

Chief Health Officer Advice to Minister for Health

Advice relating to the making of Pandemic Orders as required by section 165AL of the *Public Health and Wellbeing Act 2008*

Date of advice: 23 December 2021

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Introduction and Summary of Advice

1. In response to the request from the Victoria's Minister for Health (**Minister**) made on Tuesday 21 December 2021, set out below is my advice as Victoria's Chief Health Officer, regarding whether the Victorian Minister for Health should amend the current Pandemic Orders made pursuant to section 165AI of the *Public Health and Wellbeing Act 2008 (Vic)* (**Act**) in relation to the coronavirus of 2019 (**COVID-19**).
2. In providing this advice, I am aware of the legislative context in which the Minister's request is made. Section 165AI of the Act empowers the Minister, at any time on or after the making of a pandemic declaration, to make any order that the Minister believes is reasonably necessary to protect public health. The Act requires that the public health response be proportionate to the public health risk that the disease (in this case, COVID-19) poses.
3. This advice relates to public health measures that supplement the public health measures I proposed in my advice to the Minister made on 10 December 2021 (see **Appendix A**). This advice therefore supplements and updates that advice. To the extent that there is no inconsistency between the measures set out in Appendix A and this advice, I still consider the public health measures set out in that advice to be necessary and appropriate.
4. I am providing this supplementary advice because the Omicron Variant of Concern (**Omicron**) is now circulating in Victoria. Given early evidence suggesting increased transmissibility and evasion of both natural and vaccine-induced immunity, infections with Omicron are likely to increase exponentially. This is being demonstrated in other jurisdictions where an exponential growth of cases has occurred with a short doubling time, and where exponential growth is being primarily driven by Omicron cases.
5. Omicron is expected to compound the ongoing issue of elevated case numbers driven by the currently predominant Delta Variant of Concern (**Delta**). Elevated case numbers already constitute a significant burden on Victoria's testing capacity and the Victorian health system. Without additional public health interventions, there is a clear and realistic possibility of widespread infection and serious illness, an unsustainable burden on the health system and substantial disruption to economic and social activities throughout the community.
6. Just as outbreaks of Delta challenged public health measures that had been effective against ancestral SARS-CoV-2 strains, Omicron is likely to challenge the public health measures that have stabilised rates of community transmission of Delta. It is therefore necessary and appropriate to review and strengthen existing infection prevention and control strategies, along with other public health and social measures.
7. There is a range of possible measures that are likely to assist with managing the anticipated health risks posed by Omicron.
8. These measures are
 - i. **educating the community** about the risks that Omicron poses and encouraging them to utilise measures that will decrease the risk to themselves and their loved ones;

- ii. **increasing testing** by improving access to and encouraging expanded use of rapid antigen testing prior to attending gatherings, public events and sensitive settings;
 - iii. reimposing **face mask requirements** and reducing the age to those aged 8 years and above in higher transmission risk settings such as indoor premises and major events;
 - iv. **restricting visitor access to sensitive settings** such as hospitals and aged and disability care facilities to protect the most vulnerable population groups;
 - v. implementing **density quotients** in all hospitality settings to support the ability for individuals to maintain physical distancing and limit close interactions; and
 - vi. implementing **seated service requirements and ceasing use of dance floors in all indoor hospitality settings (including restaurants, pubs, nightclubs, live music, karaoke venues and cafes)** to maintain physical distancing and limit close interpersonal interactions.
 - vii. considering implementing **patron pre-testing requirements** for Victorian major events at and above a **lowered patron cap** (between 1,000 and 5,000), as these events pose a heightened risk of incursion and transmission by nature of their size, density and activity; and
 - viii. reviewing the **test, trace, isolate and quarantine approach** in Victoria to ensure a testing mechanism that is most efficient and effective at scale and which preserves system capacity.
9. I therefore commend these measures to the Minister and note that early and consistent implementation of all the measures is the best strategy to avoid more restrictive measures being necessary in the future. Amongst these measures, I consider that the measures relating to masks (paragraph iii, above) and to indoor hospitality (paragraph v and vi, above) are the most important measures in the short term, to reduce the probability that more restrictive measures will be required to manage Omicron morbidity. I nevertheless acknowledge that some measures will impose a greater burden on Victorians than others, and that the Minister will have to weigh the degree to which each measure impacts on public confidence in, and goodwill towards the administration of public health,
10. These measures will not entirely prevent further infections, but they will slow the rate of increase in infections so that more people can receive a third (booster) vaccination prior to potential exposure. Early evidence on vaccine effectiveness indicates that a booster vaccination significantly increases an individual's protection against the serious illness and hospitalisation associated with Omicron.
11. Given the challenges of logistics and the uncertain timeframe, the Minister may wish to take a staged approach to consider employing the measures set out above. A staged approach would allow further observation of numbers by the Minister and the Victorian community.
12. In providing this advice, I have carefully considered the limits that the proposed measures place on human rights, and the objective of reducing a serious risk to public health. Additionally, I have considered whether the proposed measures are the least restrictive

reasonably available by which to achieve the public health objective, as required by the *Charter of Human Rights and Responsibilities Act 2006* (Vic) (**Charter**).

