

April 12, 2022

Alberta COVID-19 Immunization Program Update Summary - Second Booster Dose

Dear colleagues,

I am sharing this update with some important information regarding second booster dose eligibility.

Given the increasing circulation of the Omicron BA.2 sub-variant and the possibility of waning protection against severe disease over time following the first booster dose, Alberta will be offering a **second booster dose** to those at highest risk.

These changes are based on recommendations from Alberta Advisory Committee on Immunization (AACI) and consider the evidence and rationale presented in recommendations provided by the [National Advisory Committee on Immunization \(NACI\)](#).

Effective April 12, 2022, second booster doses have been made available to the following populations, with a spacing of at least five months after the first booster dose. For individuals who were recently infected with COVID-19, the recommended interval is three months after symptom onset or positive test (if asymptomatic) for COVID-19, or at least five months after the most recent vaccine dose, whichever is longer.

- All residents of seniors' congregate living facilities, regardless of age
(Strong recommendation)
 - Outreach to seniors' congregate living facilities will start on April 18, 2022.
- Individuals 80 years of age and older living in the community
(Strong recommendation)
- First Nations, Métis and Inuit individuals 65 to 79 years of age, regardless of where they live **(Strong recommendation)**
- Individuals 70 to 79 years of age living in the community
(Discretionary recommendation)

More information on these changes is included below.

Yours sincerely,
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Alberta COVID-19 Immunization Program Second Booster Summary

As outlined in the National Advisory Committee on Immunization ([NACI guidance on a second booster dose of COVID-19 vaccines in Canada](#)), a second booster dose provides a benefit to those who may have waning immunity against severe disease over time after receiving a first booster dose. It also provides a population benefit by adding an additional layer of protection against more transmissible variants and transmission chains that could expose vulnerable individuals.

In making this immunization program update, Alberta considered NACI's review of the available evidence on how long protection from a first booster dose lasts and the safety and effectiveness of a second booster dose. Alberta also considered the local epidemiology of COVID-19 and risk factors associated with severe outcomes (e.g., advanced age).

AACI Clinical Recommendations:

AACI **strongly recommends** a second booster dose for those who are at the highest risk of severe outcomes from a COVID-19 infection due to waning immunity after their first booster dose, at a minimum of a five-month interval from the first booster dose. This includes the following populations:

- All residents of seniors' congregate living facilities, regardless of age.
- Individuals 80 years of age and older living in the community.
- First Nations, Métis and Inuit individuals 65 to 79 years of age, regardless of where they live.

Alberta will continue to monitor evidence as it is available, and, if warranted, additional doses will be recommended for other populations in the future.

AACI Discretionary Recommendation:

A second booster dose may be offered to individuals 70 to 79 years of age living in the community. Individuals in this population are encouraged to discuss with their health care provider whether a second booster dose is recommended based on their personal circumstances, including any underlying health conditions and risk of exposure.

Overview

- Real-world evidence has confirmed that the Omicron variant, including the BA.2 sub-variant, is highly transmissible and is able to evade some of the immunity conferred by COVID-19 vaccines or a previous COVID-19 infection. The growth in cases among immunized individuals with two or three doses suggests that vaccine effectiveness against infection from the Omicron variant is lower than against the Delta variant.

