

Acting 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: 10 January 2022

INTRODUCTION AND SUMMARY OF ADVICE	2
HOW THE ACT INFORMS THIS ADVICE	4
THIS ADVICE IS BASED ON THE INFORMATION THAT IS AVAILABLE	5
MY RECOMMENDATIONS ARE BASED ON WHAT IS ACHIEVABLE PRACTICALLY	5
OVERVIEW OF THE CURRENT EPIDEMIOLOGICAL SITUATION IN VICTORIA	6
EMERGING EVIDENCE ABOUT OMICRON	7
EMERGING EVIDENCE ABOUT VACCINE EFFECTIVENESS	10
OMICRON'S EFFECTS ON VICTORIA'S HEALTH SYSTEM	10
MODELLING THE IMPACT OF OMICRON	11
OVERVIEW OF THE REFINED APPROACH	12
OVERVIEW OF NECESSARY OR APPROPRIATE PUBLIC HEALTH MEASURES	13
CONTINUED PUBLIC HEALTH AND SOCIAL MEASURES IN THE CONTEXT OF OMICRON	14
COMMUNITY ENGAGEMENT	16
RESTRICTIONS ON MOVEMENT	16
HOSPITALITY	17
MANAGING PUBLIC EVENTS	17
PROTECTING OUR MOST VULNERABLE GROUPS	18
PRE-ENTRY RAPID ANTIGEN (RA) TESTING FOR VISITORS TO RESIDENTIAL AGED CARE FACILITIES	18
MANDATORY VACCINATION REQUIREMENTS FOR VISITORS TO HOSPITALS	19
PROTECTING OUR WORKFORCES AND MAINTAINING SERVICE CONTINUITY IN HIGH-RISK INDUSTRIES	20
THIRD DOSE VACCINATION MANDATES	20
SURVEILLANCE TESTING FOR RESIDENTIAL AGED CARE FACILITY WORKERS	27
PRESERVING OUR CARE FACILITIES WORKFORCE	27
ALIGNMENT OF POLICIES FOR A CONSISTENT APPROACH	28
MARITIME ARRIVALS	28
CONTINUED MANDATORY HOTEL QUARANTINE FOR UNVACCINATED INTERNATIONAL ARRIVALS WITH SOME UPDATES TO TESTING REQUIREMENTS AND QUARANTINE DURATION REQUIREMENTS	30
CHANGES TO VACCINATION EXEMPTIONS TO INCLUDE PARTICIPANTS OF COVID-19 VACCINATION CLINICAL TRIALS	32
CHANGES TO TEST, TRACE, ISOLATE AND QUARANTINE APPROACH TO ALIGN WITH NATIONAL POSITION AND GUIDELINES	32
CONCLUSION	34
REFERENCES	35

Introduction and Summary of Advice

1. In response to the request from the Victoria's Minister for Health (**Minister**) made on 9 January 2022, set out below is my advice as Victoria's Acting 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. Section 9 of the Act requires that the public health response be proportionate to the public health risk that the disease (in this case, COVID-19) poses. Section 10 of the Act requires that, wherever possible, I have regard to the benefits that accrue when there is collaboration between all levels of Government and industry, business, communities, and individuals.
3. This advice relates to public health measures that supplement or alter the public health measures proposed in the Chief Health Officer's advice to the Minister made on 10 December 2021 and 23 December 2021. This advice, therefore, supplements and updates that advice, which I have read.
4. To the extent that there is no inconsistency between the measures set out in the advice of 10 December 2021 and 23 December 2021, and the verbal advice that I provided on 14 December, 29 December 2021, 30 December 2021, 4 January 2022, 5 January 2022 and this advice, I still consider the public health measures set out in previous advice to be necessary and appropriate.
5. I am providing this further advice considering the rapidly escalating case numbers in the Victorian community due to the Omicron Variant of Concern (**Omicron**) and I note that, as outlined in advice provided recently by the Australian Health Protection Principal Committee (AHPPC),¹ we are now operating in a high caseload environment, which necessitates some changes to the public health measures utilised as part of the response. Due to the combination of high transmissibility and vaccine escape, this environment of escalating community transmission, even though it occurs in the context of high vaccine coverage and with a variant that has lower disease severity, is already causing strain in health system capacity. These health system impacts are projected to continue to increase significantly in coming weeks.

6. The priority now is to reduce morbidity and mortality and limit the impact of the Omicron wave on Victoria's most vulnerable residents, our health system and other essential services and sectors. It is therefore necessary and appropriate to review and strengthen existing public health and social measures aimed at:
 - i. reducing the rate at which Victorians become infected ("spreading out the curve"); and
 - ii. reducing the number of Victorians who become infected, and the number who experience serious illness and require hospitalisation ("lowering the curve").

7. There is a range of possible measures that are likely to assist with managing the health risks and community-wide impacts that are arising due to the Omicron outbreak.

8. These measures are:
 - i. **continuing to educate the community** about the risks that Omicron poses, and encouraging and empowering the public to utilise measures that will decrease the risk to themselves, their loved ones and the broader community;
 - 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. expanding the use of **rapid antigen tests** in Victoria's test, trace, isolate and quarantine (TTIQ) approach, to preserve capacity in the COVID-19 PCR testing system and to promote timely diagnosis and linkage to care;
 - iv. mandating **third doses** of COVID-19 vaccination for specified high-risk and critical industry workforces;
 - v. mandating **surveillance testing** through rapid antigen tests of workers and visitors to care facilities, and strongly recommending testing for visitors to hospitals;
 - vi. requiring that all **visitors to hospitals** aged 18 years and over be fully vaccinated to gain entry (with limited exceptions permitted for urgent and exceptional circumstances);
 - vii. reviewing the **TTIQ approach** in Victoria and making further changes to align with the national guidelines; and
 - viii. reviewing the approach to the management of **international arrivals**, as well as maritime arrivals generally.

9. I commend these measures to the Minister and note that early and consistent implementation of all the measures discussed below is the best strategy to limit the impacts of the Omicron wave and avoid more restrictive measures being necessary in the future. These measures will help to limit

the impacts to the health system, support continuity of critical services, protect essential workforces and reduce the risk to vulnerable individuals in sensitive settings.

10. In doing so, I acknowledge the Minister's obligation to weigh social, economic and operational considerations with the public health outcomes, when deciding which public health measures are appropriate to implement and when they should be implemented. In particular, I note that the Minister will consider how each public health measure impacts upon Victorians' confidence in the administration of public health, and continued willingness to comply with government policy.
11. 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

12. The Act provides that, once Victoria's Premier has made (or extended) a Pandemic Declaration, the Minister may make any order that the Minister believes is reasonably necessary to protect public health.¹
13. 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 the advice provided by me in my capacity as Acting Chief Health Officer for the purpose of that provision.
14. 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.*
15. 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:

¹ See section 165AL.