How the Act Informs this Advice

13. The Act provides that, once Victoria's Premier has made a Pandemic Declaration, the Minister may make any order that the Minister believes is reasonably necessary to protect public health.¹
14. If the Minister is considering making pandemic orders, the Minister must consult with the Chief Health Officer and consider the Chief Health Officer's advice.² This is my advice for the purpose of that provision.
15. The Minister has sought advice about:
 - (a) *the serious risk to public health posed by the disease specified in the pandemic declaration to which the proposed pandemic order relates; and*
 - (b) *the public health measures that I consider are necessary or appropriate to address this risk.*
16. Section 3 of the Act defines the phrase "serious risk to public health" as:

a material risk that substantial injury or prejudice to the health of human beings has occurred or may occur having regard to:

 - (a) *the number of persons likely to be affected; the location, immediacy, and seriousness of the threat to the health of persons;*
 - (b) *the nature, scale and effects of the harm, illness or injury that may develop; and*
 - (c) *the availability and effectiveness of any precaution, safeguard, treatment, or other measure to eliminate or reduce the risk to the health of human beings.*
17. I have taken the Act's definition of "serious risk to public health" into account when giving this advice.

This advice is based on the information that is available

18. My advice is based on the information available to me,³ which I have reviewed and assessed to ensure that it is relevant and reliable.
19. Given how recently Omicron was identified and how recently it has taken hold in various cities and countries, there are still large gaps in what we know about its impact. However, laboratory and epidemiological information is starting to emerge that suggests that Omicron poses a clear and present risk above and beyond the risks posed by other Variants of Concern, including Delta. These risks must be taken seriously. As the Act indicates and requires,⁴ a lack of full scientific certainty is not a reason for postponing measures to prevent or control the public health risks described below.

¹ See section 165AI.

² See section 165AL(1).

³ See section 5.

⁴ See section 6.

Overview of the current epidemiological situation in Victoria

20. I am informed that, as of 22 December 2021, 1,503 new cases have been reported to Victoria's Department of Health in the previous 24 hours, of which 1,490 were locally acquired and 13 were overseas acquired. As of 22 December 2021, Victoria has 13,888 active cases, of which 13,725 were locally acquired and 163 were overseas acquired, and 434 active outbreaks.
21. Victoria's first case of Omicron was confirmed in an international traveller in hotel quarantine on 8 December 2021 and as of 22 December 2021 there are 61 active Omicron cases confirmed within the state.
22. As of 22 December 2021, Victoria has recorded a cumulative 149,595 total cases of COVID-19 and 1,466 total deaths.

Test results

23. As of 22 December 2021, 92,262 test results have been received in the previous 24 hours, contributing to a total of 16,687,314 tests that have been performed since 1 January 2020.
24. According to data from the week ending 10 December, the proportion of tests returning a positive result in Victoria is estimated at 1.8%, and this rate has remained relatively stable between 1.5%-2% since the start of November 2021. This demonstrates the high level of transmission currently in Victoria, and also potentially indicates that there may be an ongoing substantial proportion of undiagnosed COVID-19 cases in the community.

Emerging evidence about Omicron

25. On 26 November 2021 – less than a month ago – the World Health Organisation (**WHO**) declared the recently identified B.1.1.529 variant as a Variant of Concern and named it Omicron.¹ Within a very short timeframe of its discovery, Omicron has already become widely disseminated across the globe. According to the WHO, as of 21 December 2021, Omicron has been detected in at least 106 countries across the globe, indicating widespread global transmission of this variant is already underway.² In South Africa, genomic surveillance has demonstrated that the strain rapidly displaced other variants and was the dominant strain in samples collected throughout November prior to its first official reporting, suggesting that, by the time of its detection, the variant was already widely disseminated in the population³.
26. Omicron appears to be replicating this growth advantage in other regions. The first case of Omicron was detected in the USA on 1 December 2021 and by the week ending 18 December 2021, it was reported to be the dominant circulating variant by the United States Centres for Disease Control, accounting for over 73% of newly diagnosed cases⁴. This trend has also been foreshadowed in the United Kingdom where the first Omicron case was reported on 27 November 2021 and surveillance data from the UK Health Surveillance Agency released on 20 December 2021 reported that 69.2% of samples recorded S-gene target failures, the characteristic laboratory feature of Omicron. Early analyses indicate that the number of new or incident Omicron cases is doubling every 1.45-2.26 days for all regions in the UK, with this reported doubling time being less than 2 days for most regions.⁵ Thus, Omicron cases appear

