

COVID-19 Adverse Outcomes by Age and Vaccination Status

South Australian data, August – October 2022

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COVID-19 cases recorded in South Australia between 1 August and 31 October 2022 were analysed to ascertain the difference in likelihood of hospitalisation or death between those who had received different numbers of vaccine doses or no doses.

Summary of Results

The risk of adverse outcomes with COVID-19 increases with age. For all age groups, the risk of adverse outcomes decreases with vaccination, and boosters provide further protection.

Among those who had COVID-19, for all age groups:

- people who were not vaccinated were more likely to be hospitalised than those who had been vaccinated;
- people who had received three or more doses were the least likely to be hospitalised with COVID-19;
- there were very few deaths (only two) in those under 60 years of age during the dates data were analysed; and,
- among those aged 80+, those who were not vaccinated were more likely die as a result of COVID-19 than those who had been vaccinated.

Multivariate analyses allow for more sophisticated analyses of the influence of multiple variables simultaneously. Bayesian logistic regression (multivariate analyses) showed that:

- vaccination lowers the probability of hospitalisation and the probability of death, with increasing vaccination doses lowering the probability of each outcome further, with very high probability;
- from ages 60-69 upwards, age almost certainly raises the probability of hospitalisation and death, with increasing age increasing the probability of each outcome;
- Those with No Vaccination are about 8 times more likely to be hospitalised and about 5 times more likely to die than those with 3 or 4 doses of vaccine; and,
- Those with 1 or 2 doses of vaccine are about 3 times more likely to be hospitalised and about 2 times more likely to die than those with 3 or 4 doses of vaccine.