In brief

COVID-19 vaccines in Australia – AstraZeneca and Pfizer

3 September 2021

In brief

• Internationally, 22 vaccines have been approved for use and 5.38 billion vaccine 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 and a further two have provisional determinations. To 29 August 2021, approximately 9.4 million doses of Pfizer and 9.6 million doses of AstraZeneca vaccines have been administered.\(^4\)
• Both AstraZeneca and Pfizer vaccines have been shown to:
  o reduce symptomatic disease and mortality \(^5,^6\)
  o reduce the chance of onward transmission by 40-50% \(^7\)
  o reduce hospitalisation rates in ‘real world’ effectiveness studies, AstraZeneca by 80% to 95% and Pfizer by 71% to 97%.\(^8\)\(^-10\)
• For all vaccine types, death is an extremely rare adverse event.\(^11\)
• In Australia as at 29 August 2021, out of 9.6 million doses of AstraZeneca vaccine, there have been 125 reports of blood clots assessed as thrombosis with thrombocytopenia syndrome (TTS).\(^4\) There have been nine reported deaths; eight cases of TTS and one case of immune thrombocytopenia.\(^4\)
• Knowledge about how to manage TTS has developed swiftly. \(^12,^13\)
• There have also been concerns with Pfizer and myocarditis. To 29 August 2021, there have been 293 cases in Australia of suspected myocarditis and/or pericarditis. There have been no reported deaths.\(^4\)
• According to the TGA, which monitors vaccine safety, the protective benefits of vaccination against COVID-19 far outweigh the potential risks.\(^4\)
• For vector vaccines such as AstraZeneca, there is evidence of long-lasting immune responses.\(^14\) 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.\(^15\)\(^-17\)
• 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.\(^18\)
• 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.19

References


17. 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