- to increasing at a faster rate when compared to the Delta, which is consistent with a greater degree of infectivity.
27. Omicron notably has a large number of genetic mutations, some of which overlap with those associated with the other known Variants of Concern (Alpha, Beta, Delta and Gamma). These genetic mutations are predicted to confer increased transmissibility, a greater capacity to evade the body's immunity systems, and potentially altered virulence.⁶
 28. Evidence on Omicron's disease severity and its impact on individuals and the population is still emerging. However, early epidemiological trends support a predicted growth advantage over other variants including Delta. Several jurisdictions have reported a significant surge in cases coinciding with the detection of Omicron, most notably:
 - i. South Africa, where they are currently experiencing a fourth pandemic wave since early November;⁷
 - ii. the United Kingdom, where there has been a 60.8% increase in new case detections in the week preceding 20 December 2021;⁸
 - iii. Denmark, where there has been a 57% rise in new cases in the week preceding 21 December 2021;⁹ and
 - iv. New South Wales which has similarly seeing an exponential rise in cases since early December.¹⁰
 29. Further, in preliminary analyses of UK data for the period ending on 4 December 2021, Omicron demonstrated greater transmissibility and breakthrough infections in persons with known exposure compared to Delta. In Omicron cases, the secondary attack rate (the probability of infection spreading to susceptible people within a group, such as a household) is estimated to be 15.8% (95% CI, 14.3-17.5%) compared to 10.3% (95%CI 10.1-10.5%) for Delta in household contacts, and 8.7% (95%CI 7.5-10.0%) compared to 3.0% (95%CI 2.8-3.2%) for Delta in non-household contacts.¹¹
 30. There is currently limited understanding of disease severity in infected individuals, but a greater risk of re-infection is predicted.¹ Although there is some suggestion that Omicron might be less virulent than other variants, this data is too early and tentative to be compelling. Additionally, even if Omicron does not inherently cause more severe disease, if it is more transmissible and causes significantly greater case numbers, a surge in hospital admissions is still likely and health systems may still become overwhelmed.
 31. This concern is highlighted in the rising hospitalisation rates in South Africa, where the number of COVID-19 hospital admissions doubled weekly over a 4-week period from mid-November.¹² A steep increase in hospitalisation rates has also been reported in Denmark¹³ where the proportion of Omicron VOC cases are rising (cautious interpretation of the upward trend in Denmark is required as this trend was being observed since early October and likely attributable in part to Delta). In the UK, COVID-19 hospitalisations have remained elevated with fluctuations since late July with a 2.2% increase rate reported in the week preceding

17 December 2021.⁸ It is important to acknowledge that the Victorian health system is already under burden from the ongoing Delta outbreaks due to hospitalisations and staff furloughs, and now the Omicron poses an additional concern that will likely lead to greater health service demand and operational disruption.

32. In Australia, we have seen that NSW continues to see increasing COVID-19 case numbers, with 3,763 new cases reported on 22 December 2021 for the preceding 24 hours, the highest daily total recorded in the state (as well as a R_{eff} of approximately 2, which indicates that cases are doubling about every four days). Most notably, the Hunter New England local health district has recorded a disproportionately large number of cases, with 5,840 cases reported in the 4 weeks preceding 21 December, and many cases linked to a super-spreader event on 8 December 2021 at a Newcastle nightclub, the Argyle. Of the 680 patrons who attended the Argyle, over 200 cases have already been linked to that outbreak. Preliminary projections reported by the NSW Government, based on their current epidemiology and current knowledge about Omicron, indicate that case numbers may reach 25,000 per day in NSW in January 2022.¹⁴
33. Epidemiological and virological analyses are underway to better characterise the Omicron variant, with data still emerging regarding its infectivity, transmissibility and severity. There are also some findings which have an uncertain meaning. For example, the South African province of Gauteng became the epicentre for the Omicron outbreak when the newly identified variant rapidly became the dominant circulating strain in the area. After being the first region in the world to record a wave of Omicron cases, there has now been a consistent reduction in the daily number of reported incident cases. On 20 December 2021, 3316 new cases were reported in Gauteng province compared to 6744 new cases reported 16 December 2021,¹⁵ indicating that the outbreak in this province may have already peaked. However, there are a number of hypotheses about what has occurred, and it is too early to be definitive that the outbreak is actually receding. Further analyses are required before any conclusions can be drawn regarding the reasons for the observed drop off in daily reported cases.

Emerging evidence about vaccine effectiveness

34. While, at this stage, it remains uncertain whether the protection afforded by vaccines against infection and severe illness has been significantly eroded by Omicron, preliminary results of studies collated by the WHO suggests two things.
35. First, vaccines appear to have a reduced effectiveness against symptomatic infection and (to a lesser extent) hospitalisation for Omicron when compared to other variants. For example, according to an analysis of the initial Omicron cases in Denmark, 76% of cases had been fully vaccinated (with Pfizer, AstraZeneca, Moderna or Janssen vaccines) at least 14 days before their diagnostic test, and 7.1% had received a booster dose.¹⁶ Similar findings have been reported in an outbreak at a social event involving fully vaccinated attendees in Norway.¹⁷
36. These findings are repeated in early findings in a UK study¹⁸ which suggest vaccine effectiveness against symptomatic infection for Omicron to be approximately 88.0% (95%CI: 65.9 to 95.8%) 2-9 weeks after the 2nd dose of the Pfizer vaccine, dropping to 34% (95%CI: -

7.0 to 59.0%) after 25 weeks. This level of vaccine effectiveness compares to 63.5% (95%CI: 61.4 to 65.5%) against Delta after a similar 25-week time lapse. Of note, there was no protective effect of vaccination against symptomatic disease with Omicron with the AstraZeneca vaccine 15 weeks after the 2nd dose (noting that this result may be confounded by the small number of participants and older demographic of AstraZeneca vaccine recipients who are likely to have a higher prevalence of concurrent medical comorbidities). At this time, the effectiveness of the AstraZeneca vaccine in preventing serious disease due to Omicron is not known.

