Memo

Decision to use the AstraZeneca COVID-19 vaccine as a booster for those aged 18 years and over 3 months after a primary vaccine course

Date:	10 February 2022
To:	Dr Ashley Bloomfield, Director-General of Health
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From:	Dr Ian Town, Chief Science Advisor
For your:	Consideration

Purpose of report

1. To summarise the COVID-19 Vaccine Technical Advisory Group's (CV TAG) recommendation on the decision to use the AstraZeneca COVID-19 vaccine ('the AstraZeneca vaccine') as a booster 3 months after a primary vaccination course for those aged 18 years and over.

Background and context

2. As at 7 February 2022, 94 per cent (3,935,736) of eligible New Zealanders have received two COVID-19 vaccine doses (fully vaccinated), a further 2 per cent have received at least one dose, and 5 per cent of the eligible population remain unvaccinated. The booster programme is underway, and there are currently high levels of uptake. As at 7 February 2022 1,604,760 boosters had been administered to those aged 18 years and over.
3. The current objective of the COVID-19 vaccine immunisation programme is to protect individuals from severe disease outcomes and to reduce the impact of the virus on the healthcare system.
4. To date, New Zealand has implemented a predominantly Pfizer-based COVID-19 immunisation programme. Pfizer is currently the only product with regulatory approval from Medsafe for use as a booster for those 18 years and over.
5. In December 2021 CV TAG advised that based on emerging evidence of waning immunity provided by COVID-19 vaccines, and the threat posed by the Omicron variant, the booster dose interval should be reduced from 6 months after the second primary vaccination to 5 months. After further consideration and advice from the Director-General of Health, Cabinet decided to reduce the dose interval to a 4 month (minimum) from second primary dose. In February 2022 CV TAG recommended that a booster dose of the COVID-19 vaccine should be given from 3 months after the primary course.

6. In New Zealand the AstraZeneca COVID-19 vaccine is available for those aged 18 and older who cannot receive the Pfizer vaccine, and for people who would like a different option.

7. The AstraZeneca COVID-19 vaccine is a two-dose non-replicating viral vector vaccine, and the second dose is administered between 4 and 12 weeks after the first dose. It can be stored at 2-8°C for up to 6 months. Multiple doses may be pre-drawn from one vial and used within one hour if stored at room temperature, or within six hours if stored at 2-8°C.[1] AstraZeneca boosters are currently available on prescription 4 months after completion of a primary course.

AstraZeneca as a booster dose

8. A booster dose of the AstraZeneca vaccine restored the protection against symptomatic COVID-19 to levels similar to that observed immediately after the primary course in the UK.[2,3] However, studies did not specify the interval between the second dose and the booster dose.

9. A small study suggested that AstraZeneca, when used as a booster following a full primary course of Pfizer or Moderna, augments humoral and T cell immune responses, and is well tolerated.[4]

10. The UK COV-BOOST study evaluated the reactogenicity profiles of different boosters in people inoculated with either two doses of AstraZeneca or Pfizer as their primary vaccination.[5] Participants primed with Pfizer reported more frequent local and systemic reactions after receiving a booster of AstraZeneca, Janssen, Moderna and Coronavac, compared with other vaccines. From these, malaise was reported in 5.6% of the AstraZeneca recipients, in 5.5% of the Moderna's, and in 5.8% of the Coronavac's, while 5.8% boosted with Janssen reported chills and 7.8% fatigue. All other severe reactions were reported in less than 5% of the participants.

11. The AstraZeneca vaccine has been available in New Zealand since 26 November 2021, and the adverse events following immunisation (AEFI) data collated by the Centre for Adverse Reactions Monitoring (CARM) will be reported for AstraZeneca in the next safety report #40, for the period ending 31 January 2022 which will be published soon. It is anticipated that this report will also capture any reports of adverse events associated with the administration of the AstraZeneca as a booster. The AstraZeneca vaccine has been thoroughly assessed for safety by Medsafe, as with all medicines approved for use in Aotearoa New Zealand, and this is publicly available.

Recommendation

12. CV TAG met on Tuesday 8 February 2022 to consider guidance on the use of the AstraZeneca vaccine as a booster vaccine three months after completion of a primary vaccination course for those aged 18 or over.

13. **CV TAG recommends that:**

    13.1 The AstraZeneca COVID-19 vaccine can be given as a booster to those 18 years and over, 3 months after a primary vaccine course

14. CV TAG will continue to monitor all relevant information and will update their recommendation where appropriate in the coming weeks.

Dr Ian Town

Chief Science Advisor and

Chair of the COVID-19 Vaccine Technical Advisory Group

References

1. NSW Government. COVID-19 Vaccination Program Procedures. 2021; Available from: https://www.health.nsw.gov.au/Infectious/covid-19/vaccine/Documents/az-refrigerator-to-administration.pdf.
2. Sheikh, A., et al. Severity of Omicron variant of concern and vaccine effectiveness against symptomatic disease: national cohort with nested test negative design study in Scotland. 23 Dec 2021; Available from: https://www.pure.ed.ac.uk/ws/portalfiles/portal/245818096/Severity_of_Omicron_variant_of_concern_and_vaccine_effectiveness_against_symptomatic_disease.pdf (assessed 9 February 2022)
3. Loubet P, Laureillard D, Martin A, Larcher R, Sotto A. Why promoting a COVID-19 vaccine booster dose?. Anaesthesia, critical care & pain medicine. 2021 Dec;40(6):100967.
4. Munro, A.P.S., et al., Safety and immunogenicity of seven COVID-19 vaccines as a third dose (booster) following two doses of ChAdOx1 nCov-19 or BNT162b2 in the UK (COV-BOOST): a blinded, multicentre, randomised, controlled, phase 2 trial. The Lancet, 2021.
5. Self, W.H., et al., Comparative Effectiveness of Moderna, Pfizer-BioNTech, and Janssen (Johnson & Johnson) Vaccines in Preventing COVID-19 Hospitalizations Among Adults Without Immunocompromising Conditions - United States, March-August 2021. MMWR Morb Mortal Wkly Rep, 2021. 70(38): 1337-1343.