COVID-19 Critical Intelligence Unit: COVID-19 vaccines in Australia

In brief
COVID-19 vaccines in Australia

12 November 2021

In brief

- Internationally, 24 vaccines are approved and 7.36 billion doses have been administered.¹,²
- All vaccines that are approved for use have strong safety profiles and benefit to risk ratios.³
- In Australia, three vaccines have been approved for use. To 07 November 2021, approximately 22.7 million doses of Comirnaty (Pfizer), 13.2 million doses of Vaxzevria (AstraZeneca) and 834,000 doses of Spikevax (Moderna) vaccines have been administered.⁴
- Vaxzevria,⁵ Comirnaty,⁶ and Spikevax⁷ vaccines have been shown to:
  - reduce symptomatic disease and mortality⁵-⁷
  - reduce the chance of onward transmission by 40-50%.⁸
  - reduce hospitalisation rates in ‘real world’ effectiveness studies, Vaxzevria by 80% to 95%, Comirnaty by 71% to 97%, and Spikevax by 95.7% to 98.2%.⁹-¹³
- In Australia as of 07 November 2021, there have been 160 reports of blood clots assessed as thrombosis with thrombocytopenia syndrome (TTS).⁴ There have been nine reported deaths; eight from TTS and one from immune thrombocytopenia.⁴
- In Australia as of 07 November 2021, for Comirnaty, there have been 288 reports which have been assessed as likely to be myocarditis. For Spikevax, there have been 13 reports which have been assessed as likely to be myocarditis. There have been no reported deaths.⁴
- While there is evidence of a reduction, or waning, of serum antibodies to SARS-CoV-2 post-vaccination,¹⁴ vaccines continue to provide effective protection against symptomatic and severe disease and death.¹⁵-¹⁷
- ATAGI supports the use of a single booster dose six months following the primary vaccine course.¹⁸,¹⁹ The TGA has provisionally approved a third dose of the Comirnaty for individuals 18 years or older.²⁰ Comirnaty is recommended as a single booster dose, irrespective of the primary COVID-19 vaccine used.¹⁹ The TGA has granted provisional determination to Spikevax for proposed use in children and booster shot for adults under evaluation.²¹
- The United States Food and Drug Administration (FDA) has authorised Comirnaty vaccine for emergency use in children five through 11 years of age.²² In a phase 2-3 randomised trial with children aged five to 11 years, two 10μg doses of Comirnaty administered 21 days apart were found to be safe, immunogenic, and efficacious.²³
- In a study from Israel, compared to unvaccinated persons, vaccinated persons were protected even after 6 months.²⁴ However, vaccine effectiveness against symptomatic infection was considerably lower than it had been closer to the vaccination date.²⁴,²⁵ Effectiveness was 84% at four to seven months after vaccination, when averaged over all age groups combined.²⁴,²⁶
- Vaccination reduces the risk of Delta variant infection, however, breakthrough cases can still transmit the virus in household settings, including to fully vaccinated contacts.²⁷ This suggests that non-pharmaceutical interventions are still required post vaccination.²⁸ The effect of Comirnaty vaccine on reducing breakthrough infection viral loads was found to be restored after a booster dose.²⁹
The Critical Intelligence Unit maintains a living evidence table on COVID-19 vaccines which was used to inform this brief.30

References