37. Second, vaccine effectiveness appears to improve in those who have received a booster dose of COVID-19 vaccines. In particular, booster vaccines appear to reduce the likelihood of severe illness. The same UK study¹⁸, outlined in paragraph 36 goes on to estimate that vaccine effectiveness against symptomatic illness from Omicron is 75.5% (95%CI: 56.1 to 86.3%) two weeks after a Pfizer vaccine booster dose in those who received a primary course of the Pfizer vaccine and 71.4% (95%CI: 41.8 to 86.0%) in those who received a primary course of the AstraZeneca vaccine.
38. Importantly, even countries with high levels of previous infection or vaccination are seeing rapidly surging case numbers of the Omicron VOC. It is not yet known the extent to which these trends reflect the variant being able to evade previously established immunity (from infection or vaccination) or just its increased transmissibility¹⁹.
39. Although these findings are not yet definitive, they provide promising evidence on the use of booster doses of existing COVID-19 vaccines. Further studies and publications are awaited on the impact of Omicron VOC on vaccine effectiveness.

Results of Modelling into the effect of Omicron

40. Modelling and epidemiological projections for Victoria in relation to the expected impact of Omicron are being actively undertaken. This modelling aims to support decision-making by:
 - i. setting out the possible effects of Omicron in the short and medium term, in relation to case numbers, hospitalisation and ICU admission rates and deaths; and
 - ii. predicting how public health measures (boosters, testing, masks, contact tracing) might impact on these outcomes.
41. The modelling canvassed a series of possibilities based on the information set out above, relating to whether:
 - i. Omicron is more, less or equally infectious to Delta;
 - ii. Omicron causes severe illness as frequently or less frequently than Delta; and
 - iii. Vaccines are equally effective or less effective for Omicron when compared to Delta.
42. Given the lack of compelling information currently available, **all combinations of infectiousness, severity and vaccine efficacy represent plausible scenarios** and should be considered when deciding what public health measures are necessary or appropriate.
43. Together, these combinations result in:

- i. optimistic scenarios, where there is high infectiousness, low severity and good vaccine effectiveness;
 - ii. middle scenarios, where there is high infectiousness, equal severity, and a slight decrease in vaccine effectiveness; and
 - iii. severe scenarios of high infectiousness and severity, particularly if no public health interventions are taken or enacted early, equal or severity and poor vaccine effectiveness.
44. Current modelling of the severe scenarios results in case numbers equivalent to or exceeding those that the NSW Government has described, discussed above in paragraph 32. While it is plausible that these projections might not come to pass, and it is appropriate not to overreact, it is equally plausible that they might come to pass, and it would be reckless to ignore them entirely.

Necessary or appropriate public health measures

45. As the figures set out above show, Delta case numbers remain high in Victoria, and now new cases of Omicron are emerging across the community. However, extrapolating from the experience internationally (discussed in paragraphs 28 to 29, above); the current epidemiology both locally and in NSW (discussed in paragraphs 20 and 32); and the results of modelling, (discussed in paragraphs 40 to 44), it is anticipated that case numbers in Victoria will also rise exponentially in the coming weeks, with Omicron quickly becoming the dominant variant.
46. I therefore advise that the Minister consider a range of additional public health measures beyond those that are currently in place and which were discussed in my advice to the Minister dated 10 December 2021 (see **Appendix A**). For clarity, I still consider the public health measures set out in that advice to be necessary or appropriate.
47. The first set of additional public health measures aim to (further) slow the transmission of Omicron now, to allow more time for Victorians to receive a booster vaccination. These measures, in increasing degree of burden are:
 - i. community education about the various measures, discussed in paragraphs 51 to 53;
 - ii. increasing testing through RATs, discussed in paragraphs 54 to 58;
 - iii. reimposing face mask requirements, discussed in paragraphs 59 to 65; and
 - iv. restricting visitor access to sensitive settings, discussed in paragraphs 66 to 71.
 - v. ceasing the use of dance floors in indoor hospitality settings, discussed in paragraphs 80 to 81; and
 - vi. implementing density limits and seated service requirements, discussed in paragraphs 82 to 86.
48. A second set of public health measures require significant logistical support and could only be considered when such support (primarily the widespread and cheap availability of RA testing) is available. These measures are:
 - i. requiring patrons at Victorian events, and visitors to sensitive settings, to undertake RA testing prior to admission, discussed in paragraphs 101 to 102; and
 - ii. altering testing requirements to utilise Rapid Antigen testing more widely, discussed in paragraph 105 to 109.
49. For clarity, I consider the increase in use of RATs, the reimposition of face masks and closing dance floors in indoor settings to be the most important factors in reducing the transmission of Omicron widely across Victoria, and commend them to the Minister.
50. These sets of public health measures are not Victoria's final response to an Omicron surge; they are the initial responses that should be deployed quickly if and when the surge arrives. It is appropriate to describe these measures in this advice so that the Minister and the Victorian community are aware of my likely advice in that circumstance and can plan accordingly.

