



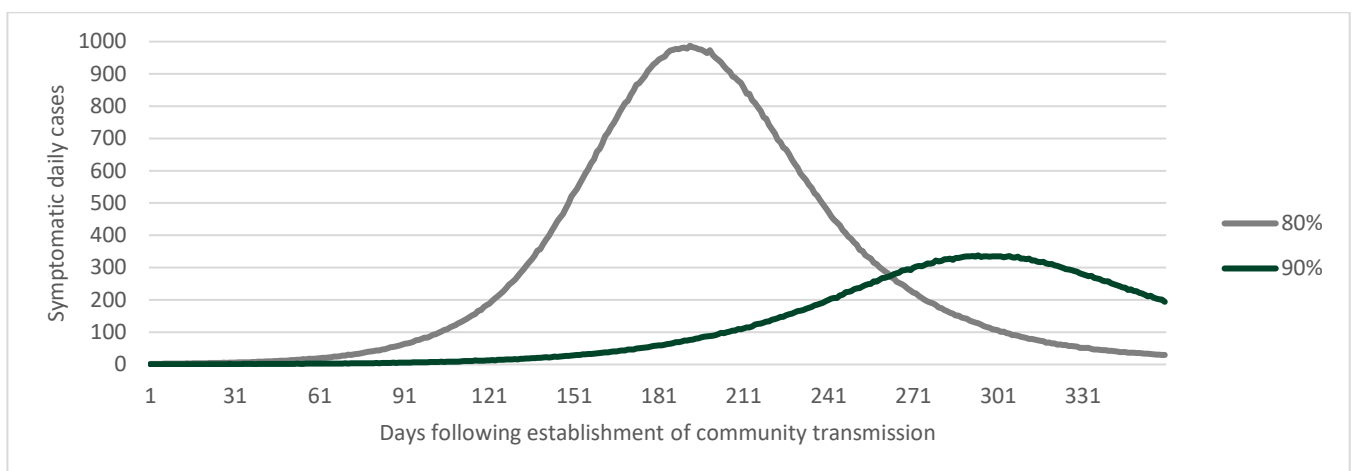
WA Safe Transition Plan: Summary of modelling by WA Health

Modelling is one of many inputs into considering how WA transitions its response to COVID-19 as vaccinations rates increase.

The WA Department of Health built a model to simulate a COVID-19 epidemic in Western Australia, customised to WA's population. The modelling simulates the effects of vaccination coverage, public health and social measures (PHSMs) such as mask wearing, testing and isolation of cases, and border controls including quarantine and testing.

The chart below presents the impacts of high levels of vaccination, at 80% and 90% of the eligible population (12 years and over). It assumes some PHSMs such as masks are in place, and that contact tracing, along with testing and isolation of contacts and cases is occurring. It assumes international and domestic borders are open to a high volume of vaccinated arrivals.

Figure: Symptomatic cases at 80% and 90% vaccination coverage (12+)



At 90% coverage within the first 120 days following the easing of the border some cases are expected to occur, which are managed by testing, isolation and application of PHSMs to effectively suppress community transmission for several weeks. Real-world outcomes may differ and are dependent upon effectiveness of PHSMs and other variables.

Modelling is illustrative only and, while reality may not mirror these results, at 90% vaccination coverage there is a 59% reduction in symptomatic cases within 360 days compared to 80% vaccination, as shown below.

COVID cases and severe illness on peak day by 80% and 90% vaccination coverage.

Vaccination Rate	80%	90%
Symptomatic cases	987	338
General ward beds occupied	178	54
ICU beds occupied	32	8
Mortality	4	1

Cumulative COVID cases and severe illness after one year by 80% and 90% vaccination coverage.*

Vaccination Rate	80%	90%
Symptomatic cases	104,251	43,108
General ward admissions	2,921	937
ICU admissions	391	106
Mortality	313	117

*Modelled scenarios are to 360 days from establishment of community transmission.

The slower rise in cases at 90% vaccination compared to 80% means:

- the maximum number of general bed hospitalisations is reduced to 54 on the peak day, compared to 178 hospitalisations on the peak day at 80% vaccination;
- at 90%, general ward beds occupied are reduced by 70% at the peak, ICU beds occupied are reduced by 75% at the peak; and
- the cumulative number of deaths is reduced by 63%.

A 95% vaccination rate was modelled, showing limited improvements compared to the gains at 90%. This demonstrates that high vaccination coverage is not enough alone to manage the virus.

Key observations

- Easing border restrictions at 80% vaccination coverage results in more than twice the number of cases over 360 days compared to easing borders at 90%.
- Vaccination alone is not enough to keep cases within manageable levels, and PHSMs including masks will be needed.
- Effective testing, tracing and isolation of cases and close contacts remains an effective method of reducing transmission risks in the community, even at high levels of vaccination coverage.

It is important to note that modelling cannot accurately predict the future. It is a useful guide to what could happen when borders are eased in WA, as we do not have many real-world examples to draw from given our unique COVID-19 free position.

A detailed report can be found here <https://www.wa.gov.au/government/publications/covid-19-coronavirus-modelling-was-covid-19-transition-plan>

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