Government of **Western Australia**
Department of **Health**

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Contact:

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Dear Premier

CONTROLLED BORDER TRANSITION ARRANGEMENTS

On 19 January 2022, I provided advice on the transition of the Western Australia (WA) border, in which I recommended that WA delay the opening of its controlled border on 05 February 2022. This advice was formulated after careful consideration of the new challenges presented by an Omicron outbreak and the various mitigation measures available to suppress the outbreak growth and reduce subsequent pressure on the hospital system. In my advice, I recommended that Government should review the transition plan within four weeks and consider a future opening date that would enable optimal health management of the anticipated outbreak and lessen the impact on the community.

In the 19 January advice, I recommended several mitigation measures that should either be in place or further optimised in preparation for the opening of the State border. This updated advice has considered the current situation, the degree to which mitigation measures have been optimised, modelling of the current outbreak, and the impact of other factors in the determining the best time for the border to reopen.

CURRENT SITUATION: EXPANDING OUTBREAK

The current Omicron outbreak commenced in the Perth/Peel area on 17 January 2022 and continues to expand and spread to other regions in WA. Today (18 February 2022), 188 locally acquired cases were reported with 724 active cases in isolation, which is a significant increase from the 115 new cases and 444 active cases in isolation reported on 16 February 2022. There are now over 40 schools involved in the outbreak, which is up from 32 schools two days ago, and there have now been over 100 cases linked to these school clusters (up from 81 cases on 16 February 2022). Two residential aged care facilities have also been impacted, with 33 staff and residents infected, and multiple other aged care facilities have had exposures from active cases. The outbreak has spread beyond Perth/Peel metropolitan area, with cases now in South West, Wheatbelt and Pilbara.

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Exponential growth of Omicron case numbers is expected over the coming weeks, with modelling forecasting approximately 1,700 cases per day by 02 March 2022, 5,450 cases by 13 March 2022 and peaking around the end of March 2022 at 9,700 cases.

MODELLING UPDATE

Modelling conducted by WA Health has analysed a range of pandemic scenarios for WA. This modelling has considered a range of variables, including the transmissibility of the virus, the protection provided by 2 doses of the vaccine, the benefits from booster doses at various population coverage rates, the waning of protection from the vaccine against infection and serious disease, and the severity of the disease in vaccinated and unvaccinated populations leading to hospital and ICU admissions. The models project the number of symptomatic cases, hospitalisations, intensive care unit (ICU) cases and potential deaths at different points of re-opening and at different caseloads when Public Health and Social Measures (PHSMs) are introduced.

The model illustrates the important contributions that can be made by vaccination, PHSMs and testing, tracing, isolation and quarantine (TTIQ) in suppressing the effects of the outbreak. These will be discussed in further detail below.

MITIGATION MEASURES

Vaccination

In my advice of 19 January 2022, I outlined the latest data relating to the Omicron variant and the protection afforded by mRNA vaccine boosters. Early estimates of vaccine effectiveness against infection indicate that there is lower initial vaccine effectiveness from two doses of Pfizer or AstraZeneca vaccine (36-88%) against the Omicron variant, which then wanes rapidly to 0-34% from about 4 months after the 2nd dose.[1,2,3,4] A mRNA booster dose appears to restore moderate levels of effectiveness against symptomatic Omicron infection (64-76%).[1,4] Vaccine effectiveness against hospitalisation with Omicron shows a similar pattern of waning, falling to 52% after a two-dose primary series. A booster dose increases vaccine effectiveness against hospitalisation to 88% (95% CI 78-93%).[5,6]

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[1] Andrews N, Stowe J, Kirsebom F, et al. Effectiveness of COVID-19 vaccines against the Omicron (B.1.1.529) variant of concern. 2021.

[2] Hansen CH, Schelde AB, Moustsen-Helms IR, et al. Vaccine effectiveness against SARS-CoV-2 infection with the Omicron or Delta variants following a two-dose or booster BNT162b2 or mRNA-1273 vaccination series: A Danish cohort study. medRxiv 2021:2021.12.20.21267966.

[3] 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

[4] 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_smxx.pdf

[5] 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

[6] 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

The current vaccination rates in WA for people 12 years and older are 98.7% for first doses, 95.3% second doses and 54.3% (16 years and older) for booster doses. The booster rate is higher for different population cohorts, as shown in Table 1. The results to date are extremely reassuring and indicate that WA is well on track to achieving high booster vaccination rates at the peak of the pandemic in WA.