Community Education

51. The Minister should consider rapidly escalating current public education and communication efforts, both to warn the Victorian community about the risks that Omicron poses, and to strongly encourage individuals to undertake the various measures that I describe below.
52. Knowledge about how to perform a RA test (and that Victorians should obtain a negative result prior to attending social gatherings, public venues and any sensitive settings such as hospitals or aged care facilities) will better equip Victorians to protect themselves and to limit the unintentional spread to loved ones or those who could be particularly vulnerable to infection.
53. Similarly, the Department has and should continue to employ education, communication, and guidance campaigns to support the wearing of face masks. The European Centre for Disease Prevention and Control (ECDC) advises that public education strategies have played an integral role in the success of face mask mandate policies where they have applied,²⁰ and as such, I advise that our mask education strategies in Victoria should continue to be enhanced. According to Victorian population surveys on COVID-19 related behaviours and attitudes, face masks have been widely adopted by most members of the community,²¹ indicating a potential for high uptake and compliance with the return to face masks mandate in indoor settings, even with the introduction of a lower age cut-off.

Increasing Rapid Antigen Testing

54. In the context of ongoing community transmission of the Delta variant, and the likely increase in transmission of Omicron, I advise that the role of rapid antigen (**RA**) testing be urgently expanded in Victoria. RA tests show moderate sensitivity and high specificity for the detection of SARS-CoV-2 and are an appropriate asymptomatic screening tool in the setting of high community prevalence.
55. Better access to and awareness of RA testing will arm Victorians with a more proactive preventative tool, particularly for those who may experience asymptomatic infection and unwittingly pass this on to their friends and family. Improving access to and utilisation of RA testing in Victoria will be critically important, especially over the holiday period, when people are more likely to travel and congregate in groups. Ensuring a negative RA test prior to attending gatherings or events reduces the risk of 'super-spreader' events that have already been observed in other jurisdictions (see paragraph 32 and 35).
56. To ensure RA tests are accessible for all and can be used where they will provide most benefit, I advise that the Victorian government introduce either fully or partially subsidised RA test kits that can be accessed by the general public.
57. As noted in more detail below with reference to public events, hospitals and care facilities, anyone with a positive RA test must not attend the event or enter the sensitive setting, but instead follow the instructions provided for persons who test positive with this modality, which is to undertake a PCR test and self-isolate.

58. The use of RA testing as an asymptomatic screening tool in the context of high community prevalence is consistent with my previous advice, but their use should be expanded now given the increased risk posed by the Omicron variant.

Face masks in Indoor settings

59. Face masks remain an important public health measure even in the context of high population vaccination rates in Victoria. While the booster vaccination program continues to be rolled out, face masks are likely to have a significant impact in reducing the risk of transmission, particularly when worn indoors¹⁹.
60. My previous advice noted the protective effect of face masks and how they both reduce the risk of disease transmission from infected individuals as well as help protect healthy individuals. Furthermore, the transmission risks in indoor and confined spaces with poor ventilation (and particularly when physical distancing is difficult to maintain) is much higher when compared to outdoor spaces.²²
61. With high ongoing rates of community transmission of Delta in Victoria, as well as increasing local cases of Omicron, I consider the re-introduction of face masks in all non-residential indoor settings an appropriate intervention that will reduce the risk of widespread transmission
62. I advise masks be required for those aged 8 years and over for all indoor settings outside the individual's place of residence. This should include – but not be limited to – workplaces, education settings, indoor events, entertainment venues, hospitality venues (except when eating or drinking) and public transport. Previous mask exceptions should continue to apply, particularly for those who have medical reasons not to wear a face mask.
63. While face masks have been previously mandated for those aged 12 years and over in Victoria, recent outbreaks in education settings have involved children of all ages. As at 22 December 2021, there have been a total of 31,093 cases and 2,561 active cases in the 0-9 years age cohort. In children aged 10-19 years, there have been 22,652 total cases and 1,975 active cases. Face masks limit the risk of disease transmission in this cohort and the potential consequences of exposure and infection.²³ Furthermore, while severe disease and death due to COVID-19 may be rare in children, the long-term potential consequences of infection, including 'long COVID' in this cohort are not well understood. This age group also continues to play a major role in disease transmission. Of note, the vast majority of Victorian population aged between 8 to 12 years of age is not currently vaccinated against COVID-19, leaving this group more vulnerable to the disease than older children who are eligible for vaccination. Introducing a face mask requirement for those aged 8 and over in all indoor settings in Victoria at this time could play a significant role in preventing the potential exponential rise in case numbers that is being observed overseas.
64. I therefore advise that lowering of the age from which masks should be mandated in the general community and note that this would align with face mask requirements currently in place for students in Years 3-6 when they are at school, where there have been no significant issues with using them in school settings.

65. In addition to any mandate, existing communications should continue regarding the use of face masks outdoors where physical distancing cannot be maintained, at public events or when visiting other households.

