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Dear Premier

## **CONTROLLED BORDER TRANSITION ARRANGEMENTS**

On 04 November 2021, I provided advice on proposed changes to closed border requirements and on transition to open borders. The advice was predicated on the prevalent Delta variant at the time and the protection afforded by two doses of the vaccines available. As Western Australia (WA) was at 63.3% two dose vaccination rate over 12 years of age, the initial priority was to raise this to 90% fully vaccinated to minimise the impact on case numbers, hospitalisation and deaths. In addition to the 90% vaccination rate, I recommended further measures to mitigate the impact of the anticipated Delta outbreaks while opening the border, which included:

- fully opening the domestic borders to fully vaccinated travellers, removing all quarantine requirements but continuing to require pre-flight and on arrival testing (within 48 hours) for at least a month prior to review;
- allowing uncapped inbound international arrivals for all vaccinated persons, without quarantine but subject to pre-flight and on arrival testing (within 48 hours);
- ensuring appropriate Testing, Tracing, Isolation and Quarantine (TTIQ) arrangements were in place for any subsequent outbreaks;
- implementing the minimum baseline Public Health and Social Measures (PHSMs) required to mitigate seeding and community spread, including mask use on public transport and in vulnerable areas, and 'Health pass' full vaccination requirements to attend events with capacity above 1000 people or in high risk venues, such as nightclubs;
- implementing the minimum step-up PHSMs required to minimise cases in any subsequent outbreaks without requiring lockdowns; and
- continuing hotel quarantine only for high risk unvaccinated overseas travellers.

I further recommended that a final date should be confirmed when the 80% fully vaccinated threshold is reached.

On 27 November 2021, in my advice on the South Australia (SA) border, I advised of the potential threat of the B.1.1.529 (Omicron) variant, which had been declared by the World Health Organisation as a variant of concern on 26 November 2021. In my advice of 10 December 2021, on controlled border arrangements, I noted that this variant was now rapidly spreading around the world, including in Africa, Europe, North America and Australia. I also noted that the possible impact of the Omicron variant needed to be factored into considerations about opening. Emerging evidence indicated that the Omicron variant was highly transmissible and showed significant vaccine escape, but may not cause more severe illness. The combination of these factors, however, could create a significant caseload with the potential to strain health system capacity, even if disease severity is reduced. I also indicated that early evidence showed that, while two doses give limited protection against disease, booster doses increased the effectiveness of vaccines against the Omicron variant.

With these factors in mind, I recommended that WA should implement the range of border and public health changes, as previously outlined on 05 November 2021 and refined in the advice of 10 December 2021, when 90% of the WA population 12 years and over were fully vaccinated against COVID-19. Based on the modelling and other mitigating factors, it was recommended that these changes should come into force on or after 04 February 2022. I also recommended that further PHSMs, including indoor masks and proof of vaccination requirements, should be implemented in those regions that failed to reach the 80% full vaccination rate. I indicated that, as WA will be the final jurisdiction to transition its border arrangements, particularly in response to the Omicron variant, these settings may need to be further refined closer to the opening date.

## **CURRENT SITUATION**

On 19 January 2022, you sought public health advice on the controlled transition arrangements. As anticipated in December 2021, the Omicron variant has rapidly become the dominant variant in Australia, including in States that opened their international and interstate borders at 80% (Queensland, South Australia, Northern Territory) and 90% full vaccination rate (Tasmania), with most states and territories expected to have their case numbers peak within the next 2 weeks. Given the baseline PHSMs currently in place in WA, WA remains very susceptible to a COVID-19 outbreak and is currently undergoing a small Omicron outbreak, which has the potential to escalate.

## **Omicron Variant**

Since the 10 December 2021, a far better international understanding of the Omicron variant has developed. There is increased transmissibility of the variant, both as a function of the natural transmissibility of the virus and its ability to evade both natural and vaccine immune protection.<sup>1</sup> Multiple studies now show significant waning in the effectiveness of both vaccines and natural immunity conferred by exposure to prior

<sup>1</sup> Neil Ferguson, Azra Ghani, Wes Hinsley and Erik Volz. Hospitalisation risk for Omicron cases in England. Imperial College London (22-12-2021). <https://www.imperial.ac.uk/media/imperial-college/medicine/mrc-gida/2021-12-22-COVID19-Report-50.pdf>

variants in preventing infection and onward transmission.<sup>2</sup> The two-dose vaccine efficacy against infection with the variant is estimated to be 4% overall<sup>3</sup>, but this rises to 59-64% efficacy after a mRNA vaccine booster dose.<sup>4</sup> Protection against severe disease is maintained after two doses at 80-90% but is further enhanced by a booster dose, which increases the protection to 95-98%, but both wane over time.<sup>1</sup> This has also been demonstrated in recent Doherty modelling.