² See section 165AL(1).

- 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.*
16. I have taken the Act's definition of "serious risk to public health" into account when giving this advice.
17. I have also noted the Act's requirement that I have regard to:
- i. the need to ensure that decisions and actions taken in the administration of the Act should be proportionate to the public health risk that the public health risk (in this case, COVID-19) poses, and should not be undertaken in an arbitrary manner; and³
 - ii. the benefits that accrue when there is "collaboration between all levels of Government and industry, business, communities and individuals".⁴

This advice is based on the information that is available

18. My advice is based on the information available to me,⁵ 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, available laboratory and epidemiological evidence suggests that Omicron is highly transmissible, and therefore poses a clear and present risk above and beyond the risks posed by other Variants of Concern, including the Delta Variant of Concern (**Delta**), due to the magnitude of the outbreak already being experienced, and the likely trajectory in coming weeks. These risks must be taken seriously. As the Act indicates and requires,⁶ a lack of full scientific certainty is not a reason for postponing measures to prevent or control the public health risks described below.

My recommendations are based on what is achievable practically

20. My advice is also based on a consideration of the expected effect of public health measures at the time that I make my recommendations. There are a number of facets to this consideration.

³ See section 4(3), section 9.

⁴ See section 4(3), section 10.

⁵ See section 4(3), section 5.

⁶ See section 4(3), section 6.

21. First, if there are system capacity constraints that prevent the implementation of previously applied or possible novel interventions, it may be necessary to limit the contribution of these to proposed public health measures. If polymerase chain reaction (**PCR**) testing no longer delivers timely results for Victorians at the scale of demand that is being experienced, then it is appropriate to consider what alternative diagnostic options exist to help Victorians manage their care. If rapid antigen (**RA**) tests are a potential alternative, but supply is limited, it is appropriate to limit the variety of ways in which RA tests might be used. If we do not currently have a means of easily checking whether a person has had a third dose of COVID-19 vaccine, then it is inappropriate to move to a 'vaccinated economy' requiring demonstration of a third dose. This reality also applies to members of the community. If people do not understand the importance of third dose vaccination to protect against Omicron, or do not have the means of practically accessing vaccination appointments, then mandating vaccination will be less helpful than effort spent engaging and educating the community, and facilitating access to vaccination. Obviously, such effort is not solely a responsibility of government.
22. Second, Victorians already self-regulate in response to the risks of COVID-19. People are going out less, travelling less and spending time with fewer people. These actions accumulate and have many of the same effects as government action; for example, fewer patrons in a restaurant will have the same effect as a density quotient. However, these effects don't occur evenly across Victoria; activities (and therefore transmission) can be concentrated in particular places or at particular times – which means that public health measures remain necessary.
23. Last, if community understanding and engagement with a public health measure is limited, the community's compliance with that public health measure will be similarly limited. No public health measure can be enforced on every occasion: following public health measures depends on the ongoing goodwill and confidence of the Victorian people that the public health and social measures with which they are asked to comply are in their best interests. When public health actions are mandated, this draws upon that goodwill and confidence. Therefore, such measures, wherever possible, should follow a process of consultation, and other (less restrictive) measures that can achieve the same public health objective must be considered. Clearly, the rapidly changing pandemic situation, and attendant societal and health system pressures, also limit the available time to undertake these consultations and may require more rapid institution of necessary measures.

Overview of the current epidemiological situation in Victoria

24. I am informed that, as of 10 January 2022, 17,618 new cases and 17,190 probable cases (from a positive RA test) have been reported to Victoria's Department of Health in the previous 24 hours,

of which 17,618 confirmed cases were locally acquired and none acquired overseas. As of 10 January 2022, Victoria has 161,065 active cases, of which 97,247 were locally acquired and 6 were overseas acquired, 63,812 are probable cases from RA tests and 524 known active outbreaks.

25. Victoria's first case of Omicron was confirmed in an international traveller in hotel quarantine on 8 December 2021. Omicron has increased from 3% of sequenced isolates in the first half of December, to 30% of isolates by the 20 of December, to greater than 75% by 31 December 2021.²
26. As of 10 January 2022, Victoria has recorded a cumulative 340,124 total cases of COVID-19 and 1,580 total deaths.
27. On 10 January 2022, 78,093 test results were received in the previous 24 hours, contributing to a total of 18,017,776 tests that have been performed since 1 January 2020. According to data from the week ending 5 January 2022, the proportion of tests returning a positive result in Victoria is estimated at 23.45%. This rate has risen markedly since the start of November 2021. This demonstrates the high level of transmission currently in Victoria and suggests that there may be an ongoing substantial proportion of undiagnosed COVID-19 cases in the community.

Emerging evidence about Omicron

28. On 26 November 2021, the World Health Organisation (**WHO**) declared the recently identified B.1.1.529 variant as a VOC and named it Omicron.³ Since the Chief Health Officer's previous advice on 23 December 2021, there has been a significant shift in both the local and global response due to the widespread dissemination of Omicron which has spread to 139 countries as of 6 January 2022 based on WHO data. Omicron has already been established as the dominant strain in several countries based on genomic surveillance including South Africa, United States of America, United Kingdom and Denmark.⁴
29. Omicron has a large number of genetic mutations, some of which overlap with those associated with the other known VOCs (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.⁵
30. Evidence about Omicron's disease severity and its impact on individuals and the population is emerging, with indications that it is less likely to result in severe disease. 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, which experienced a fourth pandemic wave starting from early November;⁶
 - ii. the United Kingdom, where there has been a 29.3% increase in new case detections in the week preceding 6 January 2022;⁷
 - iii. Denmark, where there has been a 57% rise in new cases in the week preceding 21 December 2021;⁸ and
 - iv. New South Wales, which is similarly experiencing an exponential rise in case numbers.⁹
31. Of note, the reported numbers of daily cases in some jurisdictions appear to have peaked and are now receding, although the reasons for these epidemiological shifts remain under investigation.^{10,11}
32. It should be noted that artificial plateaus in the number of cases can be expected and have been reported in NSW (as in Victoria), as strains on pathology systems (as the high proportion of tests with positive results means that pathology providers cannot pool specimens to achieve efficiencies in the manner that was previously possible), which results in an inability to reflect significant increases in case numbers in a timely fashion.
33. Further, in preliminary analyses of UK data for the period ending 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.¹²
34. There is currently incomplete understanding of disease severity in infected individuals, but a greater risk of re-infection is predicted.¹ Data are now available from a number of international studies and reports to support the proposition that Omicron is less likely to cause severe disease than other variants including Delta, however it remains unclear if this change is due to the variant being intrinsically less virulent, or due to immune escape properties that mean that a larger proportion of cases are reinfections or breakthrough infections in vaccinated individuals (which are less likely to lead to severe disease). However, it should be noted that even if Omicron is less likely to cause severe disease, if it is more transmissible and causes significantly greater case numbers, then a surge in COVID-19-associated hospital admissions is still likely and the health system may still become overwhelmed.