Age cohort	**Dose 3 coverage (at 18 February 2022)**
50-59	69.3%
60-69	71.0%
70-79	85.0%
80+	83.2%

Table 1: WA Dose 3 population vaccination rate by ten-year age cohorts. (Source: COVID-19 vaccinations dashboard).

Modelling of current vaccine rates suggests that booster dose coverage will be greater than 65% for 16 years and over group, over 79% for the 50 years and over group, and over 90% for the 70 years and over group by 02 March 2022. WA's booster coverage is anticipated to continue increasing during the period of epidemic growth, reaching 80% coverage around the time of the peak on 31 March 2022.

The level of immunity in the population is different from the rate of booster uptake. This is because immunity, including of boosters, wanes over time, as outlined above. The modelling considers the waning effectiveness of the vaccine against infection and, more slowly, serious disease, particularly in more vulnerable groups and health care workers who were boosted early. It also considers that some eligible population cohorts, such as children aged 5-11, are in the early stages of receiving their immunisations and those under 5 years are not yet eligible.

The modelling by WA Health found that peak immunity in WA will be reached in March 2022. Beyond March 2022, the benefit achieved by waiting for higher (>65%) booster vaccination rates in people under 50 years of age will be offset by the waning in immunity that will occur in older age groups and healthcare workers, and more symptomatic cases and increased hospitalisations could be expected.

Childhood vaccination rates reflect strong community support for vaccination in this cohort. The first dose vaccination rates are strong; however, the second dose shows significant lag due to the eight week period between doses and the delay in availability for the younger age groups, with 5-11 year olds only becoming eligible on 10 January 2022. The first dose vaccination rate is 46% for 5-11 year olds, 86% for 12-15 year olds and 98% for 16-17 year olds. While the vaccine has not been available in WA for children aged 5-11 years long enough for them to be fully vaccinated, the second dose vaccination rate for children aged 12-15 years is 74% and for 16-17 year olds is 92%. It is notable that while children are highly represented in the case numbers in the Omicron outbreaks in other Australian jurisdictions, they rarely get serious disease and are under-represented in hospitalisation statistics.

Testing, Tracing, Isolation and Quarantine (TTIQ)

The *WA COVID-19 TTIQ (Testing, Tracing, Isolation and Quarantine) Plan*[7] has been finalised and published, to provide guidance to businesses, facilities and service providers for outbreak management, as WA transitions from a low to a very high caseload environment due to the Omicron outbreak.

WA Health anticipates seeing a rapid increase in demand for COVID-19 testing. To meet demand, WA Health has a staged surge response in place to manage the increased testing demand that is expected for both PCR testing and Rapid Antigen Tests (RATs). The pivot to use of RATs as a diagnostic test has been implemented in anticipation of this increased demand and will allow the community timelier access to test results, which will facilitate earlier isolation of cases and their close contacts. Reporting of positive results for both test types (PCR and RAT) is now mandated[8] under the *Public Health Act 2016* and the *Emergency Management Act 2005.*[9]

To date, WA Health's contact tracing team has been able to keep up with demand; however, due to the highly infectious nature of Omicron variant, the contact tracing efforts are not able to capture all chains of transmission. In accordance with my advice of 06 February 2022, definitions for 'close contacts' have been modified to suit a 'high caseload' setting, which provides clear guidance on who is considered a close contact and their isolation requirements. Directions for testing and isolation have been drafted under the *Emergency Management Act 2005* for this purpose.[9]

Public Health and Social Measures

PHSMs are risk mitigation measures that support a reduced transmission potential, by reducing interactions and mixing between people, through means such as restrictions on density and capacity at public and private gatherings. On 16 February 2022, I provided advice on the implementation of a phased approach to PHSMs. In my advice, I recommended that all regions in WA should move to a baseline setting for PHSMs on or after 18 February, with the Perth and Peel, South West, Wheatbelt, Great Southern and Pilbara regions recommended to move to Level 1 PHSMs.

As the outbreak in WA grows, PHSMs are needed to support a flattening of the epidemic curve, which is particularly important in reducing the peak of new cases and the consequent impact on hospital services. The WA Health modelling data shows that early implementation of PHSMs, at both Levels 1 and 2, is highly likely to have a significant impact on the number of symptomatic cases, hospitalisations and ICU admissions.

