In brief

COVID-19 vaccines in Australia – AstraZeneca and Pfizer

24 August 2021

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- Internationally, 21 vaccines have been approved for use and more than 4.96 billion vaccine doses have been administered.¹
- All vaccines that are approved for use have strong safety profiles and benefit to risk ratios.¹
- In Australia, three vaccines have been approved for use and a further two have provisional determinations. To 15 August 2021, approximately 7.2 million doses of Pfizer and 8.1 million doses of AstraZeneca vaccines have been administered.²
- Both AstraZeneca³ and Pfizer⁴ vaccines have been shown to:
  - reduce symptomatic disease and mortality³,⁴
  - reduce the chance of onward transmission by 40-50%.⁵
  - reduce hospitalisation rates in ‘real world’ effectiveness studies, AstraZeneca by 80% to 95% and Pfizer by 71% to 97%.⁶-⁸
- For all vaccine types, death is an extremely rare adverse event.⁹
- In Australia as at 15 August 2021, out of 8.1 m doses of AstraZeneca vaccine, there have been 112 reports of blood clots assessed as thrombosis with thrombocytopenia syndrome (TTS).² There have been seven reported deaths; six cases of TTS and one case of immune thrombocytopenia.²
- Knowledge about how to manage TTS has developed swiftly.¹⁰,¹¹
- There have also been concerns with Pfizer and myocarditis. To 15 August 2021, there have been 188 cases in Australia of suspected myocarditis and/or pericarditis. There have been no reported deaths.²
- According to the TGA, which monitors vaccine safety, the protective benefits of vaccination against COVID-19 far outweigh the potential risks.²
- For vector vaccines such as AstraZeneca, there is evidence of long-lasting immune responses.¹² Questions remain on the longevity of immune responses induced by mRNA vaccines, with emerging evidence of a decline in antibody titres 3 - 6 months post Pfizer vaccination.¹³-¹⁵
- To date, no vaccine has been shown to be entirely effective at preventing transmission.
- There are reports of breakthrough infections in fully vaccinated individuals. With Delta, vaccinated people – if infected - have a similar viral load to unvaccinated. This suggests that non-pharmaceutical interventions are still required.¹⁶
- There have been some concerns about the politicization of messaging about the different vaccines and manufacturers.
The Critical Intelligence Unit maintains a living evidence table on COVID-19 vaccines which was used to inform this brief.17

References


15. De-Leon H, Pederiva F. Using a physical model and aggregate data from Israel to estimate the current (July 2021) efficacy of the Pfizer-BioNTech vaccine. medRxiv. 2021:1-29. DOI: 10.1101/2021.08.10.21261856


SHPN: (ACI) 210739 TRIM: ACI/D21/695-30