With regards to severity, there is between a 64-70% reduction in hospitalisation in comparison to Delta infection. ICU admission rates were also an estimated 75% lower.<sup>5</sup> The risk of being admitted to hospital for Omicron cases is lower for those who had received 2 doses of a vaccine (65% lower) compared to those who had not received any vaccination. The risk of being admitted to hospital for Omicron cases was lower still among those who had received 3 doses of vaccine (81% lower).<sup>6</sup> The length of stay in hospital was also less, estimated at 3-4 days compared to 8 days previously.<sup>5</sup>

## Modelling

My advice of 04 November 2021 and 10 December 2021 was based on modelling of the expected impact of the Delta variant. Preliminary WA Health modelling of the Omicron variant demonstrates a markedly different picture from the Delta modelling of any likely outbreak, with a more rapid rise in the number of cases, more total cases and greater requirements for general ward beds and ICU beds, even with low to medium TTIQ and moderate PHSMs. The preliminary modelling is consistent with the impacts seen in other jurisdictions. It should be noted, however, that, given Omicron only appeared in Australia at the end of November 2021, reliable data available for modelling parameters is still emerging. Further modelling, once these parameters are readily available, will be important in determining the optimal opening time.

## Other Factors

Modelling, while useful in predicting the expected impact, does not reflect all the health factors that should be considered in deciding on the optimal opening date.

Other considerations include:

- **Seeding.** Preliminary modelling assumes seeding of 50 cases. While greater numbers of initial cases will not generally change the modelling but will move WA's position on the epidemic curve, so WA is likely to reach the peak sooner,

<sup>2</sup> Khoury, David S., et al. "Analysis: A meta-analysis of Early Results to predict Vaccine efficacy against Omicron." *medRxiv*(2021). <https://www.medrxiv.org/content/10.1101/2021.12.13.21267748v1>

<sup>3</sup> Lyngse, Frederik Plesner, et al. "SARS-CoV-2 Omicron VOC Transmission in Danish Households." *medRxiv* (2021). <https://www.medrxiv.org/content/10.1101/2021.12.27.21268278v1.full.pdf>

<sup>4</sup> Willett, Brian J., et al. "The hyper-transmissible SARS-CoV-2 Omicron variant exhibits significant antigenic change, vaccine escape and a switch in cell entry mechanism." *University of Glasgow* (2022). [https://www.gla.ac.uk/media/Media\\_829360\\_smx.pdf](https://www.gla.ac.uk/media/Media_829360_smx.pdf)

<sup>5</sup> Abdullah, F., et al. "Decreased severity of disease during the first global omicron variant covid-19 outbreak in a large hospital in Tshwane, South Africa." *International Journal of Infectious Diseases* (2021). [https://www.ijidonline.com/article/S1201-9712\(21\)01256-X/fulltext](https://www.ijidonline.com/article/S1201-9712(21)01256-X/fulltext)

<sup>6</sup> SARS-CoV-2 variants of concern and variants under investigation in England Technical briefing: Update on hospitalisation and vaccine effectiveness for Omicron VOC-21NOV-01 (B.1.1.529). UK Health Security Agency, 31 December 2021. [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1044481/Technical-Briefing-31-Dec-2021-Omicron\\_severity\\_update.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1044481/Technical-Briefing-31-Dec-2021-Omicron_severity_update.pdf)

the current very high case numbers in all jurisdictions, as they near or reach their peaks, could lead to far higher initial community case numbers on reopening. Despite very low numbers of interstate entries under the 'Extreme' Border arrangements, WA is averaging 5 new interstate cases per day. If, as anticipated, entry numbers from interstate and overseas are up to 80,000 per week, the seeding number could be expected to be markedly higher and would need to be considered in any future modelling.

- **Hospital capacity.** WA Health has been preparing the system for an expected Omicron outbreak on or after 05 February 2022, noting the outbreak will peak approximately 2 months later and be declining towards baseline levels after 3 months. Decisions, including those around delaying elective surgery, and for maximal workforce availability are currently planned for this date as the earliest likely date. Similarly, outbreak plans and clinical guidelines, staff training, in-home support and equipment and consumables, including masks, are also planned to be ready by this date. Hospital occupancy is also typically best in the months of February, March and April.
- **Diagnostics.** As the outbreak increases case numbers, it is anticipated that the current polymerase chain reaction (PCR) testing regime will be insufficient to meet the demand and will need to be supplemented with Rapid Antigen Tests (RATs). By the 27 February 2022, 25.75 million RATs are expected to be available for distribution with a further 37.75 million available by end of March 2022 and 17 million by 10 April, for an expected total of 80.5 million RATs.
- **Winter surge.** Reporting in Europe has indicated that influenza has returned at higher than expected rates from mid-December 2021. Given the opening of the international and interstate borders, WA can expect a significant influenza season in 2022, which may arrive early, given increased susceptibility in the population and circulating strains in the northern hemisphere. Other respiratory viruses, particularly Respiratory Syncytial Virus, which may produce severe illness in very young children, are also expected to return. Any decision on opening dates should consider the potential for twin outbreaks if the peak or post peak period is expected to fall in the winter influenza season.
- **Booster shots.** As outlined above, boosters will have a benefit in both reducing infection, transmission and spread. WA is expected to get to a booster coverage of 35% of the eligible population by 05 February and 75% by 02 March 2022 on present booster trends. This is expected to have a significant impact on modelling up to the end of March 2022. Beyond that date, the waning of protection from boosters is anticipated to offset this gain, particularly among the elderly and healthcare workers who were boosted early, and decisions on future dates would require further modelling.
- **Childhood doses.** As of 17 January 2022, 9.2% of the 5 to 11-year-old population will have received their first dose. Given the 8-week period between doses, substantial numbers of children will not be fully vaccinated before the end of April 2022. These vaccinations, while protecting against rare serious disease in this age group, need to be further modelled, although they are not anticipated to have a significant effect on the trajectory or course of the outbreak.

