (see Figure 2 in the Annex).
- Presently, those who are unvaccinated are at greatest risk of infection and severe outcomes. Spread in areas with low vaccination coverage presents an ongoing risk for emergence of, and replacement by, new variants.

Vaccine coverage (strong evidence unless indicated otherwise)

- Overall 2-dose coverage for the eligible general population in Canada is 71.3%<sup>12</sup>, although lower coverage is observed for 18-29 year olds (51.3%)<sup>13</sup>
- To minimize the impact of the fourth wave driven by Delta variant, modelling indicates that over 80% of all eligible age groups need to be fully vaccinated. Increasing the 2-dose coverage rate at 80% in the 18-39 year olds is of particular relevance to achieve this objective (medium level evidence based on modelling).
- COVID-19 vaccination coverage throughout the Federal Public Service is currently unknown but knowledge of some key sociodemographic characteristics such as geographical location and age group<sup>14</sup> permit inferences for vaccination coverage. For example, the average age for a Federal Public Service employee is just over 43 years old and 2-dose coverage for this particular age group in the general Canadian population is 67.5%. Furthermore, only 8% of Federal Public Service employees are in the age group (60-69 year olds) for which 2-dose coverage (83.5%) is the highest. In conclusion, 2-dose coverage for Federal Public Service employees could range from 51.3% to 73.1%, however this group may differ from the general population in some demographic characteristics such as income, education level or gender distribution that are associated with higher levels of vaccination.

<sup>8</sup>[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/993879/Variants\\_of\\_Concern\\_VOC\\_Technical\\_Briefing\\_15.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/993879/Variants_of_Concern_VOC_Technical_Briefing_15.pdf)

<sup>9</sup>[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1001359/Variants\\_of\\_Concern\\_VOC\\_Technical\\_Briefing\\_16.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1001359/Variants_of_Concern_VOC_Technical_Briefing_16.pdf)

<sup>10</sup> <https://www.gov.uk/government/publications/investigation-of-sars-cov-2-variants-of-concern-variant-risk-assessments>

<sup>11</sup> Detailed case information received by PHAC from provinces and territories

<sup>12</sup> Little, N. (2021) [COVID-19 Tracker Canada](#); Saskatchewan PHU; Statistic Canada – Population estimates 2021,

<sup>13</sup> [COVID-19 vaccination coverage in Canada - Canada.ca](#) (Table 2, consulted August 12)

<sup>14</sup> <https://www.tbs-sct.gc.ca/ems-sgd/edb-bdd/index-eng.html#orgs/gov/gov/infograph/people>

## Vaccine Science

NACI and Health Canada (HC) have different roles when it comes to vaccines. HC, as Canada's regulator, evaluates data from clinical trials, determining if the vaccine is safe and efficacious and if it should be authorized for use in Canada. Authorization is based on specific schedules and conditions that took place in clinical trials, as submitted by the manufacturer. HC does not dictate the practice of medicine or make recommendations on how vaccines should be used in different age groups and sub-populations for Public Health impact.

When developing recommendations, NACI assesses how to use vaccine for greatest benefit. To inform its recommendations, NACI reviews the most up-to-date data from clinical trials and real world use; COVID-19 epidemiology and risks for population subgroups; vaccine supply in Canada; ethical and equity considerations. It is not uncommon for NACI to provide recommendations that are broader/narrower than the conditions of use approved by HC regulator. NACI's guidance is advisory in nature - immunization program planning and delivery is a provincial/territorial (PT) responsibility and is based on their unique needs and circumstances, including public health considerations, local epidemiology, healthcare system capacity and vaccine management logistics.

Based on its review, NACI strongly recommends that all eligible Canadians be vaccinated with a full series of a COVID-19 vaccine, with a preference for the mRNA vaccines<sup>15</sup>. The PHAC has continuously recommended that all eligible Canadians be vaccinated as soon as possible as vaccination is a key measure to protect themselves and their communities from the consequences of COVID-19 and to increase opportunities to return to a more normal situation, including easing of measures put in place to limit transmission, increasing social contacts, and resumption of economic activity<sup>16</sup>.

## Vaccine efficacy and effectiveness

Evidence indicates that vaccines are very effective at preventing severe illness, hospitalization and death from COVID-19, including against Alpha and Delta variants of concern. Recent reports in Canada indicate that less than 1% of those who were fully vaccinated have become sick with COVID-19. In addition, people who are fully vaccinated with a COVID-19 vaccine are less likely to have symptomatic COVID-19 disease or asymptomatic SARS-CoV-2 infection compared to unvaccinated individuals. mRNA vaccines (Pfizer-BioNTech and Moderna) appear to have higher vaccine effectiveness against symptomatic COVID-19 and asymptomatic SARS-CoV-2 infection than viral vector vaccines (AstraZeneca).

## COVID-19 vaccines have high efficacy (strong evidence)

- In clinical trials, the estimated efficacy against symptomatic illness after a complete vaccine series was:

<sup>15</sup> <https://www.canada.ca/en/public-health/services/immunization/national-advisory-committee-on-immunization-naci/recommendations-use-covid-19-vaccines.html>

<sup>16</sup> <https://www.canada.ca/en/public-health/services/diseases/2019-novel-coronavirus-infection/awareness-resources/vaccinated-against-covid-19-public-health-measures.html>

- 94% with Pfizer-BioNTech in individuals 16 years of age and older and 95% in individuals 65 years of age and older<sup>17,18</sup>;
- 94% with Moderna in individuals 18 years of age and older and 86% in individuals 65 years of age and older<sup>19</sup>; and
- 62% with AstraZeneca in individuals 18-64 years of age<sup>20</sup>.

COVID-19 vaccines have high effectiveness (strong evidence unless indicated otherwise)

- In field studies, complete series of vaccines authorized in Canada have shown that they were 66% to 97% effective at preventing symptomatic infections, hospitalizations and deaths. The effectiveness of mRNA vaccines, which have been mostly used in Canada, is generally in the higher levels of that bracket (see Table 1 in Annex for details).
- Provincial data for health care workers in Québec showed that mRNA vaccines were 94.2% effective against symptomatic disease after 2 doses and 97.9% effective against hospitalization after one dose. The two dose hospitalization vaccine effectiveness is not able to be estimated as there were no hospitalizations after the 2<sup>nd</sup> dose. The effectiveness was reduced by about 15% for variants of concerns (90% Alpha at the time of the study)<sup>21</sup>.
- Some people with severe chronic conditions, particularly severe immunosuppression and end stage kidney disease appear to have a reduced immune response to the currently available vaccines<sup>22,23</sup>. A third dose may overcome the lack of response in some but not all of these individuals. Other measures are also needed to protect them including in the workplace<sup>24</sup> (medium to strong evidence). Some guidance has also been issued for people with other chronic conditions (ex: cardiovascular, pulmonary, diabetes) in the workplace that do not rely solely on vaccination status as it is deemed insufficient for appropriate protection by some experts<sup>25</sup>. It is likely that people who do not respond as well to COVID-19 vaccines, cannot be vaccinated because of a contraindication or have high risk of complications from COVID-19 would benefit from reducing their exposure to unvaccinated individuals in the workplace, or in other words, from working in a setting with a very high vaccine coverage rate.
- COVID-19 variants are expected to continue to evolve and there is a possibility that an emerging strain could evade immunity conferred by currently available vaccines. PHAC continues to actively

<sup>17</sup> Polack FP, Thomas SJ, Kitchin N, Absalon J, Gurtman A, Lockhart S et al. Safety and efficacy of the BNT162b2 mRNA Covid-19 Vaccine. *N Engl J Med*. 2020 Dec 31;383(27):2603,2615. doi: 10.1056/NEJMoa2034577.