35. This concern is highlighted in the hospitalisation rates observed in countries such as South Africa, where the number of COVID-19 hospital admissions doubled weekly over a 4-week period from mid-November.⁴ A steep increase in hospitalisation rates has also been reported in Denmark¹³ where the proportion of Omicron 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 2021.⁷ It is important to acknowledge that the Victorian health system was already under burden from ongoing Delta outbreaks due to hospitalisations and staff furloughs, and now Omicron is generating even greater health service demand and operational disruption.
36. In Australia, we have seen that NSW continues to see increased COVID-19 case numbers, with 20,293 new cases reported on 10 January 2022 for the preceding 24 hours. The highest daily total recorded in the state occurred on 8 January 2022 with 45,098 cases (as well as a R_{eff} of approximately 1.8, which indicates that cases were almost doubling about every four days). Preliminary projections reported by the NSW Government, based on their current epidemiology and current knowledge about Omicron, indicated that case numbers would reach 25,000 per day in NSW in January 2022.¹⁴ This projection has already been surpassed and further monitoring is required to determine the trend in new cases which currently remains elevated. Whilst a moderate decline in reported cases may indicate the peak in the epidemic curve has been reached, this may have coincided with limits to current PCR testing capacity, alongside a switch to RA testing for many symptomatic community cases. Furthermore, this apparent decline in case numbers may also reflect expected fluctuations in PCR testing.
37. Epidemiological and virological analyses continue to better characterise the Omicron variant, with data continuing to emerge regarding its infectivity, transmissibility, and severity. There are also several trends which remain under investigation. 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 5 January 2022, 2,156 new cases were reported in Gauteng province compared to 3,316 new cases reported 20 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

38. Vaccination remains the best way to develop immunity and prevent COVID-19 disease and reduce the risk of severe outcomes such as hospitalisation, ICU admission, need for ventilatory support and death. This has been reflected in the available Victorian surveillance data for the period of 4 December 2021 to 3 January 2022 which demonstrates a significantly greater rate of cases, hospitalisations, ICU admissions and deaths recorded in those who have not been fully vaccinated (0 or 1 dose) compared to those who have been fully vaccinated (2 or 3 doses).¹⁶ Although this information applies to people infected with Delta as well as with Omicron, early evidence of reduced vaccine effectiveness with Omicron suggests that these differences will only worsen or at least remain maintained.
39. Early estimates of vaccine effectiveness (**VE**) against symptomatic infection find a significantly lower VE against Omicron infection compared to Delta infection and emerging evidence suggests two doses of vaccination with Pfizer or AstraZeneca are insufficient to give adequate levels of protection against infection and mild disease with the Omicron variant¹⁷. This is partly because the immunity that vaccines provide wanes over time.^{18,19} This is why even countries with high levels of previous infection or vaccination are seeing rapidly surging case numbers of Omicron,¹⁵ and it seems plausible that the numbers are due to a combination of waning immunity, Omicron being able to evade previously established immunity (from infection or vaccination) or and its increased transmissibility.²⁰
40. However, protection against transmission is partially recovered by a third mRNA booster dose (third dose)²¹ and protection against severe disease has been shown to remain high. In particular, third dose vaccines appear to reduce the likelihood of severe illness. A UK study²² estimated that vaccine effectiveness against symptomatic illness from Omicron is 75.5% (95%CI: 56.1 to 86.3%) two weeks after a Pfizer vaccine third 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.
41. Although these findings are not yet definitive, they provide promising evidence on the effective use of third doses of existing COVID-19 vaccines in providing further immunity against Omicron. Further studies and publications are awaited on the impact of Omicron on vaccine effectiveness.

Omicron's effects on Victoria's health system

42. Victoria's health system (including its pathology system) is under profound strain, beyond that which it has previously experienced. This strain is increasing.

43. In the past week, our pathology system reached the limit of PCR tests that can be processed in a timely fashion, resulting in a significant backlog of tests. These delays are due both to the very high total volume of tests, and to the higher proportion of specimens with positive results (increasing from 1.8% four weeks ago to >20% currently), which prevents pathology providers from achieving efficiencies that were previously possible though ‘pooling’ - screening multiple specimens simultaneously (in the expectation that few, if any, will be positive).
44. COVID-19 related hospitalisations and ICU admissions have been increasing since 1 December 2021. The number of COVID-19 hospitalisations increased from 299 patients on 1 December 2021 to 818 patients on 10 January 2022. This includes an increase in ICU admissions from 43 patients to 69 patients (with an additional 49 patients still in ICU despite having been cleared of COVID-19).
45. Health services’ capacity is being significantly impacted by workforce leave, COVID-19 infections, furlough as close contacts, and the need to continue to support COVID-19 testing and vaccination. The daily increase in hospitalisations therefore coincides with reductions in workforce availability.

Modelling the impact of Omicron

46. Given the lack of a comprehensive scientific understanding and evidence base around Omicron and its characteristics including infectiousness, propensity for immune evasion and severity, preliminary modelling by the Burnet Institute in late December 2021 on the impact of Omicron in Victoria used a sensitivity analysis approach. The sensitivity analysis used a range of parameters for key inputs such as Omicron infectiousness, Omicron immune escape, levels of testing, contact tracing, third doses administered and the introduction of public health measures. Burnet used this analysis to determine the relative impact of modelled parameters while accounting for uncertainty around Omicron characteristics. The most plausible simulations saw case numbers and resulting hospital admissions rise significantly higher than they are currently, if additional public health and social measures were not implemented.
47. The severity of Omicron relative to Delta is not yet clearly defined, although evidence increasingly reports a substantially reduced severity for Omicron. However, due to the profound rise in cases in many of the plausible scenarios, the reduced severity did not prevent the modelled hospitalisations from significantly exceeding existing capacity in the COVID-19 response and Victorian health system.
48. The modelling also suggests that a suite of public health measures may be more effective in synergistically reducing Omicron transmission, by either reducing the likelihood of infection when

people come into contact or reducing the contact that occurs. Complementary measures (such as mask wearing requirements when indoors, density limits, accelerating the third dose vaccination roll out and increased COVID-19 testing all work together to significantly reduce overall case transmission, hospitalisation, and death. In the context of elevated case numbers, the preservation of testing and contact tracing capacities remain an imperative to controlling transmission in Victoria, which in turn helps protect population health and the health system. In a similar vein, ongoing monitoring and evaluation of these measures are warranted to ensure system functionality and improvement.