- Vaccine effectiveness against infection/symptomatic disease for Omicron from a first booster of mRNA vaccine is approximately 60% and decreases over time since vaccination in most studies.
- Vaccine protection against severe disease and hospitalization due to COVID-19 has been more durable than protection against symptomatic disease or infection and is approximately 90% or more shortly following vaccination. Evidence regarding the duration of protection of a first booster against severe disease is limited, with a few studies suggesting some decrease over time.
 - For example, a U.S. [study](#) suggests that vaccine effectiveness against COVID-19-associated hospitalizations was 91% during the two months after a third dose and decreased to 78% by the fourth month after a third dose.
- Evidence on second booster vaccine effectiveness is limited. Preliminary data indicates it provides additional protection beyond a first booster dose, including for severe disease.
 - In a [study](#) of a second booster dose among adults 60 years of age and older who were vaccinated at least four months after their first booster, the rates of COVID-19 infection and severe illness were lower 12 or more days after the fourth dose (2.0 fold for infection and 4.3-fold for severe disease) compared to the groups who were eligible for a second booster dose but did not receive it.
- Preliminary data indicate that the safety of a second booster of an mRNA COVID-19 vaccine is comparable to previous doses. Overall, from both Canadian and international safety surveillance data, a second booster of mRNA vaccine was well tolerated and no new safety signal was identified; however, this continues to being actively monitored.
- Protection against severe disease decreases over time following a primary series, certain high-risk populations in Alberta were the first to receive a booster dose of COVID-19 vaccine (e.g., residents in seniors' congregate living) and many had their first booster dose more than five months ago.
- To continue protecting Alberta's most vulnerable populations, in alignment with recommendations from the Alberta Advisory Committee on Immunization (AACI), the province has made a second booster dose of the COVID-19 vaccine available to populations at highest risk of severe outcomes from COVID-19.
- Alberta will continue enhanced surveillance of adverse events following immunization (AEFI) and adverse events of special interest (AESI), including those related to booster doses of COVID-19 vaccines. Health care professionals have a critical role and mandated responsibility to report adverse events that meet Alberta's definition of an AEFI or AESI. See the [AHS website](#) for information on what needs to be reported and when.

Rationale for Second Booster Doses

Residents of seniors' congregate living facilities

- Residents of seniors' congregate living facilities were prioritized for COVID-19 vaccines, and for many residents, over five months have passed since their first booster dose. There is an increased possibility of waning vaccine effectiveness for those individuals.
 - [Emerging evidence](#) suggests that immunity after a first booster dose in older adults and residents of long-term care facilities wanes over a period of approximately 15 weeks.
- Early evidence suggests that after the first booster dose of an mRNA vaccine, immunity against COVID-19, including neutralizing antibody responses against Omicron, increases to levels that are similar to or greater than those observed shortly after the second dose of the primary series. After a second booster dose, this trend was observed among residents in long term care facilities in [Ontario](#), where the second booster dose resulted in similar titres to that achieved after the first booster dose.
- Residents may also be at increased risk for COVID-19 infection because of their daily interactions with other residents and staff.
- In Alberta, during the Omicron wave, the number of continuing care outbreaks was higher and the average outbreak size was 2.8 times larger compared to that during the Delta wave. Although case hospitalizations rates were lower, this increase in cases also resulted in a greater overall number of hospitalizations per outbreak—1.6 times higher than during the Delta wave. While the proportion of cases who have died has remained low, the overall number of deaths was higher during the Omicron wave than in the two previous waves.

Individuals 80 years of age and older living in the community

- Seniors aged 80 years and older were prioritized to receive a first booster dose in fall of 2021 and for many it has been over five months since their last COVID-19 vaccine dose.
- Age and underlying medical conditions are significant risk factors for severe COVID-19 disease outcomes such as hospitalization, ICU admission and death.
 - The proportion of individuals with at least one underlying medical condition associated with an increased risk of severe COVID-19 increases with age.
- Even though the Omicron wave had a smaller proportion of severe cases compared to the previous waves, incidence of severe outcomes was highest among older adults over 80 years of age, followed by older adults 70 to 79 years of age in Alberta.
 - For the most current information on the epidemiology of COVID-19 in Alberta, please refer to [Alberta's weekly epidemiology update](#).