<sup>18</sup> Frenck RW, Klein NP, Kitchin N, Gurtman A, Absalon J, Lockhart S et al. Safety, immunogenicity, and efficacy of the BNT162b2 Covid-19 Vaccine in adolescents. *N Engl J Med*. 2021 May 27. doi: 10.1056/NEJMoa2107456.

<sup>19</sup> Moderna. Vaccines and Related Biological Products Advisory Committee Meeting December 17, 2020. FDA Briefing Document. Moderna COVID-19 Vaccine [Internet].; 2020 Dec [cited 2020 Dec 23]. <https://www.fda.gov/media/144434/download>.

<sup>20</sup> Voysey M, Clemens SAC, Madhi SA, Weckx LY, Folegatti PM, Aley PK et al. Safety and efficacy of the ChAdOx1 nCoV-19 vaccine (AZD1222) against SARS-CoV-2: an interim analysis of four randomised controlled trials in Brazil, South Africa, and the UK. *Lancet*. 2021 Jan 9;397(10269):99,111. doi: 10.1016/S0140-6736(20)32661-1.

<sup>21</sup> <https://www.inspq.qc.ca/publications/3145-efficacite-vaccin-covid-19-travailleurs-sante>

<sup>22</sup> Chodick et al. *Clinical Infectious Diseases*, ciab438, <https://doi.org/10.1093/cid/ciab438>

<sup>23</sup> Khan et al. *Gastroenterology* (2021). [https://www.gastrojournal.org/article/S0016-5085\(21\)03066-3/pdf](https://www.gastrojournal.org/article/S0016-5085(21)03066-3/pdf)

<sup>24</sup> <https://www.inspq.qc.ca/publications/2914-protection-travailleurs-immunosupprimees-covid19>

<sup>25</sup> <https://www.inspq.qc.ca/publications/2967-protection-travailleurs-maladies-chroniques-covid-19>

monitor the evolution of variants, and evaluates key attributes such as ability for immune or vaccine escape.

Vaccines are effective against the Delta variant (medium level of evidence):

- Two doses of both mRNA COVID-19 vaccines are highly effective in preventing Delta hospitalization and death (over 90%), but vaccine effectiveness was lower against symptomatic disease/asymptomatic infection than against severe outcomes. When vaccine effectiveness against the Delta variant of two doses of Pfizer-BioNTech and Moderna was compared, it was generally lower for Pfizer-BioNTech than Moderna for both symptomatic disease/asymptomatic infection and severe disease, but more notably for symptomatic disease/asymptomatic infection. Two-dose vaccine effectiveness against symptomatic disease/asymptomatic infection for AstraZeneca against Delta is generally lower than for mRNA vaccines, but protection against severe disease was high. One-dose Delta vaccine effectiveness for all vaccines was substantially lower than two-dose vaccine effectiveness against symptomatic disease/asymptomatic infection, but one dose vaccine effectiveness was higher against severe disease than against symptomatic disease/asymptomatic infection.<sup>26 27 28 29 30 31 32</sup>
- A Canadian study showed that vaccine effectiveness against symptomatic infection caused by Delta after the first dose was higher for Moderna (72%) than Pfizer (56%) and AstraZeneca (67%). Data also showed that a second dose increased vaccine effectiveness for all three products: Moderna (100%), Pfizer (87%) and AstraZeneca (100%).<sup>33</sup>

Vaccines have significantly reduced outbreaks

Prior to vaccination rollout, there were high numbers of outbreaks in all settings (acute care, long-term care, workplaces, etc.). The number of outbreaks in Canada decreased from January to February 2021; however, it was followed by an increase from March to April 2021 probably associated with reopening and transition to a dominance of the more contagious Alpha variant in many parts of Canada. The initial phase of the vaccination campaign prioritized residents of long term care facilities followed by the elderly in strata of decreasing age across the country. The impact of vaccination on the frequency of outbreaks in dwellings for the elderly, and the reduction of death rates and hospitalizations has been striking compared to the impact of other tools used prior to vaccination (mostly relying on closures and

<sup>26</sup> Tang P, Rubayet Hasan M, Hiam Chemaitelly H et al. BNT162b2 and mRNA-1273 COVID-19 vaccine effectiveness against the Delta (B.1.617.2) variant in Qatar. medRxiv 2021.08.11.21261885; doi: <https://doi.org/10.1101/2021.08.11.21261885>

<sup>27</sup> Stowe et al., 2021 pre-print

<sup>28</sup> Lopez Bernal J, Andrews N, Gower C, et al. Effectiveness of Covid-19 Vaccines against the B.1.617.2 (Delta) Variant. *N Engl J Med*. July 2021;NEJMoa2108891. doi:10.1056/NEJMoa210889

<sup>29</sup> Sheikh A, McMenamin J, Taylor B, Robertson C. SARS-CoV-2 Delta VOC in Scotland: demographics, risk of hospital admission, and vaccine effectiveness. *Lancet*. June 2021. doi:10.1016/S0140-6736(21)01358-1

<sup>30</sup> Public Health England (PHE) press release. Vaccines highly effective against hospitalisation from Delta variant. Available at: <https://www.gov.uk/government/news/vaccines-highly-effective-against-hospitalisation-from-delta-variant>

<sup>31</sup> Israel Ministry of Health press release. Data Compiled by the Vaccine Operation's Supervising Committee Published 22 July 2021. Available at: <https://www.gov.il/en/departments/news/22072021-03>.

<sup>32</sup> Puranik A, Lenehan PJ, Eli Silvert E, Niesen MJM, Corchado-Garcia J, O'Horo JC, Virk A, Swift MD, Halamka J, Badley AD, Venkatakrishnan AJ, Soundararajan V. Comparison of two highly-effective mRNA vaccines for COVID-19 during periods of Alpha and Delta variant prevalence. medRxiv. 2021.08.06.21261707

<sup>33</sup> Nasreen S, He S, Chung H et al. Effectiveness of COVID-19 vaccines against variants of concern, Canada. July 16, 2021. medRxiv. Preprint available: <https://www.medrxiv.org/content/10.1101/2021.06.28.21259420v2>

physical distancing)<sup>34</sup>. Similar outcomes have been reported in other countries with comparable vaccine priority roll out, for example, the United Kingdom. Since May 2021, the number of outbreaks has steadily decreased in Canada. Although vaccination status is not available for all cases linked to outbreaks, the decreasing trend in number of outbreaks appears to align with increased vaccination coverage in the population<sup>35</sup> (medium level of evidence). Workplaces have been a frequent setting for outbreaks, mostly in settings where physical distancing was difficult, working remotely not possible and public health measures challenging to implement. Several workplace settings have succeeded in minimizing transmission with proper infection control measures in place<sup>36</sup>.