49. Although the modelling is based on early available evidence and the characteristics of Omicron (including its transmissibility, virulence, and vaccine responsiveness) remain unclear – especially in the local context – the modelling provides a powerful and informative decision-making aid and once again demonstrates the need for proactive and comprehensive public health interventions. It is also important to acknowledge the detrimental impacts of the ongoing Delta outbreaks which further compound the concerns around the expected Omicron surge.
50. The Burnet Institute modelling provides similar estimates to the Doherty Institute modelling prepared for National Cabinet which predicted the rapidly increasing case numbers from Omicron in Australia which have been realised. ²³

Overview of the refined approach

51. The public health measures that I recommend below respond to all of the issues outlined above, including:
- i. the obligations imposed by the Act;
 - ii. the general prevalence of Omicron in the community;
 - iii. the strain that has already been placed on Victoria’s health system; and
 - iv. the need to maintain community confidence in the public health measures implemented.
52. The priority remains to reduce morbidity and mortality and limit the impact of the Omicron wave on Victoria’s most vulnerable residents, our health system and other essential services and sectors. In light of the prevalence of Omicron, this is achieved by maximising Victorians’ capacity to understand whether or not they have been exposed or infected, take appropriate measures to manage the effects of infection, and receive the care that they need. The intended outcomes are:
- i. reducing the rate at which Victorians become infected (“spreading out the curve”); and

- ii. reducing the number of Victorians who become infected, and the number who experience serious illness and require hospitalisation (“lowering the curve”).

53. As the frequency with which the Chief Health Officer and I have provided advice shows, adjusting the public health measures is an ongoing and iterative task. The changes that are made to public health settings will not have a clear effect on COVID-19 transmission and resulting health system impact until some time after they are made, but the earlier effective measures are undertaken, the greater the downstream impact on peak COVID-19 transmission, hospitalisations, and loss of life.

54. I set out what are, in my opinion, the necessary and appropriate public health measures below.

Overview of necessary or appropriate public health measures

55. I advise that, in the context of widespread incidence of Omicron in our community, the Minister can consider a range of additional public health measures beyond those that are currently in place, which were discussed in the Chief Health Officer’s advice to the Minister dated 23 December 2021 (see **Appendix B**) and subsequently updated verbally by me on 4 January 2022. For clarity, I still consider the public health measures set out in the advice from 23 December 2021 to be necessary or appropriate but highlight the measures discussed on 4 January 2022 to be most relevant and important in the current context of established Omicron transmission.

56. I advise the Minister to consider the following public health social measures:

- i. continuing and intensifying communication and health promotion activities;
- ii. a requirement that individuals work or study from home wherever possible (except Early Childhood Education and Care services (**ECEC**) and primary and secondary schools);
- iii. mandates for all individuals aged 8 years and over to wear face masks while in indoor spaces other than in a private residence;
- iv. density limits of 1 person per 4 square metres in any indoor spaces of hospitality and entertainment venues such as cafes, restaurants, karaoke venues, bars and nightclubs;
- v. reinstatement of seated service requirement in indoor hospitality settings;
- vi. the closure of indoor dance floors;
- vii. capacity limits on events;
- viii. undertaking rapid antigen tests prior to events; and
- ix. restrictions on elective surgery in Victorian hospitals

57. These additional matters are:

- i. testing measures prior to entering hospitals and residential aged care facilities;
- ii. mandatory vaccination policy for visitors to hospitals who are aged 18 years and over;
- iii. third dose vaccination mandates for specified high risk workforces;
- iv. workforce surveillance testing in care facilities;
- v. changes to the definition of a close contact, as it pertains to workers in care facilities, as changes to restrictions on worker mobility for the care facility workforce, particularly during outbreak periods.

58. Finally, to assist with internal and national consistency, I also advise the Minister to consider the following matters to align policies at a national and interjurisdictional level, which will minimise confusion for the community and industry and therefore assist in compliance. These matters include:

- i. a continuation of Victoria's maritime policy;
- ii. changes to the TTIQ policy in line with national changes;
- iii. review of existing mandatory hotel quarantine requirements for unvaccinated international air arrivals;
- iv. changes to vaccination exemptions to include participants of COVID-19 vaccination clinical trials.

Continued public health and social measures in the context of Omicron

59. Public health and social measures (**PHSMs**), also known as non-pharmaceutical interventions (**NPI**), include physical distancing, density quotients, work from home measures and use of face masks. These measures have proven critical to suppressing transmission of COVID-19 globally and in Victoria. Despite widespread transmission and rising case numbers, PHSM continue to be of fundamental importance to reduce the further spread of COVID-19 and the subsequent impact on the health system. Even in a highly vaccinated society, the realities of Omicron discussed above mean that PHSMs continue to be highly effective at preventing transmission of SARS-CoV-2 by reducing amount of contact and likelihood of transmission during contact. Furthermore, measures including physical distancing and density limits in settings are more feasible to implement rapidly and at scale (see **Appendix A**), and arguably are less disruptive to mental health, the economy and society, than lockdowns and business closures.

60. The Australian Health Protection Principal Committee (**AHPPC**) recently reaffirmed its position on the importance of PHSM in managing the response to Omicron, including the use of density

quotients, work from home measures, visitor restrictions in high-risk and high transmission settings, universal use of face masks indoors, continued use of vaccination certificates, and encouraging of gatherings in well ventilated and outdoor settings where possible.²⁴ AHPPC recommends that a combination of measures implemented early will contribute to a reduced risk that more restrictive measures will be required in the longer term.