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[7] TTIQ Plan: https://ww2.health.wa.gov.au/~/media/Corp/Documents/Health-for/Infectious-disease/COVID19/TTIQ/COVID19-TTIQ-Plan.pdf
[8] COVID Testing Reporting Directions: https://www.wa.gov.au/system/files/2021-09/Covid-Testing-Reporting-Directions-No2.pdf
[9] Transition Testing and Isolation Directions. Available: https://www.wa.gov.au/system/files/2022-02/COVID-Transition-Testing-and-Isolation-Directions.pdf

Hotel quarantine

Use of hotel quarantine for international and domestic travellers has been greatly reduced since the transition to self-quarantine for these cohorts. As hotel quarantine is now primarily used for unvaccinated international travellers, international and domestic travellers who have no other safe self-quarantine options, or for cases and close contacts who are unable to safely isolate in the community, the risks of seeding from hotels into the community has diminished. The facilities that are still under requisition by the State are available for a surge in cases, if needed, during the peak of WA's outbreak.

Hospital Capacity

The WA Health System is well prepared for a surge of cases related to the Omicron COVID-19 outbreak. There is a well-defined surge plan, initially developed in 2020 and recently reviewed, that covers general and ICU beds, and includes the ability to use the private sector for additional capacity as required. Alternate workforce models have been developed for high risk areas such as ICU. The system has a graded response (System Alert Response), which clearly articulates preventative actions in the system to mitigate the risk to staff and patients as case numbers rise.

The *COVID Care at Home* model is in place and supported by the Patient Flow Coordination Centre, which will work with St John Ambulance to identify appropriate locations for COVID-19 patients to be transported to minimise impact on Emergency Departments.

Seeding

WA's current arrangements for interstate and international visitors require they quarantine for 7 days and undertake a RAT prior to arrival, within the first 24 hours and at Day 7. With the opening of the borders, the quarantine requirement will be removed but an arrival test will still be required. While seeding was a potential issue during the consideration of the 05 February 2022 opening and early in the current outbreak when community case numbers were low, the modelling suggests that only 13 additional cases per day would be added to community cases with the new testing arrangements. The relative impact of imported cases will diminish rapidly as local cases increase, particularly once WA reaches over 1600 local cases per day. Seeding will also reduce further over the next month, as all other jurisdictions have now reached their peak and are noting major reductions in the number of new local cases.

Winter surge

In my advice of 19 January 2022, I discussed the possible impact of a dual outbreak of COVID-19 and influenza. It is of paramount importance that WA avoids this situation if possible. Knowing that WA is more likely to experience an early and severe influenza season, WA Health now has a small window of opportunity to manage a wave of COVID-19 as a single pathogen outbreak, at a time when demand on our hospital capacity is usually at its lowest.

RECOMMENDATIONS

In my advice of 19 January 2022, I noted that the Omicron variant is a very different disease to Delta and, once established, can only be suppressed, not eliminated. I recommended that consideration be given to deferring the opening on the 05 February 2022. I also noted that the potential for increased booster and childhood doses in February 2022, increased access to diagnostic tests, and further work on hospital capacity were important considerations, and that a further review of proposed opening options should be undertaken within 4 weeks, which would enable further modelling and assessment of the other factors involved, including the impact of seeding, the potential to run into the winter surge period, baseline bed availability, the waning of protection in vulnerable groups and ongoing issues with health workforce recruitment.

I further indicated that, 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 from introduced cases.

The outbreak in Perth has now moved into a rapid exponential growth phase, during which WA will need to use TTIQ and PHSMs to reduce transmission and dampen the consequent epidemic curve. The modelling data and assessment of other factors indicates that, from a public health perspective, WA is now in the optimal position to manage a wave of COVID-19, as our population is highly vaccinated with two doses, our more vulnerable populations have high levels of booster vaccination and the marginal benefits of waiting longer for higher booster dose coverage for the younger population is countered by the waning immunity that some of our population will experience with the passage of time. Being able to manage the outbreak before winter, and minimising the potential for dual virus outbreaks, is also ideal. Importantly, it is now clear that the opening of the State border to quarantine free travel for vaccinated domestic and international travellers will not add significantly to the case numbers.

In conclusion, based on the current evidence available, including observations of other Australian jurisdictions and impacted countries, scientific literature, general modelling and updated WA modelling, I recommend, as the Chief Health Officer, that WA state border restrictions should cease, and the border should open on or after 2 March 2022.

In line with this proposed next step, I further recommend that WA should, from that date:

- permit entry for any triple dose (if eligible) vaccinated interstate traveller without the need to quarantine;
- permit entry for any vaccinated international traveller without the need to quarantine;
- require a rapid antigen test to be taken within 12 hours of arrival and any positive test reported; and

- permit entry for unvaccinated returning Australian international travellers within an agreed cap and require them to complete 7 days quarantine in government supervised hotel quarantine.

I will continue to monitor the WA outbreak and provide updated advice accordingly.

Yours sincerely

Dr Andy Robertson
CHIEF HEALTH OFFICER

18 February 2022