Transmission of COVID-19 is reduced by vaccines (medium or weak level of evidence)

COVID-19 vaccines prevent transmission in two ways – by decreasing infection and then potentially by decreasing transmission from vaccinated individuals who become infected. Vaccine effectiveness described above indicate that extent to which infection is prevented. Three studies have demonstrated that infected individuals who are vaccinated are less infectious to their household contacts than unvaccinated individuals (30% lower risk of transmission by vaccinated health care workers to their household contacts in Shah et al.<sup>37</sup>, approximately 40-50% lower risk of spread in Harris et al. where most individuals received only one dose of Pfizer-BioNTech or AstraZeneca,<sup>38</sup> and 58 to 88% lower risk in de Gier et al. where a full course of Pfizer-BioNTech, Moderna, AstraZeneca or Janssen were used in de Gier et al.<sup>39</sup>). These studies were however done prior to the circulation of the Delta variant. Emerging evidence for the Delta variant points to the possibility of high viral loads in some breakthrough cases in fully vaccinated people which can be as high as in unvaccinated people. Preliminary data from the U.S. Centers for Disease Control and Prevention<sup>40</sup>, and from Public Health England<sup>41</sup> indicate that levels of virus in fully vaccinated people who become infected with Delta may be similar high compared to levels found in unvaccinated people, and therefore infected vaccinated people may be as likely to transmit the virus as infected unvaccinated people. However, further studies are needed to confirm levels of infectiousness and also the extent of vaccine effectiveness against Delta, which at present appears to be only slightly less than for other variants such as Alpha.

<sup>34</sup> <https://www.canada.ca/content/dam/phac-aspc/documents/services/diseases-maladies/coronavirus-disease-covid-19/epidemiological-economic-research-data/update-covid-19-canada-epidemiology-modelling-20210326-en.pdf>.

<sup>35</sup> Canadian COVID-19 Outbreak Surveillance System (CCOSS) for BC, AB, MB, ON, QC, NS, PE and public information sources for YT, NT, NU, SK, NL, NB)

<sup>36</sup> <https://www.inspq.qc.ca/covid-19/sante-au-travail/eclosions-travail>

<sup>37</sup> V Shah AS, Gribben C, Bishop J, Hanlon P, Caldwell D, Wood R, and others. Effect of vaccination on transmission of COVID-19: an observational study in healthcare workers and their households. medRxiv. 2021:2021.03.11.21253275

<sup>38</sup> Harris RJ, Hall JA, Zaidi A, Andrews NJ, Dunbar JK, Dabrera G. Impact of vaccination on household transmission of SARS-CoV-2 in England Public Health England; 2021

<sup>39</sup> de Gier B et al. Vaccine effectiveness against SARS-CoV-2 transmission and infections among household and other close contacts of confirmed cases, the Netherlands, February to May 2021. Euro Surveill. 2021;26(31):pii=2100640. <https://doi.org/10.2807/1560-7917.ES.2021.26.31.2100640>

<sup>40</sup> <https://www.cdc.gov/mmwr/volumes/70/wr/mm7031e2.htm>

<sup>41</sup> [SARS-CoV-2 variants of concern and variants under investigation \(publishing.service.gov.uk\)](https://www.gov.uk/government/news/sars-cov-2-variants-of-concern-and-variants-under-investigation)

Benefits of the COVID-19 Vaccines largely outweigh their risk (strong level of evidence)

- Canada’s independent drug authorization process is known around the world for its high standards and rigorous review process. Decisions are based on scientific and medical evidence. Vaccines authorized for use in Canada meet rigorous safety criteria and are of high quality.
- Once a vaccine is in use, Canada has a comprehensive safety monitoring system (i.e., post-market surveillance), enabling quick identification of vaccination safety issues and change in recommendations as needed. For example, NACI quickly adjusted the recommendations for the AstraZeneca vaccine when rare thrombotic events were detected. As of August 6, 2021, a total of 50,254,577 vaccine doses had been administered in Canada, with adverse events (side effects) reported by 12,006 people. That’s about 2 people out of every 10,000 people vaccinated who have reported 1 or more adverse events. Most adverse events are mild and include soreness at the site of injection or a slight fever. Of the 12,006 individual reports, 8,943 were considered non-serious (0.018% of all doses administered) and 3,063 were considered serious (0.006% of all doses administered). These adverse events aren’t necessarily related to the vaccine<sup>42</sup>. It is important to note that the benefits of COVID-19 vaccination continue to substantially outweigh the risks.
- Contraindications to COVID-19 are infrequent (e.g. severe allergy to vaccine components) - (strong level of evidence). NACI has also recommended that as precaution, patients who experienced myocarditis and/or pericarditis following first dose of mRNA should defer second dose until more information is available.

## Strategies to improve vaccine coverage and vaccine mandates

Vaccine mandates can be effective to increase vaccine coverage (medium to strong level of evidence)

- Vaccine requirements in day cares, schools and colleges/universities can increase vaccine coverage by a mean of 18% according to a systematic review<sup>43</sup>. However, the effectiveness of these requirements is impacted by the ease of obtaining exemptions and the consistency of the enforcement (strong level of evidence) and is less clear when the baseline immunization rate is already high<sup>44</sup>. These policies generally have exemptions and don’t require exclusion of the unvaccinated unless there is an outbreak. Ontario, New-Brunswick and British-Columbia have legislation and policies about childhood (non COVID-19) vaccine requirements in daycare or school settings. There is not a clear association between higher coverage rates in children across the various PTs and these vaccine requirements in Canada<sup>45</sup>. Although experience with school or child care vaccination requirements may be extrapolated to workplace settings in the context of COVID-19, at this time there is limited evidence about the effectiveness of these policies to increase uptake in the workplace.