61. It is recognised that, while some PHSMs have been demonstrated to be effective in preventing transmission, infection, and mortality from COVID-19 disease, it can be difficult to elucidate the impact of specific measures when multiple interventions are implemented concurrently with potentially variable adherence.²⁵ Given that SARS-CoV-2 transmission is driven at population level by chance and frequency of social contacts between individuals, PHSMs are highly effective at reducing transmission risk by way of reducing both the chance of social interaction occurring, and the frequency at which that interaction takes place. This may positively impact on the reduced risk that “superspreading” events can evolve when larger gatherings of people occur in indoor, or outdoor settings.
62. The impact of some of the basic measures appear to have been higher during the first wave compared to second wave in Victoria, notably interventions that aim to control ongoing transmission such as testing, tracing isolation and quarantine (**TTIQ**). TTIQ may have had greater effectiveness earlier in the course of the pandemic, when COVID-19 incidence was low. In a study of PHSM in 180 countries during January- April 2020, quarantine was associated with an 11.4% (95% CI: 9.07- 13.66%) reduction, mask mandates were associated with a 15.4% (95% CI: 7.97- 21.79%) reduction and physical distancing a 42.94% (95% CI: 41.60- 44.24%) reduction in risk of COVID-19 transmission when compared with settings in which the NPI was not implemented ²⁶. In a systematic review and meta-analysis of NPIs, physical distancing contributed to a 25% reduction in the incidence of COVID-19 (relative risk 0.75, 95% CI: 0.59- 0.95). ²⁷ An additional systematic review and meta-analysis reported an 82% reduction in SARS-CoV-2 transmission with physical distancing of 1 metre or more when compared to physical distancing of less than 1 metre (adjusted odds ratio 0.18, 95% CI: 0.09- 0.38). ²⁸ This is supported by a large international study of NPIs using two external datasets from 226 countries, which reports that introduction of density limit restrictions to public settings where people gather is a highly effective measure in reducing the spread of COVID-19, and that a suitable combination of less disruptive and costly NPIs such as governmental support to vulnerable populations and risk-communication strategies, can be as effective as more intrusive measures and may foster improved population compliance.²⁹

Community Engagement

63. The Chief Health Officer has previously advised on the importance of community engagement and public education campaigns in improving the community's understanding of the virus, and empowering all Victorians to protect themselves, their loved ones, and the wider community.³⁰ As Victoria moves to this latest stage of the pandemic, it is important that these engagement and health promotion activities are updated, expanded and intensified to inform and mobilise the community. Public education and health promotion campaigns should especially focus on improving uptake of COVID-19 vaccine third doses in all eligible individuals, but particularly those who are at higher risk of severe disease and hospitalisation, and who work in high-risk industries.
64. Masks, ventilation, density quotients and vaccination all combine to optimise the protection that is available. With this in mind, I further commend to the Minister the benefits that will flow from publishing materials to assist Victorians to understand:
- i. how they can decide whether they are ill, or when they should work from home; and
 - ii. the variety of actions they can take to make workplaces safe; and
 - iii. how they can conduct public and private events as safely as possible.

I understand this work is ongoing.

65. Ongoing efforts to maximise the uptake of COVID-19 vaccination (including third dose) should continue and be intensified, by way of clear communication and messaging, transparent public education campaigns, and where appropriate, incentivisation of community members and workforces. Important lessons from Victoria's pandemic response over the last two years should be heeded, with the early and continued engagement of primary health care practitioners, community health services and organisations, and community and faith-based leaders including those from the Aboriginal and Torres Strait Islander and culturally and linguistically diverse (CALD) communities as partners in these engagement campaigns. Public education and messaging campaigns must be culturally and linguistically appropriate to serve the needs of the whole Victorian community.

Restrictions on movement

66. I reaffirm my view from the verbal advice provided on 4 January 2022 that a mandate rather than a recommendation to work from home is an appropriate measure to reduce transmission, by reducing the degree to which people come into contact in settings with more transmission potential, such as workplaces and adult education providers. I note that increasing familiarity with remote working has, over time, reduced the burden that this measure places on Victorians. If this

is not viewed as proportionate, the Minister could consider reviewing this position in the coming weeks as more Victorians are expected to return to the workplace following the holiday period.

Hospitality

67. I have previously commended to the Minister a range of PHSMs intended to reduce the risks of transmission in social settings. These include:

- i. introducing a density quotient of 1 person per 4 square metres (DQ4) in all indoor hospitality and entertainment settings (including amusement parks, cinemas and seated theatres),
- ii. closing indoor dancefloors; and
- iii. mandating seated service requirement in indoor hospitality settings.

68. I have considered whether it is possible to achieve this reduction in risk through less restrictive measures, and for this reason I repeat and agree with the Chief Health Officer's advice that there can be an exemption for weddings, and that these restrictions do not apply to outdoor settings. The reason why there can be an exemption for weddings is that weddings are a single group of people who generally know each other, who start and stay at the same venue without other people arriving and leaving over the course of the night. Weddings therefore differ from the ordinary commercial operations of hospitality venues. I have also considered and agree with the Chief Health Officer's advice that it is appropriate to acknowledge the burden that these health measures place on the community and to lighten that burden in respect of once-in-a-lifetime events.

Managing public events

69. The Chief Health Officer has previously advised on the risks associated with mass gatherings such as public events³¹. I consider applying capacity limits to events to be a proportionate response to these risks. However, if these capacity limits on events are not viewed as proportionate due to social and economic impacts, I advise the Minister to consider alternative mitigation strategies. One such strategy involves requiring masks to be worn at all times unless eating and drinking, rather than allowing attendees to remove their masks when seated outdoors.

70. Another such strategy involves requiring RA tests prior to attendance, which would allow a more targeted approach to risk management by removing from attendance those people who are likely to be infectious at the time of (or at least the day of) attendance at the event. There are, however, operational and supply constraints that limit Victoria's ability for implementation. In addition, as a matter of real-world applicability, there are real challenges in overseeing compliance with the

result and making sure that participants have performed an RA test and received a negative result on the day of the event.

71. Whilst noting these operational considerations, a measured approach to self-delivered surveillance prior to attendance at such events will become an important initiative in mitigating the risk of super spreader events that may arise from such settings. RA continue to present a significant opportunity that can be harnessed to reduce the risk of COVID-19 incursion and transmission in a range of contexts including major events. They are not, however, a 'silver bullet' that are by themselves sufficient to prevent infection, and they should be utilised alongside other measures such as masks, increased ventilation, and density limits in the hospitality areas that accompany events.
72. In addition to the measures outlined above which should be continued, I advise that the Minister consider the additional measures outlined below to further strengthen the Victorian response to the COVID-19 pandemic. These measures will help to limit transmission, protect sensitive sites and their workforces, and vulnerable individuals.