- **Health workforce.** Health has significant shortages across all its workforces, both public and private. While efforts have been made to facilitate entry of these people into WA, the quarantining conditions have made this increasingly difficult. While short length 7 day quarantine requirements may ease this, the numbers are expected to remain small until borders open. This would include fly-in fly-out and drive-in drive-out workforces that support rural and remote health settings, such as Kalgoorlie, the Goldfields and the Ngaanyatjarra Lands.
- **TTIQ and PHSMs.** Regardless of the vaccination rate, a low to medium level of TTIQ and moderate level of PHSMs are required to mitigate the impact of the outbreak and reduce demand on the hospital system. South Australia has demonstrated the benefits of the introduction of such measures, even at significant caseloads (over 770 cases per day in their case). Given the reductions achieved by SA compared to other jurisdictions, even in the face of a major outbreak, I would recommend moving to such PHSMs at a greatly reduced number of cases per day.

## RECOMMENDATIONS

The Omicron variant is a very different disease to Delta and, once established, can only be suppressed, not eliminated. After considering the factors outlined above, opening of the border on 05 February 2022 is expected to lead to a major outbreak in WA that would peak in an estimated 60 days and potentially much sooner if there was an increased number of introduced cases.

On consideration of all the health factors, I would recommend that consideration be given to deferring the opening on the 05 February 2022. While it is anticipated that WA will have reached over 90% vaccination rates over 12 years of age, 35% booster rate, and have good hospital system preparedness in place, the potential for increased booster and childhood doses in February 2022, increased access to diagnostic tests, and further work on hospital capacity are important considerations.

Should Government decide to defer the transition date, and given the evolving nature of this outbreak, both in Australia and overseas, I would support a further review of proposed opening options within four weeks, which would enable review of further modelling and the other factors outlined above, including the impact of seeding, the potential to run into the winter surge period, baseline bed availability, booster vaccine numbers, the waning of protection in vulnerable groups and ongoing issues with health workforce recruitment. As outlined above, future options would require low to medium levels of TTIQ and moderate PHSMs in place to further minimise the impact of the disease.

If the Omicron disease were to enter WA prior to WA opening, or the current outbreak becomes established, consideration should be given to opening the borders when WA reaches a community daily caseload above a threshold level, which would require assessment to ensure that this would not further exacerbate the outbreak by introducing large numbers of additional cases from interstate and overseas.

In conclusion, based on the current evidence available, including observations of other Australian jurisdictions and impacted countries, scientific literature, general modelling and preliminary WA modelling, I recommend, as the Chief Health Officer, that WA consider delaying the opening of its controlled border on 05 February 2022 and the Government review the transition plan within 4 weeks to consider a future opening date that would enable optimal health management of the anticipated outbreak and mitigate the expected impact on the community.

In line with these proposed next steps, I further recommend that WA should:

- implement enhanced PHSMs, including internal mask wearing, proof of vaccine requirements and density limits to suppress COVID-19 spread on transition of the border;
- from 05 February 2022, implement revised quarantine arrangements for interstate health staff, including 7 days home quarantine, PCR testing on arrival and at Day 6, Days 9 and Day 13, and permission to work in health settings during the second week;
- from 05 February 2022, implement revised compassionate arrival and home quarantine arrangements, to enable WA residents and legitimate compassionate cases to be able to enter WA;
- develop a recommended case number threshold for opening the international and interstate borders, if outbreaks occur prior to the planned opening date;
- undertake further modelling to assist in determining an alternative date of opening;
- ensure appropriate TTIQ arrangements are in place for any subsequent outbreaks; and
- continue hotel quarantine post transition only for high risk unvaccinated overseas travellers.

Yours sincerely



Dr Andy Robertson  
**CHIEF HEALTH OFFICER**

19 January 2022