<sup>42</sup> <https://health-infobase.canada.ca/covid-19/vaccine-safety/> (consulted August 11 2021)

<sup>43</sup> Vaccination: School, College Requirements | The Community Guide (consulted August 11<sup>th</sup>)

<sup>44</sup> <https://www.annualreviews.org/doi/10.1146/annurev-publhealth-090419-102240# i7> (consulted August 11<sup>th</sup>)

<sup>45</sup> [https://www.canada.ca/en/public-health/services/publications/healthy-living/2017-vaccine-uptake-canadian-children-survey.html# Children\\_aged\\_seven](https://www.canada.ca/en/public-health/services/publications/healthy-living/2017-vaccine-uptake-canadian-children-survey.html# Children_aged_seven) (consulted August 11<sup>th</sup>)

- In Québec, a policy for health care workers implemented in some sectors of the health care system requiring vaccination or regular testing has been associated with a rise in vaccine coverage from 50% to 90% for the first dose of COVID-19 vaccines (weak to medium evidence)<sup>46</sup>. British-Columbia has also mandated COVID-19 vaccination for workers of long term care facilities very recently, the impact of these measures will be known in the future.
- Several countries have recently implemented COVID-19 vaccination mandates, either for targeted sectors (HCW, border agents, quarantine officers – New Zealand, Australia, Italy, France and England), vaccine passports for cultural events and various services (France, Israel), or for government employees (United States federal employees, New York and California). France and Québec officials have publicly reported an increase in first dose appointment bookings following announcements of their new policies. The effectiveness of these strategies will be better known as jurisdictions implement and evaluate their policies.
- The scientifically supported approach towards medical exemptions used for travellers entering Canada is to allow exemptions for medical contraindications as per the product monographs of the vaccines authorized for use by Health Canada. The exemptions must be justified in a letter by a licensed physician<sup>47</sup>. Various religious leaders are supportive of COVID-19 immunizations. Exemptions based on religious beliefs do not have a scientific evidence basis. Alignment of the federal workplace policy with the OIC requirements would be very beneficial in terms of consistent messaging and operational considerations.
- Vaccine requirements which do not address underlying reasons for the vaccine hesitancy have the potential to increase vaccine resistance<sup>48</sup>. For COVID-19 vaccines, strong resisters among the general public make up 6-9% of the population. Research has shown that interventions that decrease the freedom of choice can result in reactance<sup>49,50</sup>. Therefore vaccines as a mandatory requirement could entrench some individuals who are hesitant/resistant. A recent study has also shown that effective communications around herd immunity can overcome some of the reactance elicited by mandates<sup>51</sup>.

Other strategies are also effective and needed to increase uptake

- Several measures in addition to vaccine requirements are effective at increasing vaccine uptake (with strong levels of evidence); for example reduced cost, increased access, recalls, home visits, school based clinics, etc.<sup>52</sup>.

<sup>46</sup> <https://www.inspq.qc.ca/covid-19/donnees/vaccination> (Figure 2.2 consulted August 11th)

<sup>47</sup> Updated OIC for Quarantine act once published in the Gazette

<sup>48</sup> <https://www.sciencedirect.com/science/article/pii/S0264410X1831171X?via%3Dihub> (consulted August 11th)

<sup>49</sup> Cornelia Betsch, Robert Böhm, Detrimental effects of introducing partial compulsory vaccination: experimental evidence, *European Journal of Public Health*, Volume 26, Issue 3, June 2016, Pages 378–381, <https://doi.org/10.1093/eurpub/ckv154>

<sup>50</sup> Sprengholz P, Betsch C, Böhm R. Reactance revisited: Consequences of mandatory and scarce vaccination in the case of COVID-19. *Appl Psychol Health Well Being*. 2021 May 25;10.1111/aphw.12285. doi: 10.1111/aphw.12285. Epub ahead of print. PMID: 34032388; PMCID: PMC8239828.

<sup>51</sup> Philipp Sprengholz, Cornelia Betsch. (May 2020) Herd immunity communication counters detrimental effects of selective vaccination mandates: Experimental evidence, *Eclinical Medicine*, <https://doi.org/10.1016/j.eclinm.2020.100352>.

<sup>52</sup> [Vaccination Findings Summary Table | The Community Guide](#) (consulted August 11th)

- Vaccine hesitancy is a complex issue influenced by multiple factors, which can vary from one person to the next (strong level of evidence)<sup>53</sup>.
- Strategies proven effective to reduce vaccine hesitancy include social mobilisation, mass media or social media interventions, communication tool-based training for HCW, non-financial incentives, and reminder-recall activities (medium level of evidence)<sup>54</sup>, and motivational interviewing (strong level of evidence)<sup>55</sup>.

Public health measures will continue to be useful and needed as population immunity progresses (medium level of evidence)

Public health measures (PHM) and vaccinations reduce the impact of the pandemic through two distinct mechanisms:

- **PHMs:** Decrease the effective transmission rates in the population
- **Vaccines:** Increase the number of people who are non-susceptible to infection or to severe outcomes of infection in the population; may also decrease transmission.

The COVID-19 pandemic has caused significant societal and economic disruption in Canada due to illnesses and deaths, burden on healthcare resources, and widespread implementation of individual and community-based PHMs. The response to the pandemic has been strengthened by the widespread availability and uptake of COVID-19 vaccines, but some individual and community-level precautions should be exercised. Specifically, it will be important to remain diligent around adjusting PHMs, as there are still uncertainties due to:

- The emergence of more transmissible VOCs that are causing surges in cases globally;
- The potential for immune escape, particularly associated with VOCs;
- Community outbreaks in vulnerable populations; and
- Segments of the population that remain unvaccinated because they are either not eligible (e.g., medical contraindications, age limits) or they choose not to be vaccinated<sup>56</sup>.

Overall, vaccines, when paired with other measures such as wearing masks, handwashing, ensuring good ventilation indoors, physically distancing and avoiding crowds, can protect the health and wellbeing of Federal Public Service employees.

<sup>53</sup> <https://www.annualreviews.org/doi/10.1146/annurev-publhealth-090419-102240# i7> (consulted August 11<sup>th</sup>)

<sup>54</sup> [https://www.who.int/immunization/sage/meetings/2014/october/3\\_SAGE\\_WG\\_Strategies\\_addressing\\_vaccine\\_hesitancy\\_2014.pdf](https://www.who.int/immunization/sage/meetings/2014/october/3_SAGE_WG_Strategies_addressing_vaccine_hesitancy_2014.pdf) (consulted August 11<sup>th</sup>)

<sup>55</sup> <https://www.canada.ca/en/public-health/services/reports-publications/canada-communicable-disease-report-ccdr/monthly-issue/2020-46/issue-4-april-2-2020/article-6-canvax-addressing-vaccine-hesitancy.html> (consulted August 11<sup>th</sup>)