Protecting our most vulnerable groups

73. Key sensitive settings for which resources should be prioritised and measures implemented include healthcare and aged care facilities. These settings house vulnerable people for whom an incursion of COVID-19 is likely to have significant impacts. These vulnerable population groups include the elderly, hospital patients, immunocompromised individuals, Aboriginal and Torres Strait Islander communities and those with multiple comorbidities. These groups often have risk factors which make them more vulnerable to the effects of COVID-19 compared to the general population. These settings are considered higher risk due to the risk of transmission, amplification and consequence should incursion occur.
74. Workforce arrangements should be made to ensure that those at risk of perpetuating transmission chains are furloughed whilst those at less risk can continue working to provide sufficient levels of care to patients and residents.

Pre-entry rapid antigen (RA) testing for visitors to residential aged care facilities

75. Rapid antigen (RA) tests show moderate sensitivity and high specificity for the detection of SARS-CoV-2, are an appropriate asymptomatic screening tool in the context of high community prevalence to support the ongoing COVID-19 response.
76. I advise that the Minister consider the implementation of further measures to safeguard residential aged care facilities (**RACF**), which are highly sensitive settings occupied by individuals who are who are often frail, immunocompromised or have significant comorbidities and complex care

needs. For this reason, these facilities are often defined as sensitive settings, as residents at these facilities are particularly vulnerable to the negative impacts of COVID-19 infection, including severe disease and death. Further, the impacts to resident care because of RACF staff being deemed close contacts, and being therefore required to self-quarantine, may be significant. The most effective way of minimising these impacts is by preventing, as far as possible, the incursion of COVID-19 into such facilities. I consider that a limitation on visitor numbers to RACF is appropriate to limit this risk of incursion. In addition, I recommend that the Minister consider the use of RA tests as a screening tool for both staff and visitors to further mitigate risk and enable consideration for greater visitor numbers to balance the social isolation and wellbeing of residents.

77. I note the negative effects that residents of care facilities of lockdowns experience during lockdowns. I am aware of work being undertaken by the Department of Health to try and mitigate these effects by introducing a 'partner in care' for each resident. The 'partner in care' would, having undertaken appropriate training and in accordance with appropriate circumstances, be authorised to attend the care facility to visit the resident even during outbreaks and lockdowns. Noting the need to consult with resident groups and the sector to ensure that the final process is optimal, I commend this work to the Minister.

Mandatory vaccination requirements for visitors to hospitals

78. Hospitals are sensitive settings where both workers and visitors are at increased risk of being exposed to and transmitting COVID-19. In the context of the continuing rise in hospitalisations and ICU admissions due to COVID-19, with no indication that Victoria has reached a peak in either count, this exposure and transmission risk has now, and will continue, to increase.

79. Hospitals are a high risk setting for COVID-19 outbreaks, with sustained high numbers of outbreaks across sites despite existing control measures in place, including personal protective equipment (PPE) and vaccination requirements for workers (see Table 1 for outbreak data).

80. The consequences of this heightened exposure risk within hospital settings are that patients may be particularly vulnerable to the negative impacts of COVID-19 infection including severe disease, hospitalisation, and death. These vulnerable patient groups may include the elderly, immunocompromised and those with comorbidities which are known to be associated with adverse outcomes for COVID-19 including cancer, Type 2 diabetes, respiratory disease, heart disease, chronic kidney disease, and hypertension ³².

81. I, therefore, advise the Minister to consider a requirement for hospital visitors over 18 years of age to be fully vaccinated against COVID-19. This recommended cut off age is consistent with the Open Premises Order. Visitors aged over 18 who are unvaccinated or medically exempt should be

required to undergo a RA test before entry and wear an N95 face covering for the duration of their visit. These measures are consistent with the public health risk presented by a person who is medically exempt from vaccination and reflects their susceptibility to infection and potentially more severe disease. Visitors aged less than 18 years of age who are unvaccinated should be required to undergo a RA test only.

82. This proposed measure, as part of a suite of measures including proposed third dose vaccination requirements for healthcare workers, and ongoing PPE requirements, would aim to both protect vulnerable groups and the capacity of Victoria's healthcare workforce and system.

Protecting our workforces and maintaining service continuity in high-risk industries

83. In addition to the morbidity and mortality impacts on vulnerable groups highlighted above, there are workforce impacts to consider due to viral incursion and transmission within hospital and care facility settings. These impacts include workforce furloughing due to COVID-19 exposure, staff taking leave due to COVID-19 infection, resident quarantine and operational changes required to manage outbreaks. Such impacts directly affect patients' and residents' health and wellbeing.
84. Several other industries require robust public health measures, to maintain continuity of critical services and essential workforces. These industries include businesses supporting food security and supply chains, emergency services, and in correctional facilities where there is a known increased risk of incursion and/or amplification of COVID-19.

Third dose vaccination mandates

85. I further advise that the Minister consider mandating third doses of COVID-19 vaccination in select higher risk workforces, to ensure continued protection both for workers and vulnerable population groups, and to mitigate against the risk of rapidly escalating outbreaks.
86. Third dose vaccinations would involve a further dose of COVID-19 vaccine within the recommended period (currently greater than 3 - 4 months) after the primary course of vaccination has been completed. This should be distinguished from the current ATAGI recommendation for a third dose of COVID-19 vaccination to be given in severely immunocompromised populations, to address the risk of suboptimal or non-response to the standard 2-dose schedule that has been recognised in this group. For these individuals (i.e., people aged 18 years and over who are severely immunocompromised who have already received 3 doses of a COVID-19 vaccine), ATAGI now recommends a booster (i.e., 4th dose) at 4 months, in line with the timing for the general population. This is expected to improve protection against asymptomatic infection, serious illness or death from COVID-19 caused by Omicron.³³

87. The workforces set out below warrant specific consideration for mandatory third doses, not only because they were some of the earliest workers to receive the COVID-19 vaccine, but also because the workforces themselves are higher risk:

- i. there is an increased risk of exposure to COVID-19 for the individual worker (i.e., higher occupational exposure risk), such as healthcare workers, as outlined in paragraph 79;
- ii. transmission is more likely to lead to severe health consequences for vulnerable individuals with whom the worker may regularly interact during the course of their work (i.e., higher risk for transmission to persons who are medically vulnerable to severe disease and death due to COVID-19 infection);
- iii. the workplace setting involves high risk for viral amplification and rapid spread between workers due to factors inherent to the working environment or the nature of the work being undertaken, such as meat processing workers, as outlined in paragraph 102; and
- iv. the workforces provide essential services to the Victorian community, and the potential impacts from staffing shortfalls due to workers becoming sick with COVID-19 or being required to isolate as a close contact would be significant.