Restrictions on visitors to hospitals and care facilities

66. Individuals who are elderly, immunocompromised or have significant comorbidities and complex care needs are overrepresented as inpatients at hospitals and residents at care facilities. For this reason, they are often defined as sensitive settings, as patients and residents at these facilities are particularly vulnerable to the negative impacts of COVID-19 infection, including severe disease and death.
67. Hospitals are sensitive settings where patients, workers and visitors are at increased risk of being exposed to and transmitting COVID-19. Individuals with known and suspected COVID-19 are more likely to present to health care settings and health care workers are more likely to have prolonged exposure to such individuals during their work. Outbreaks in these settings have continued throughout 2021. From 1 August until 21 December 2021, a total of 555 outbreaks were linked to acute hospital settings, resulting in 2,115 confirmed cases and 76 deaths, which comprise some 13.0% of all outbreaks, 1.6% of all cases and 11.7% of all deaths during this period.
68. Incursion of COVID-19 into care facilities has resulted in significant transmission, outbreaks and loss of life. Between 1 August 2021 and 13 December 2021, aged and residential care facilities recorded 309 outbreaks, 1,743 cases and 139 deaths, which comprise some 7.4% of all outbreaks, 1.5% of all cases and 23.2% of deaths during this period. Disability services recorded 202 outbreaks, 609 cases and 1 COVID-19 related death, which comprise 4.9% of all outbreaks, 0.5% of the total number of cases and 0.2% of all deaths during this period.
69. The outbreaks seen in these sensitive settings throughout 2021 have had significant consequences for staff and patients at health services, and staff and residents at care facilities. For this reason, additional restrictive measures for visitors to both hospitals and care facilities are likely to be appropriate.
70. These additional measures must balance the mental and emotional wellbeing of residents, patients, and families with the potential risks of COVID-19 incursions due to visitors. This is particularly important given that visitor restrictions in the last 20 months have been associated with negative impacts including by contributing to the social isolation of patients and elderly residents.
71. The Minister should consider further restrictions on numbers of visitors to hospitals and care facilities – noting these are already very limited and many facilities apply more stringent rules regarding visitation than the Pandemic Orders require. With loneliness and mental health concerns such a key social factor at this point of the year, it might be that any changes to visitation restrictions at aged care facilities – reducing visitors from five people per day to two people – are delayed until after Christmas.

Changes to hospitality

72. Hospitality and entertainment venues, including food and drink premises, pubs, nightclubs, live music, cafes, restaurants, karaoke venues and similar premises are associated with a higher risk of SARS-CoV-2 transmission when compared to other types of public venues.
73. These premises are often higher risk settings due to the nature of their environment and the activities undertaken within such venues. Environmental factors which may increase the risk of transmission for such hospitality and entertainment venues include confined, indoor spaces with low ventilation. Behavioural factors such as talking loudly, singing, shouting and increased physical exertion (for example, from dancing) may lead to an increased volume of respiratory aerosols and droplets being generated and propelled over a greater distance by potentially infectious attendees.
74. These behaviours may be exacerbated by alcohol consumption and intoxication, which can lead to poor adherence with COVID safe measures such as physical distancing and respiratory hygiene practices. Furthermore, as patrons remove their masks while consuming food and drink, key risk mitigation strategies are largely not in place to limit transmission.
75. Between 1 August 2021 and 21 December 2021, there were 77 outbreaks associated with hospitality and entertainment venues that resulted in some 565 cases.²⁴ Other than schools, more outbreaks have occurred in hospitality venues than any other public venue regulated by the Open Premises Orders.
76. For these reasons, I advise there should be the reintroduction of some restrictions, set out below, at these venues. These restrictions could be implemented in a phased manner, contingent upon case numbers and hospitalisations.
77. I acknowledge that compliance with these restrictions – as with all public health measures – is largely depending on ongoing community goodwill. These measures' effectiveness depends on this goodwill (and the improvements in compliance and prosocial behaviour that such goodwill brings). It is important to balance the burden that these measures place on Victorians and the effect that such measures have on goodwill.
78. In particular, I acknowledge that these restrictions place a burden on Victorians who have planned events to celebrate major events in their lives. This is a difficult balancing act, and the risks associated with events and celebrations are considerable. I therefore recommend that there be an exception to these rules, but only for weddings as more-or-less unique life events that people wish to celebrate. I have considered recommending the extension cover funerals / wakes, major birthday parties and religious ceremonies such as baptisms and bar / bat mitzvahs, but I consider that such an exception would become too broad too quickly.
79. I further acknowledge that these restrictions would not apply to private gatherings. Again, the risks associated with private gatherings are considerable, but compliance with public health measures clearly rests on Victorians' continued goodwill. Governmental reach into Victorians' homes and private lives is a significant extension beyond the measures discussed above, and I do not advise the Minister to consider such extension at this time.

Removal of dance floors indoors

80. I recommend preventing the use of indoor dance floors at hospitality venues, as doing so would limit the opportunities for mingling between different groups of attendees where physical distancing cannot be maintained. Activities such as dancing which may lead to an increased generation of aerosol and respiratory droplets and should be restricted in indoor spaces. These measures would likely reduce the risk of transmission between individuals who are not otherwise known to each other, and therefore the risk that Omicron is seeded into new parts of the community.
81. As the risk from such activities is mitigated by the benefits of natural ventilation in outdoor settings, I do not believe that the Minister needs to consider these restrictions for outdoor spaces or venues.

