In brief

COVID-19 vaccines in Australia

18 March 2022

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- Internationally as of 16 March 2022, 35 vaccines are approved and 11.04 billion doses have been administered.[1, 2]
- In Australia, four vaccines have been approved for use - Comirnaty (Pfizer), Spikevax (Moderna), Vaxzevria (AstraZeneca), and Nuvaxovid (Novavax). As of 13 March 2022, approximately 55.1 million doses have been administered.[3]
- All vaccines that are approved for use have strong safety profiles and benefit to risk ratios.[4]
- Vaxzevria, Comirnaty, Spikevax, and Nuvaxovid vaccines have been shown to: [5-8]
    - reduce symptomatic disease and mortality[5-8]
    - reduce the chance of onward transmission by 40-50%[9, 10]
    - reduce hospitalisation rates in 'real world' effectiveness studies, Vaxzevria by 80% to 95%, Comirnaty by 71% to 97%, Spikevax by 95.7% to 98.2%, and Nuvaxovid by 100%.[11-16]
- In Australia, the Therapeutic Goods Administration provides regulatory and safety information on COVID-19 vaccines, monitors the safety of all vaccines approved for use, and publishes a COVID-19 vaccine safety report weekly.[17, 18]
- The Australian Technical Advisory Group on Immunisation advises the Federal Minister for Health on the National Immunisation Program and other immunisation issues. The Australian Technical Advisory Group on Immunisation publishes regular COVID-19 vaccination statements and weekly COVID-19 meeting updates.[19]

Latest research evidence

- A cohort study from England reported that booster vaccination with either Comirnaty or Spikevax vaccine was highly protective against hospitalisation and death in Omicron cases (hazard ratio for hospital admission 8 to 11 weeks post-booster versus unvaccinated was 0·22).[20]
- An open-label, non-randomized clinical study found that a fourth dose of either the Comirnaty or the Spikevax vaccine induced IgG antibodies and increased the neutralizing antibody titers, which were higher than those achieved after the third dose. Compared to individuals vaccinated with three doses only, individuals who received a fourth dose had a reduced risk of any SARS-CoV-2 infection (vaccine effectiveness: 30% for Comirnaty; 11% for Spikevax) and symptomatic disease (vaccine effectiveness: 43% for Comirnaty; 31% for Spikevax).[21]
- In elderly people aged 70 years or over in Finland (pre-print study), a third dose of Comirnaty vaccine increased the vaccine effectiveness against COVID-19-related hospitalisation to 96% before the Omicron period, and to 95% during the Omicron period.[22]
- A booster dose induced similar neutralising antibody titers against the Omicron BA.1 and BA.2 subvariants.[23] Neutralisation titers against the Omicron variant remained detectable six months after Spikevax booster vaccination.[24]

The Critical Intelligence Unit maintains a living evidence table on COVID-19 vaccines which was used to inform this brief.[25] The living evidence table is updated weekly.

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Evidence checks are archived a year after the date of publication