Table 1, below, sets out data on the extent of reported COVID-19 outbreaks within these settings.

Table 1. Overview of COVID-19 outbreak information within high-risk workforces in Victoria

Workforce	Outbreaks - 1 August 2021 to 5 January 2022
Disability workers	<ul style="list-style-type: none"> • 165 outbreaks • Total of 567 cases • On 5 January there were 16 active cases. <p>These figures may be an underestimate, with some disability-related outbreaks being classified as occurring in supported residential services.</p>
Aged care workers	<ul style="list-style-type: none"> • 330 outbreaks • Total of 1,971 cases • On 5 January there were 166 active cases. <p>These rates may be under-reported, with some outbreaks classified as occurring in non-residential facilities and home-based aged care services.</p>
Healthcare workers	<ul style="list-style-type: none"> • 553 outbreaks

Workforce	Outbreaks - 1 August 2021 to 5 January 2022
	<ul style="list-style-type: none"> • Total of 2,388 cases • On 5 January there were 104 active cases. <p>These figures exclude allied health, other healthcare, primary care, sub-acute and transitional care services, which total to 161 outbreaks and 673 cases in the same period. There were 22 active cases as part of these settings on 5 December 2021.</p>
Emergency services workers (including police officers, firefighters and paramedics)	<ul style="list-style-type: none"> • 69 outbreaks • Total of 307 confirmed cases • On 5 January there were 5 active cases <p>These figures may be an underestimate, as outbreaks within ambulance and paramedic services may be included within healthcare outbreak workforce categories.</p>
Corrections facilities workers	<ul style="list-style-type: none"> • 20 outbreaks • Total of 241 cases • On 5 January there were 24 confirmed cases
Abattoirs, meat, poultry and seafood processing	<ul style="list-style-type: none"> • 63 outbreaks • Total of 691 confirmed cases • On 5 January there were 10 active cases
COVID-19 Quarantine Victoria (CQV)	<ul style="list-style-type: none"> • Between period of 1-15 December 2021, there were 65 confirmed cases among the frontline hotel quarantine workers (3.8% of workforce) • An additional 27 confirmed cases in staff involved in CQV operations during the same period.

88. Vaccination remains an evidence-based intervention that has been shown to not only protect individuals who contract COVID-19 from severe illness, but to also reduce transmission risk, albeit the evidence base for reductions in transmission risk is largely based on pre-Omicron variants and the ancestral COVID-19 strain. I have discussed the evidence on vaccination and Omicron above at paragraphs 38 to 41. While evidence is only now emerging regarding how third doses impact the transmission rates of Omicron, the precautionary principle nevertheless makes it appropriate to act in the absence of complete information.

89. Optimal vaccination strategies protect workers by minimising their exposure to infection, mitigating the need for isolation of workers, and reducing the impacts of furloughing workers, all of which have the potential to negatively impact worker health and wellbeing and continued service

provision. High rates of staff absence can lead to significant workforce shortages and interruptions to the provision of essential goods and services to the Victorian community. These effects are particularly clear where the individual works in an industry or setting that has been shown, historically, to be more susceptible to COVID-19 outbreaks.

90. I therefore recommend that the Minister consider mandating COVID-19 third dose vaccines for the following workforces (including students on placement and volunteers):

- i. healthcare workers (as defined in the *COVID-19 Mandatory Vaccination [Specified Facilities] Pandemic Order* which includes ambulance, and patient transport workers);
- ii. aged care workers (as defined in the *COVID-19 Mandatory Vaccination [Specified Facilities] Pandemic Order*);
- iii. disability workers (as defined in the *Disability Service Safeguards Act 2018*);
- iv. emergency services workers (including State Emergency Service, fire and police and Emergency Services Telecommunications Authority workers);
- v. corrections facilities workers;
- vi. workers directly involved in the supply and distribution of food, including abattoir, meat, poultry and seafood processing staff; and
- vii. quarantine accommodation workers.

91. In addition to the specific and direct protection that vaccine mandates provide to workers (and their contacts both in their workplace, their homes, and in the broader community), mandates drive support for public health measures by communicating the importance and urgency of vaccination. Given that the deadline of a proposed vaccine mandate will most likely not take effect until after modelled peak of the Omicron surge, reinforced communication and engagement regarding vaccination through the issuing of a vaccine mandate is itself of public health importance. Therefore, in accordance with my comments above about the benefits that arise from engagement and collaboration, I strongly recommend all efforts be made to engage, educate, and incentivise workforces (and members of the public) to encourage voluntary uptake of this important individual health and population health intervention in the first instance and as soon as possible. This need exists for all workers, although the public health imperative and therefore urgency of vaccination of some workforces will limit the time available for consultation.

92. Importantly, the communication and engagement that takes place between government, industry and the community should not simply focus on the benefits of vaccination; it should consider and

attempt to solve the barriers to vaccination (such as ability to access vaccine services). Engagement, education, incentivization and facilitation (such as provision of paid leave to receive vaccination) should all be considered and resourced as soon as possible to encourage voluntary uptake of vaccination and I recommend this occur prior to mandatory vaccination requirements being imposed – with the exception of the specific high-risk workforces outlined in paragraph 90 above, for whom I believe the announcement of a mandate in parallel with the engagement, education and incentivisation approaches described above is reasonable on public health grounds. Additional mandates could be considered appropriate in the future if evidence of certain groups falling behind in coverage or facing increased risk of transmission or adverse outcomes becomes apparent. As industry seeks to avoid the consequences of widespread worker absenteeism due to illness and care responsibility, there is clear benefit in immediately considering how high vaccine coverage as early as possible can be facilitated – including paid leave for vaccination appointments, and other measures to remove barriers to vaccination. In making these statements, I note that the Minister has the ultimate authority to decide what level of communication, consultation and facilitation is necessary to make the mandate necessary or appropriate.

93. I have considered a consistent one-size-fits-all approach to vaccination mandates for all workforces and even for the general community but, at this time, I do not consider this to be a proportionate response for reasons including that I consider that the risks to the community – and the preliminary Victorians are voluntarily accessing booster doses at high numbers, and this willingness was further evidenced by behavioural insights data from the Department of Premier and Cabinet which has indicated that over 80% of respondents were willing to undertake a booster dose .
94. The timing of third dose receipt should be in accordance with Australian Technical Advisory Group on Immunisation (ATAGI) guidance which has been revised to greater than 3 - 4 months following completion of the primary vaccination course. Workers should be encouraged to obtain their third dose as soon as they become eligible, however, as a concession to simplicity and in order to reduce the potential administrative burden for workers and employers, specified deadlines should be provided for third doses. Those who are already eligible by ATAGI criteria should have a grace period of one month from the date the Orders take effect to obtain their third dose, and workers who are not yet eligible should be provided a period of 3 months and two weeks following the date on which the second dose of vaccination was required for their worker cohort under the Mandatory Vaccination Orders in order to meet the third dose requirement. Evidence of this dose should be provided to their employer, to continue to attend work on-site.