Density limits and seated service

82. The Minister should also consider safeguards to limit the number of people exposed in all food and drink venues – that is, in all cafes, restaurants, pubs, nightclubs, live music venues, karaoke venues and similar premises. Density limits are a familiar public health measure used as a means of limiting the exposure potential in higher risk settings.
83. The Minister should consider reintroducing requirements for all hospitality and entertainment venues described in paragraph 72 to apply density limits in indoors areas (only), with an allowance of 1 person per 2 square metres. Restrictions on density limits in indoor settings not only reduce the number of patrons potentially exposed in a venue should one or more infectious persons be present, but also allow for individuals and venue operators to ensure safe practices such as physical distancing. The specific application to indoor areas should incentivise proprietors and individuals to utilise outdoor areas and settings, where the risk of transmission is lower.
84. I do not recommend the enactment of density limits in indoor entertainment venues such as indoor cinemas and theatres. As activities undertaken in these types of venues tend to be lower risk and less likely to involve higher risk behaviours outlined in paragraph 73, the risk of transmission is generally lower and additional capacity restrictions are not warranted.
85. The application of density limits on various venues is a public health measure that has been utilised throughout the pandemic response in Victoria and is familiar to businesses and the community.
86. In indoor settings, mandatory seated service should also be considered for reinstatement at the settings listed in paragraph 83 to reduce the aggregate movement and mixing of people in enclosed spaces. Given that we remove our face masks for eating and drinking, seated service requirements will assist to reduce the risk of transmission across various groups because physical distancing occurs due to spacing between tables. In addition, the contacts most at risk will be those seated next to a later identified case. They will generally be known to the case and can be more readily contacted and advised to test and isolate, rather than requiring all patrons to do so.

Changes to public events

87. As I have advised previously, mass gatherings such as public events represent settings where close, prolonged and frequent interactions may occur between large numbers of people, thereby providing a conducive environment for viral transmission.
88. While the venues where public events and mass gatherings are held can vary in terms of environmental factors, the number of attendees at mass gathering events poses a particular risk. There is a potential for transmission to a large number of people with resultant amplification of infection and seeding into new parts of the community; put simply, a 'super-spreader' event. This risk is compounded by the behaviours of attendees at certain types of events – for example, shouting, singing or dancing – which may occur at some musical and sporting events. These activities are considered higher risk behaviours as they may increase the generation and propulsion of respiratory aerosols and droplets, and therefore lead to a higher risk of transmission. Finally, mass gatherings at events often also carry the risk of creating congregation points of spectators at key access areas, which may present challenges for both organisers and patrons in adhering to guidance on physical distancing.
89. While the risk of COVID-19 transmission is significantly higher in indoor environments that are poorly ventilated, transmission in outdoor settings may also occur.²² This risk may be higher at mass gathering events where attendees do not practice physical distancing, and where many attendees engage in behaviours considered higher risk as outlined in paragraph 88.
90. There have been several instances of COVID-19 outbreaks associated with mass gathering events, leading the WHO to recommend that precautionary measures be applied to reduce the risk of viral transmission and subsequent risks of health services being overwhelmed due to escalating case numbers and presentations to hospitals and other services.²⁵
91. To respond to these risks, face masks are a low impost intervention that have been demonstrated to reduce the risk of COVID-19 transmission. The Minister should consider requiring face masks for all staff and all patrons aged 8 years and above for indoor public events and some specific outdoor public events where high numbers of patrons are attending and crowding is expected. Existing exceptions to face mask use, including for when people are eating or drinking, will continue to be in place.
92. Consistent with requirements for hospitality and entertainment venues, I also suggest that the Minister retain vaccination obligations for both staff and patrons aged 18 years and over.
93. While COVIDSafe Event Plans are already in place for all events, additional measures are necessary to limit the risk of transmission, particularly in the setting of rising rates of Omicron VOC in the community.
94. At present, public events with anticipated patron numbers over 30,000 require a one-off approval in order proceed. While events of this scale present unique risks as outlined in paragraphs 88 to 89, they are relatively infrequent occurrences, whereas events with lower attendance numbers occur more regularly and may, therefore, cumulatively represent a higher risk than very large events. While I acknowledge that it would increase the administrative burden for event organisers and the Victorian Government, lowering the patron threshold

above which approval is required to 5,000 patrons will mean that events with lower numbers of attendees are well scrutinised, and ensure that risk mitigation strategies are in place to reduce the risk of transmission. If density limits are also introduced across all indoor events, then a patron limit at the upper end of this range would be reasonable.

Public health measures that require significant logistic support

95. Delta has already placed a significant strain on the capacity of Victoria's COVID-19 response, as evidenced in part by:
 - i. the high proportion of case investigations (42.6% as at 21 December 2021) awaiting acquisition,
 - ii. ongoing elevated numbers of outbreaks (441 active outbreaks as at 21 December 2021) which require dedicated management by Department of Health and Local Public Health Unit teams, and
 - iii. persistently elevated demands on the testing network, especially PCR testing.
96. If the Omicron surge occurs in line with modelling and the international and interstate experiences, additional changes to public health measures will be required to suppress community transmission and protect the population. Preparation will be critical to reduce the risk of overwhelming our health system resulting in greater morbidity and mortality for the Victorian population. The total number of currently open staffed ICU beds in Victoria is 2183, with a reported maximal ICU bed capacity of 5623.²⁶ However, this capacity may be constrained by the availability of appropriately trained staff.
97. Current reports from NSW indicate that at their current case levels of 3,763 cases in the 24 hours preceding 22 December they are experiencing significant staffing shortages and challenges across healthcare and aged care due to staff furloughing. International evidence during previous waves of the pandemic has indicated that overwhelming the healthcare system has been a significant source of mortality. Between 11 March and 2 May 2020 an estimated 22% of the increase in expected deaths in New York for that period were attributed to health system disruption.²⁷
98. In this context, I consider that the next clear escalation would be required when case numbers are so high that it overwhelms Victoria's capacity to deliver PCR testing in a timely way, and its capacity to manage individual COVID-19 cases through the current centralised processes. Although an assessment of capacity and resources will have to be made at the relevant time, it is likely that these effects will start to be felt if and when the rolling three (3) day average case rates exceeds 2,500 cases. For clarity, this number is an indication only.
99. In such circumstances, the Minister may wish to consider further public health measures to change the way in which Victoria manages and responds to the risks of infection. In order to facilitate a pre-emptive and de-centralised approach, these measures depend on ensuring that Victorians can easily and cheaply access RA testing. Such access requires time to arrange, so that all Victorians can access RA tests without inequitable consequences.
100. The relevant public health measures therefore considered separately and are set out below.