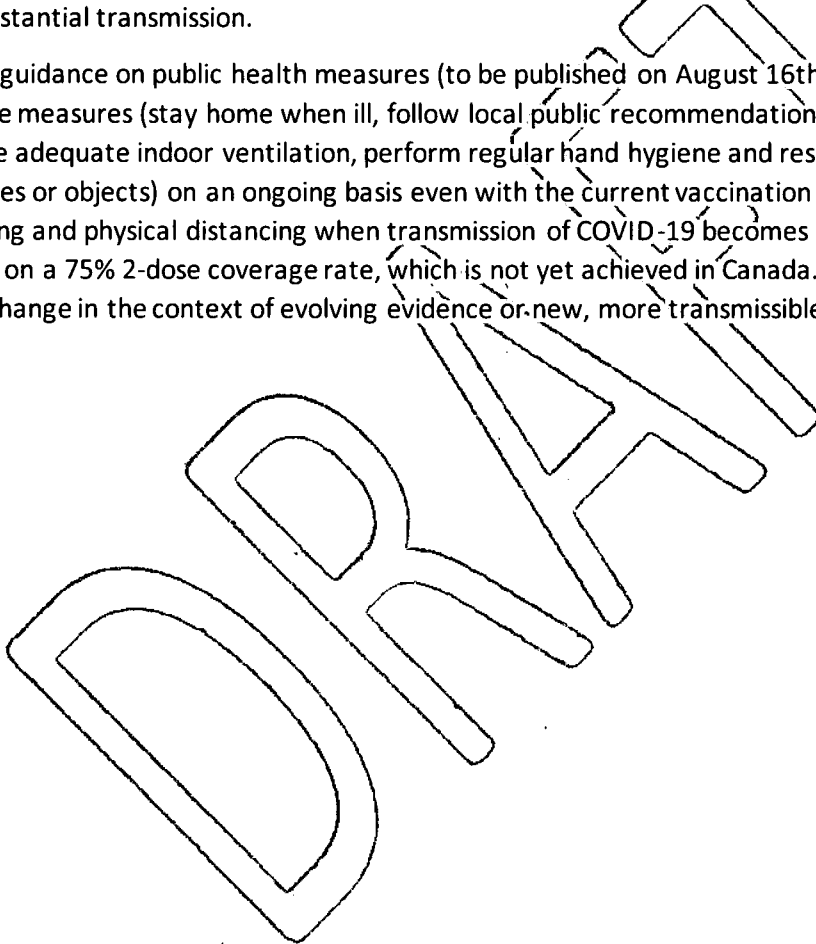
<sup>56</sup> Public Health Agency of Canada. *Adjusting Public Health Measures in the context of COVID-19 vaccination*. August 2021. [online] Available from: ([Adjusting public health measures in the context of COVID-19 vaccination - Canada.ca](https://www.canada.ca/en/public-health/services/reports-publications/canada-communicable-disease-report-ccdr/monthly-issue/2020-46/issue-4-april-2-2020/article-6-canvax-addressing-vaccine-hesitancy.html))



Modelling from Canada, the UK, and the US<sup>57,58,59</sup> all suggest that additional measures are still required as vaccine rollout takes place to prevent the spread of SARS-CoV-2; however the rate of severe cases and hospitalizations are expected to decrease as vaccine uptake increases. Additional evidence is expected on these topics as vaccine roll out progresses around the world and reopening continues.

As an example of the potential need to complement vaccination with other measures, following the Delta variant outbreak investigation in a highly vaccinated population (Massachusetts), the CDC revised its masking guidance for vaccinated individuals on July 27 to recommend indoor masking in areas of high or substantial transmission.

PHAC guidance on public health measures (to be published on August 16th), also recommends the use of core measures (stay home when ill, follow local public recommendations on isolation and testing, ensure adequate indoor ventilation, perform regular hand hygiene and respiratory etiquette and clean surfaces or objects) on an ongoing basis even with the current vaccination rates, and the addition of masking and physical distancing when transmission of COVID-19 becomes important. This guidance is based on a 75% 2-dose coverage rate, which is not yet achieved in Canada. These recommendations may change in the context of evolving evidence or new, more transmissible, variants<sup>60</sup>.




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<sup>57</sup> Patel et al. (1 June 2021) Association of Simulated COVID-19 Vaccination and Nonpharmaceutical Intervention With Infections, Hospitalizations, and Mortality. Available from: <https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2780539>.

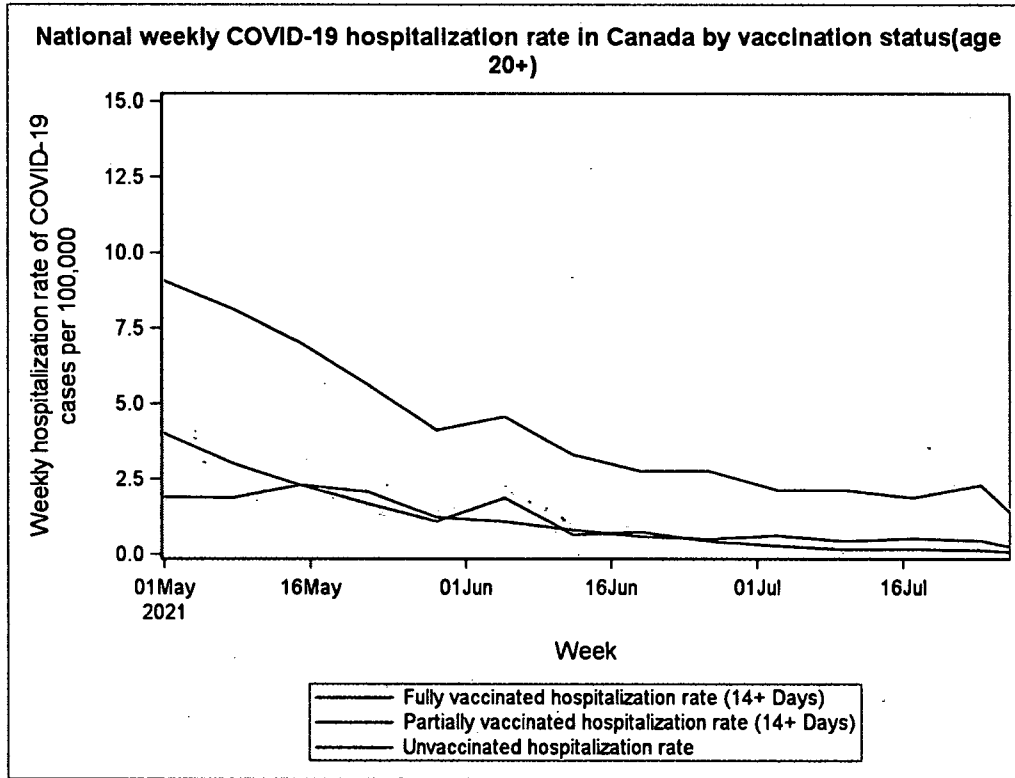
<sup>58</sup> Moore et al. (18 March 2021) Vaccination and non-pharmaceutical interventions for COVID-19: A mathematical modelling study. Available from: [https://www.thelancet.com/journals/laninf/article/PIIS1473-3099\(21\)00143-2/fulltext](https://www.thelancet.com/journals/laninf/article/PIIS1473-3099(21)00143-2/fulltext).

<sup>59</sup> PHAC Internal Modelling Group (8 July 2021) COVID-19: PHAC Modelling Group Report. Available [here](#).