First Nations, Métis and Inuit individuals 65 to 79 years of age, regardless of where they live

- First Nations, Métis and Inuit individuals 65 years and older were prioritized to receive a first booster dose in fall of 2021 and for many it has been over five months since their last COVID-19 vaccine dose.
- The proportion of Canadians who identify as Indigenous and have at least one underlying medical condition associated with severe COVID-19 is higher compared to non-Indigenous people in Canada for every age category above 20 years of age.
- Throughout the COVID-19 pandemic, First Nations, Métis and Inuit peoples have been disproportionately affected due to a number of intersecting equity factors and had a higher rate of severe outcomes and a younger average age at death. They are almost twice as likely as the non-Indigenous population to need hospital care for COVID-19.
- Ensuring strengthened protection from immunization for this population has the potential to reduce the exacerbation of intersecting health and social inequities.
- COVID-19 data for First Nations people can be found on the [Alberta First Nations Information Governance Centre](#).

Individuals 70 to 79 years of age in the community (Discretionary recommendation)

- During the Omicron wave, incidence of severe outcomes in older adults 70 to 79 years of age was higher than younger age groups.
- In Alberta, for most individuals aged 70 to 79 years, over five months have passed since their first booster dose and this population may experience decreasing vaccine protection over time.
- Individuals in this population are encouraged to discuss with their health care provider whether a booster dose is recommended based on their personal circumstances, including any underlying health conditions and risk of exposure.

Clinical considerations for administering a second booster dose: all eligible populations

- Before receiving a second booster dose, while it is not required to do so, eligible individuals may wish to consult with their healthcare provider about any advantages or disadvantages of receiving a second booster dose of vaccine.
- As with all vaccine administration, immunizers must receive informed consent from the person requesting a second booster dose prior to immunization to ensure they understand the benefits versus risks of a second booster dose.
- Eligible individuals are recommended to receive either the Moderna Spikevax vaccine (50 mcg) or the Pfizer-BioNTech Comirnaty vaccine (30 mcg).
 - The use of the Moderna Spikevax vaccine (100 mcg) as the second booster dose may also be considered based on clinical discretion.
- Individuals who have recovered from previous COVID-19 infection are recommended to receive a second booster dose of COVID-19 vaccine at the [NACI-recommended](#) interval.
 - For individuals who had a recent COVID-19 infection, a booster dose is recommended three months after symptom onset or positive test (if asymptomatic), or at least five months from the last dose, whichever is longer.
- As a precautionary measure, Alberta Health recommends that individuals who experienced myocarditis after a preceding dose of an mRNA vaccine should discuss decisions around a second booster dose, including timing, with their clinician. In general, they are advised to defer receiving another dose until more data is available.
- Individuals with a history compatible with pericarditis within 6 weeks of receiving a dose of an mRNA COVID-19 vaccine, who either had no cardiac workup or who had normal cardiac investigations, can be re-immunized when they are symptom free and at least 90 days have passed since the previous immunization.
- Generally, deferral of COVID-19 immunization is not required for those with a prior history of myocarditis or pericarditis that is unrelated to COVID-19 mRNA vaccines.
- It is important for health care professionals to support and encourage patients/clients to maintain COVID-19 disease prevention measures based on their risks, even after a booster dose. Members of their household and close relatives should be encouraged to receive the primary series and booster dose of COVID-19 vaccine, if eligible.
- Serologic testing or cellular immunity testing to assess immune response and guide clinical care (e.g., need for a booster dose) are not recommended at this time.
- On September 28, 2021, NACI released recommendations that COVID-19 vaccines may be given at the same time as, or any time before or after, other vaccines, including live, non-live, adjuvanted or unadjuvanted vaccines, for those age 12 and older. The NACI recommendation can be found here: [Concomitant administration with other vaccines](#).

Booking a booster dose

All eligible populations

- All eligible individuals can now book appointments to receive a booster dose of vaccine by calling 811 or [booking online](#).

For First Nations populations

- First Nations populations can receive a booster dose of vaccine at an on-reserve public health clinic or by calling 811 or [booking online](#).

For residents of seniors' congregate living facilities

- Residents of seniors' congregate living facilities will receive their booster doses at their facilities.