Pre-entry RA Testing for Mass Events, Hospitals and Care Facilities

101. Rapid antigen (RA) tests before entry to mass events should be considered for use, to mitigate against the risks that mass gatherings pose, by excluding individuals who are found positive on the tests. Anyone with a positive RA test must not attend the event but instead follow the instructions provided for persons who test positive with this testing modality, which is to undertake a PCR test and self-isolate.
102. For all major events in Victoria, the Minister should consider whether all staff and patrons should undertake a self-administered RA test prior to attendance. In order to avoid congregation of patrons at entry points to venues, RA testing should be undertaken at home but as close as possible to the event in order to maximise their sensitivity.
103. In addition, mitigating incursion risk in care facilities and hospitals can also be considered via pre-entry requirements. The Minister could consider that visitors to hospitals and care facilities be required to undertake a self-administered RA test prior to their visit, bring the test to the facility for examination by the entry monitors, and then discarded on site. In order to maximise sensitivity, the RA test should be undertaken as close to the time of the visit as possible. Anyone who returns a positive RA test should undertake a standard PCR test and self-isolate. The use of RA testing by visitors would provide a significant safeguard against the risk of incursion of COVID-19 into hospitals and care facilities. This will require time to implement to ensure there is widespread provision of RA tests to avoid inequity and compounding disadvantage.

Case, Contact and Outbreak Management

104. Although it is difficult to predict the magnitude of these surges and the timescale in which they may arise, experience from the UK which has a relatively high population vaccination coverage and currently experiencing overlapping Delta and Omicron surges demonstrate the rapidly increasing risks to the health system and to economic and social activities in the community as outlined in paragraph 26.
105. Forward planning is essential to ensure the test, trace, isolate and quarantine (TTIQ) approach, which lies at the core of case, contact and outbreak management continues to undertake its core function of controlling chains of transmission as efficiently as possible with the available resource to ultimately protect the Victorian community. This approach uses evidence-based guidelines to implement testing, isolation and quarantine measures for COVID-19 cases and their contacts to limit onward transmission of COVID-19 within the Victorian community and suppress case growth below the critical reproduction number of 1.
106. I also acknowledge that some of the measures discussed above, particularly those relating to RA testing, will require considerable logistical support to carry out – not the least of which involves procuring large numbers of RA test kits. If any of the measures that I discuss in this paper cannot be implemented immediately, the Minister may wish to order that they be implemented at the same time and in addition to the measures set out below in paragraphs 107 to 108.

107. Changes to the TTIQ approach are likely to be appropriate should circumstances deteriorate, as triggered by thresholds such as surging new case numbers or demands on essential services.
108. Depending on the availability of RA testing, aspects of the TTIQ approach should be revised to better support the case, contact and outbreak management strategy from the likely impacts of Omicron on capacity and resourcing. Immediately foreseeable changes are:
 - i. Testing requirements could transition from PCR testing to RA testing for contacts, in order to preserve PCR testing capacity for those with a higher pre-test probability, such as symptomatic individuals. Repeated RA testing further improves accuracy as a screening modality.
 - ii. Acknowledging a greater responsibility on individuals to test the infectiousness themselves, and potentially also having cases notify their contacts. This approach may become increasingly important once Response teams reach capacity, resulting in delays in contact tracing or implementation of appropriate public health measures, and may be considered low impost as these individuals are oftentimes best placed to directly liaise with their contacts given established relations or known contact details. Similarly, a requirement for operators and employers to notify the Department once outbreak thresholds have been reached help instigate public health measures while normalising the actions that individuals can take to help protect their contacts or settings, and hence the community.
109. Additionally, changes to the quarantine duration and requirements for close contacts are likely to be appropriate. Vaccine effectiveness for infection and symptomatic infection for two doses against Omicron is likely reduced. Therefore, there is likely minimal differential benefit in applying requirements based on the vaccination status.
110. Overall, these measures are intended to maintain the function and capacity of the Victorian COVID-19 Response, and hence the health system and economic activities in the community, in the context of the challenges predicted from Delta and Omicron in terms of rising case numbers and saturated outbreak team and testing network capacity.

Conclusion

111. The discussion set out above shows the public health measures that I consider necessary or appropriate to the current situation in Victoria. The public health measures work together to improve the protection that they provide. They target settings in a manner that reflects the current risk (including the current uncertainty) that Omicron presents to Victoria.



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Dated this 23rd day of December 2021

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