<sup>60</sup> Public Health Agency of Canada. *Adjusting Public Health Measures in the context of COVID-19 vaccination* guidance. August 2021. [Online] Available from: ( HYPERLINK ONCE POSTED )

# Annex

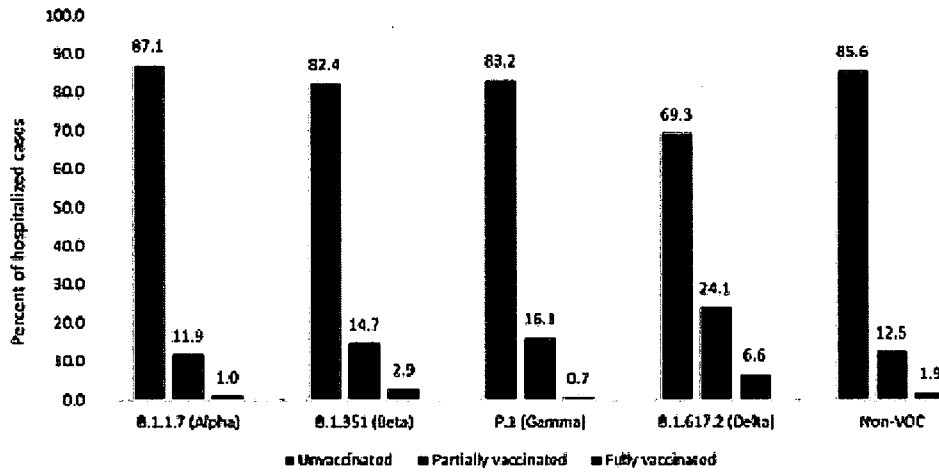
Figure 1 National weekly COVID-19 hospitalization rate in Canada by vaccination status



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Figure 2 Delta cases and vaccination status

**B.1.617.2 (Delta) cases have a higher proportion of partially and fully vaccinated cases that are hospitalized compared to other VOCs and Non-VOCs.**



Data as of August 09<sup>th</sup> 2021 for the period of March 15<sup>th</sup> onward. Includes sequence and screen positive results; excludes cases from QC, SK due to missing vaccination data.

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**Table 1: Available Vaccines-Surveillance information breakdown**

			Vaccine		
			ASTRAZENECA (chimpanzee adenovirus ChAdOx1)	PFIZER/BIONTECH	MODERNA
Vaccine EFFECTIVE- NESS	Infection (symptomatic and asymptomatic)	2 dose	66 to 74% <sup>61 62 63 64</sup>	63 to 95% <sup>65 66 67 68 12 14</sup>	90% <sup>27</sup>
	Symptomatic infection	2 dose	66 to 90% <sup>69</sup>	~ 82 to 97% <sup>8 70 71 72 73 74 75</sup>	~ 90 to 95% <sup>76 77 29</sup>
	Transmission	2 dose	54% <sup>78 79 80</sup> reduction in household of vaccinated health care worker	86-92% <sup>15 16 81 82</sup>	90% <sup>23</sup> 2 weeks after second: dose: Pfizer-BioNTech and Moderna vaccine (weekly testing for 13 weeks)
	B.1.617.2 (DELTA) VOC	2 dose	- 60 to ~69.3% <sup>83 84 10</sup> (Symptomatic infection)  - 92% <sup>85</sup> (Hospitalization)	- 39 to 88% <sup>8 9 86 87</sup> (Any infection)  - 75 to 96% <sup>10 11 12</sup> (Hospitalization)	- 76% <sup>88</sup> (Symptomatic infection)  - 81% <sup>12</sup> (Hospitalization)

<sup>61</sup> Pritchard E, Matthews PC, Stoesser N, Eyre DW, Gethings O, Vinta K-D, and others. Impact of vaccination on SARS-CoV-2 cases in the community: a population-based study using the UK's COVID-19 Infection Survey. medRxiv. 2021:2021.04.22.21255913

<sup>62</sup> Hall VJ, Foulkes S, Saei A, Andrews N, Oguti B, Charlett A, and others. Effectiveness of BNT162b2 mRNA vaccine against infection and COVID-19 vaccine coverage in healthcare workers in England, multicentre prospective cohort study (the SIREN study). 2021

<sup>63</sup> Shrotri M, Krutikov M, Palmer T, Giddings R, Azmi B, Subbarao S, and others. Vaccine effectiveness of the first dose of ChAdOx1 nCoV-19 and BNT162b2 against SARS-CoV-2 infection in residents of Long-Term Care Facilities (MVALDI study). medRxiv. 2021:2021.03.26.21254391

<sup>64</sup> Menni C, Klaser K, May A, Polkard L, Capdevila J, Louca P, and others. Vaccine side-effects and SARS-CoV-2 infection after vaccination in users of the COVID Symptom Study app in the UK: a prospective observational study. The Lancet Infectious Diseases. 2021

<sup>65</sup> Emborg H-D, Valentiner-Branth P, Schelde AB, et al. Vaccine effectiveness of the BNT162b2 mRNA COVID-19 vaccine against RT-PCR confirmed SARS-CoV-2 infections, hospitalizations and mortality in prioritized risk groups. medRxiv. January 2021:2021.05.27.21257583. doi:10.1101/2021.05.27.21257583

<sup>66</sup> Chodick G, Tene L, Rotem RS, et al. The effectiveness of the TWO-DOSE BNT162b2 vaccine: analysis of real-world data. Clin Infect Dis. May 2021. doi:10.1093/cid/ciab438

<sup>67</sup> Moustsen-Helms IR, Emborg H-D, Nielsen J, et al. Vaccine effectiveness after 1st and 2nd dose of the BNT162b2 mRNA Covid-19 vaccine in long-term care facility residents and healthcare workers – a Danish cohort study. medRxiv. January 2021:2021.03.08.21252200. doi:10.1101/2021.03.08.21252200

<sup>68</sup> Britton A, Jacobs S, Fika KM, Edens C, et al. Effectiveness of the Pfizer-BioNTech COVID-19 Vaccine Among Residents of Two Skilled Nursing Facilities Experiencing COVID-19 Outbreaks – Connecticut, December 2020–February 2021. MMWR Morb Mortal Wkly Rep. 2021;70(11):396–401. doi:10.15585/mmwr.mm7011e3

<sup>69</sup> Whitaker HJ, Tsang RS, Byford R, et al. Pfizer-BioNTech and Oxford AstraZeneca COVID-19 vaccine effectiveness and immune response among individuals in clinical risk groups. Khub preprint. <https://khub.net/documents/135939561/430986542/RCGP+VE+iskrgroup+paper.pdf/a6b54cd9-419d-9b63-e2bf-5dc796f5a91f>. Published 2021.

<sup>70</sup> Martínez-Baz I, Miquelez A, Casado I, et al. Effectiveness of COVID-19 vaccines in preventing SARS-CoV-2 infection and hospitalization, Navarre, Spain, January to April 2021. Eurosurveillance. 2021;26(21). doi:10.2807/1560-7917.ES.2021.26.21.2100438

<sup>71</sup> Vacunas contra SARS-CoV-2 utilizadas en Chile mantienen altos niveles de efectividad para evitar hospitalización, ingreso a UCI y muerte. 3 August 2021. Available at: <https://www.minsal.cl/vacunas-contr-sars-cov-2-utiliza-den-chile-mantienen-altos-niveles-de-efectividad-para-evitar-hospitalizacion-ingreso-a-uci-y-muerte/>.

<sup>72</sup> Dagan N, Barda N, Kepten E, et al. BNT162b2 mRNA Covid-19 Vaccine in a Nationwide Mass Vaccination Setting. N Engl J Med. February 2021;NEJMoa2101765. doi:10.1056/NEJMoa2101765

<sup>73</sup> Haas EJ, Angulo FJ, McLaughlin JM, et al. 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. Lancet. 2021;397(10287):1819–1829. doi:10.1016/S0140-6736(21)00947-8

<sup>74</sup> Cavanaugh AM, Fortler S, Lewis P, et al. COVID-19 Outbreak Associated with a SARS-CoV-2 R.1 Lineage Variant in a Skilled Nursing Facility After Vaccination Program – Kentucky, March 2021. MMWR Morb Mortal Wkly Rep. 2021;70(17):639–643. doi:10.15585/mmwr.mm7017e2

<sup>75</sup> Tang L, Hjana DR, Gaur AH, et al. Asymptomatic and Symptomatic SARS-CoV-2 Infections After BNT162b2 Vaccination in a Routinely Screened Workforce. JAMA. May 2021. doi:10.1001/jama.2021.6564

<sup>76</sup> Mateo-Urdiales A, Spila Alegiani S, Fabiani M, et al. Risk of SARS-CoV-2 infection and subsequent hospital admission and death at different time intervals since first dose of COVID-19 vaccine administration, Italy, 27 December 2020 to mid-April 2021. Eurosurveillance. 2021;26(25). doi:10.2807/1560-7917.ES.2021.26.25.2100507

<sup>77</sup> Daniel W, Nivet M, Warner J, Podolsky DK. Early Evidence of the Effect of SARS-CoV-2 Vaccine at One Medical Center. N Engl J Med. March 2021;NEJMc2102153. doi:10.1056/NEJMc2102153

<sup>78</sup> V Shah AS, Gröbber C, Bhop J, Hanlon P, Caldwell D, Wood R, and others. Effect of vaccination on transmission of COVID-19: an observational study in healthcare workers and their households. medRxiv. 2021:2021.03.11.21253275

<sup>79</sup> Harris RJ, Hall JA, Zaidi A, Andrews NJ, Dunbar JK, Dabrera G. Impact of vaccination on household transmission of SARS-CoV-2 in England Public Health England; 2021

<sup>80</sup> Voysey M, Costa Clemens SA, Madhi SA, et al. Single-dose administration and the influence of the timing of the booster dose on immunogenicity and efficacy of ChAdOx1 nCoV-19 (AZD1222) vaccine: a pooled analysis of four randomised trials. Lancet. 2021;397(10277):881–891. doi:10.1016/S0140-6736(21)00432-3

<sup>81</sup> Hall VJ, Foulkes S, Saei A, et al. COVID-19 vaccine coverage in health-care workers in England and effectiveness of BNT162b2 mRNA vaccine against infection (SIREN): a prospective, multicentre, cohort study. Lancet. 2021;397(10286):1725–1735.

<sup>82</sup> Thompson MG, Burgess JL, Naleway AL, et al. Interim Estimates of Vaccine Effectiveness of BNT162b2 and mRNA-1273 COVID-19 Vaccines in Preventing SARS-CoV-2 Infection Among Health Care Personnel, First Responders, and Other Essential and Frontline Workers.

<sup>83</sup> Lopez Bernal J, Andrews N, Gower C, et al. Effectiveness of Covid-19 Vaccines against the B.1.617.2 (Delta) Variant. N Engl J Med. July 2021;NEJMoa2108891. doi:10.1056/NEJMoa2108891

<sup>84</sup> Sheikh A, McMenamin J, Taylor B, Robertson C. SARS-CoV-2 Delta VOC in Scotland: demographics, risk of hospital admission, and vaccine effectiveness. Lancet. June 2021. doi:10.1016/S0140-6736(21)01358-1

<sup>85</sup> Public Health England (PHE) press release. Vaccines highly effective against hospitalisation from Delta variant. Available at: <https://www.gov.uk/government/news/vaccines-highly-effective-against-hospitalisation-from-delta-variant>

<sup>86</sup> Israel Ministry of Health press release. Data Compiled by the Vaccine Operation's Supervising Committee Published 22 July 2021. Available at: <https://www.gov.il/en/departments/news/2207-2021-03>.

<sup>87</sup> Israel Ministry of Health press release. Decline in Vaccine Effectiveness Against Infection and Symptomatic Illness. 5 July 2021. Available at: <https://www.gov.il/en/departments/news/05072021-03>.

<sup>88</sup> Arjun Purank, Patrick J. Lenehan, El Silver, Michiel J.M. et al. Comparison of two highly-effective mRNA vaccines for COVID-19 during periods of Alpha and Delta variant prevalence. medRxiv 2021.08.06.21261707; doi: <https://doi.org/10.1101/2021.08.06.21261707>

**Pages 55 to / à 68  
are withheld pursuant to section  
sont retenues en vertu de l'article**

**23**

**of the Access to Information Act  
de la Loi sur l'accès à l'information**

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**BRIEFING NOTE FOR THE CDS**

**COVID-19 VACCINATION REQUIREMENTS FOR THE CAF //  
EXIGENCES DE VACCINATION COVID-19 POUR LES FAC**

Refs: A. TASKORD 002 to Op VECTOR – CAF COVID-19 Immunization Campaign  
B. 3350-1 (CJOC J35/RDIMS #523873) (3 Feb 21)

**ISSUE**

1. The intent of this BN is to provide the CDS with blended advice from medical, for the CAF to meet the strategic objectives of ref A. The advice is guided by the best available scientific and medical evidence with consideration for force health protection, operations, and readiness levels.

**BACKGROUND**

2. Governments around the world are beginning to propose and pilot proof of COVID-19 vaccination programs for travel and domestic privileges. In response, the World Health Organization is expected to deliver a policy position on the ethical, scientific, and technological considerations related to proof of COVID-19 vaccination requirements for international travellers. Nationally, there is mounting pressure on the Government of Canada (GC) to clarify its policy and how it will position itself to address impacts from the international or domestic communities; the extent to which provinces / territories intend to rely on proof of vaccination to reinstate privileges remains unclear.
3. Given the scale of the COVID-19 pandemic, and the higher transmissibility rates of the new variants of the virus, the CAF Surgeon General has indicated that the CAF should aim to achieve an 80% vaccine uptake rate for force health protection. Further, to remain operationally effective the Comd CJOC and Comd CANSOFCOM have recommended (ref B) that COVID-19 vaccination be used as an essential screening requirement for the assignment of CAF personnel to named operations and high readiness positions; and that the requirement for vaccination be periodically re-considered on an op-specific basis with the benefit of medical and advice.
4. Assuming the COVID-19 vaccine intentions of the CAF population are reflective of Canadian society, upwards of 88% of CAF members may be willing to be vaccinated based on recent polling data. That said, it is important to be mindful of previous CAF vaccination campaigns - including the H1N1 vaccine campaign - which yielded lower vaccine uptake rates than projected, and to consider the impacts of a low uptake rate on force health protection, operations, and readiness levels.

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**DISCUSSION**

5. **Options.** During the course of the analysis, the following spectrum of options have been considered:

- a. No formal requirement for vaccination (current approach);
- b. Vaccination as a requirement for deployment/employment on a named domestic or expeditionary operation where an evidence-based risk analysis demonstrates the operational advantage and necessity;
- c. Vaccination as a requirement for all expeditionary and/or domestic operations;
- d. Vaccination as a requirement driven by force readiness levels; and
- e. Vaccination as a requirement to meet Universality of Service (U of S) for all CAF members.

6. **Medical.** The global pursuit of achieving protection from COVID-19 and of mitigating the impacts of the disease through vaccination remains in its early stages. The extent to which these vaccines protect a recipient against serious illness from COVID-19 is unknown. Without sufficient evidence that vaccines eliminate transmission of the virus, PHMs and quarantine protocols will continue to be required.

7. There are four (4) COVID-19 vaccines currently authorized for use in Canada pursuant to an Interim Order Respecting the Importation, Sale and Advertising of Drugs for Use in Relation to COVID-19 - signed by the Minister of Health. Data on the long-term safety and efficacy for each vaccine is not yet available. As the CAF Immunization Campaign continues to roll out, the data and evidence on safety, effectiveness, reduction in infectivity, and duration of immunity for each of the available vaccines will continue to evolve. These variables should be monitored and assessed when considering whether to make COVID-19 vaccination a criteria for deployment / employment.

8. Vaccination is considered a medical intervention. It is the professional, legal, and ethical responsibility of health care providers to ensure that the process of informed consent is followed prior to any medical intervention, including the administration of a vaccine. Informed consent means that the patient must voluntarily affirm their consent must have had the capacity to consent, and that said consent was fully informed. It should be noted that informed consent is an ongoing process, wherein an individual can elect to revoke their consent at any point.

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15. **Communications.** ADM(PA) is currently delivering, and will continue to strengthen, a robust communication plan that strongly encourages CAF members to be vaccinated, informed by and coordinated with the Whole of Government communications approach.

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16. A voluntary approach to COVID-19 vaccination is consistent with the GC public health communications campaigns, and presents the lowest risk in the public environment. This approach, with the intended goal of reaching a CAF COVID-19 vaccine uptake rate of 80%, requires a sustained, scalable communications campaign, including internal public opinion research so as to identify vulnerabilities and address them before they take root.

17. Options centered on mandatory vaccination of CAF members presents challenges in the public environment given ongoing litigation related to previous CAF requirements around Mefloquine. Options short of required vaccination to meet U of S may still be perceived as mandatory given perceived career consequences for those who are hesitant or resistant.

18. Vaccination as a requirement for employment on a named domestic or expeditionary operation would inform the specific messaging required. Should COVID-19 vaccination be a requirement for any type of service in the CAF, a dedicated communications campaign would be required. Key among message considerations would be:

- a. Why the CAF is at greater risk due to operating locations / tasks / living conditions; and
- b. The impact on operational effectiveness from requirements of isolation and quarantine in the event of infection contrasted with any fully vaccinated adversarial force.

19. Regardless of the course of action selected, messaging must remain clear that all eligible CAF members will have the opportunity for COVID-19 vaccination.

**OPTIONS ANALYSIS**

20. **Option A.**

This option would benefit from a proactive COVID-19 vaccination outreach program led by the Canadian Forces Health Services Group (CF H Svc Gp), where CAF members could be required to attend information sessions, and are afforded the opportunity to refuse vaccination in a private

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setting with a health care provider. Continuing this approach for the short-to-medium term would provide opportunity to gather data on COVID-19 vaccines to support evidence-based decisions, and to monitor for any challenges with CAF vaccine uptake and any unforeseen impact on operations. Conversely, this approach could result in an undesired delay to personnel readiness should the data and evidence eventually support vaccination as a requirement for deployment / employment on a specific operation.

21. **Option B.** The requirement for COVID-19 vaccination for specific tasks, locations and/or missions would be established through an evidence-based risk assessment. The focus could include domestic and expeditionary operations, as well as out of country postings. With this option, CAF members who are not vaccinated against COVID-19 would be assessed as not meeting the requirement for a specific task, deployment, and/or posting. The potential career and follow-on financial impact in these instances could increase members' willingness to accept a COVID-19 vaccine. Though, this could be perceived as coercion on some level; or conversely, the CAF could be perceived as offering financial/career incentives for those CAF members willing to accept vaccination. Yet, this approach would align with current practice related to other CAF medical interventions such as vaccination against yellow fever for operations in select locations.

22. **Options C and D.** These options would see CAF members ordered to receive COVID-19 vaccinations based on a requirement for all expeditionary and/or domestic operations, or force readiness levels, respectively. Subject to directions from the CAF leadership, the member's chain of command would retain the ability to determine whether the member could still be deployed based on requirements for expeditionary and/or domestic operations, or whether the member could be accommodated in the case of force readiness requirements.

23. **Option E.** This option would see CAF members ordered to receive COVID-19 vaccinations as a requirement to meet U of S. For reference, there are currently no vaccinations that meet this criteria. Such a minimum operational standard could be supported should countries where the CAF usually operates make COVID-19 vaccination a requirement for entry and the requirement of being deployable remains a minimum operational standard as per the U of S.

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**RECOMMENDATION**

24. **Option B.** Currently, there is no supporting evidence to suggest that there is a need for all CAF members to be vaccinated. Therefore, implying that it is required for compliance with U of S or a *bona fide* occupational requirement, at this time, would be incorrect. Based on the limited data available on the authorized COVID-19 vaccines, it is recommended that there be no formal requirement for the vaccination of CAF

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members, except in prospective circumstances where a member is to be deployed / employed:


- a. To a foreign country that has imposed vaccination as a prerequisite for entry;
- b. To a domestic region or location to which the GC, provincial / territorial government, or Indigenous populations have imposed vaccination as a requirement; or
- c. On a named domestic or expeditionary operation to which the responsible Commander is satisfied, based on a robust, evidence-based recommendation from CF H Svc Gp, that vaccination is a reasonable requirement.

## CONCLUSION

25. In all circumstances, the CAF COVID-19 Immunization Campaign needs to be guided by the best scientific and medical evidence, justified by a clear rationale, administered in accordance with best medical practices, Further, it must be supported by a strong communication plan that aims to improve knowledge about the benefits of COVID-19 vaccine(s) and vaccines in general, addresses misinformation, and communicates transparently about COVID-19 vaccine allocation decisions.

26. The extent to which the current available vaccines protect a recipient against serious illness from COVID-19 is currently unknown. Until more data and evidence is available that allows for the understanding of the effectiveness, reduction in infectivity, and duration of immunity for each of the available vaccines, PHMs and quarantine protocols should continue, even in a scenario with 100% CAF vaccine uptake.

Approved / ~~Not Approved~~

  
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