95. Healthcare, aged care and disability workers may inadvertently transmit COVID-19 to people who are particularly vulnerable to infection and with whom such workers may often have close physical interaction as a routine part of patient or client care. Clients or patients of these services often have risk factors which make them more vulnerable to the effects of COVID-19 compared to the general population, due to factors including age and medical comorbidities. Furthermore, environmental factors in these settings may accelerate the risk of in-facility transmission - for example, the use of shared amenities, rooms, bathrooms, and the overall congregate nature of the living arrangements increase the risk of onward transmission at such facilities once viral incursion has occurred.
96. Quarantine accommodation workers will increasingly support the acute health system's response to COVID-19 through supporting decanting of lower-risk COVID-19 positive patients from hospital into step-down care arrangements in quarantine hotels. This shifts the risk profile for exposure to COVID-19 for affected staff to one much more akin to a health care worker in terms of the likelihood of exposure to COVID-19 in the course of their work – and that this group of residents are likely to require a higher degree of interaction with quarantine accommodation workers given their immediate post-discharge status from health care facilities.
97. Importantly, if an outbreak were to occur in a healthcare (including hotel quarantine), aged care, or disability facility, in addition to the immediate negative health impacts due to COVID-19 infection, infected and exposed staff would be required to self-isolate or quarantine, potentially creating major workforce pressures and staffing shortfalls.
98. Emergency service workers (including Victoria Police, State Emergency Services, metropolitan and country firefighters, ambulance and paramedic services and workers in the Emergency Services Telecommunications Authority (ESTA) are frontline staff and (with the exception of ESTA) are required to have direct contact with the community in the course of their work. These workers often deal with urgent and critical incidents where they are required to respond to situations where they may be at increased risk of personal exposure to COVID-19. Further, the nature of their work means that they are more likely to interact with individuals who are at higher risk to the adverse health impacts of COVID-19 infection. It may also be difficult to ensure physical distancing practices due to the nature of their work duties. With regards to ESTA, while not having direct contact with the community or being personally present during emergencies, they are a fundamental pillar of emergency responses in Victoria and are required to be protected from COVID-19 to maintain workforce capacity and so directly protect the health and wellbeing of Victorians.

99. Police officers also work in custody settings, and as such have close contact with individuals, often in enclosed spaces and where physical distancing measures cannot be maintained. These factors increase the risk of transmission in these situations.
100. Staff furloughing may have significant impacts on all essential services and these impacts may be more acutely felt over the summer period, particularly for Victorian fire response services. If strong mitigations are not in place, these workforce pressures could have serious deleterious effects on the ability of these essential services to provide prompt and high-quality services to the community.
101. Corrections facilities workers engage with prisoners and clients in a variety of settings, some of which are considered high risk amplification settings for COVID-19 transmission. In the UK, from the start of the pandemic until 31 March 2021, 18,442 prisoners or children in custody tested positive for COVID-19, and 155 died³⁴. Age and sex standardised case rates in prison have consistently been higher than in the general population, despite stringent control measures such as 23-hour cell lockdowns in place. It is worth noting these data were captured prior to the emergence and spread of the Delta variant across the UK. Individuals in correctional facilities spend protracted periods indoors in close proximity with others, which are conditions conducive to efficient viral transmission. Many prisoners and other clients within the justice system have complex health needs, including higher rates of chronic disease that make them more vulnerable to negative health outcomes of COVID-19 such as severe illness, hospitalisation, and death. Vaccination requirements for workers reduce the risk of viral incursion into these settings, in turn providing protection to vulnerable population groups such as prisoners.
102. Workers in abattoirs and meat and seafood processing industries work in cold environments with high humidity, and where it is often impractical to physically distance from other workers due to the nature of the work being undertaken. These environments and working conditions are favourable for transmission and amplification of COVID-19 within the facility. Additional risks may be posed by high workforce turnover and employer sponsored shared accommodation and transport programs. Further, the physically exertive nature of the work in these industries may increase the risk of in-facility transmission due to increased respiratory aerosols and droplets being produced by workers. Outbreaks in meat and seafood processing facilities contributed to a significant proportion of Victorian cases in 2020, resulting in significant community transmission throughout Victoria. These workforces are essential in the food supply chain both within Victoria and nationally, and any largescale outbreaks may lead to significant disruptions including, potentially, to the availability of essential foodstuffs to the Victorian community.

103. I have considered mandating a third dose for ECEC workers but do not consider such a mandate to be proportionate at this time. Third dose coverage is highly desirable for this group noting that transmission among children aged under 5 years can be expected to represent an increased proportion of the total cases (noting imminent commencement of the vaccination program for 5 – 11-year-olds) and the critical role early childhood learning plays in supporting workforce participation. However, I therefore advise that the Minister could consider in the first instance a strong engagement program for this industry to promote high levels of vaccination uptake. Measures such as paid leave to attend vaccination appointments and addressing other logistical and financial barrier to vaccination should be explored. Were these interventions not to result in high levels of vaccination to protect these workers and the children in their care, the consideration of a third dose mandate would remain open.

Surveillance testing for residential aged care facility workers

104. In the context of ongoing community transmission of Omicron, I have previously advised 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.

105. RACF workers should be required to undertake regular surveillance testing for COVID-19 using thrice weekly RA tests or, alternatively if RA testing is not available, once weekly PCR testing. As with visitors, any workers who test positive or have repeated invalid RA results must undertake a PCR test for COVID-19 and self-quarantine.

106. Regular asymptomatic screening of the aged care workforce will ensure that infection in this worker group is detected early and limit the risk of onward transmission to vulnerable residents. To ensure RA tests are accessible to all RACFs, they should be fully funded by government and supply should be guaranteed.

Preserving our care facilities workforce

107. With COVID-19 case numbers rapidly escalating throughout Victoria, tens of thousands of Victorians are currently required to isolate, and the numbers who are in isolation are anticipated to rise even further in coming weeks. The impact of such high case numbers will be felt throughout the community and in all industries and sectors, however, the impacts to essential workforces including the residential care sector are likely to be significant.

108. Staffing shortfalls due to quarantine requirements in staff assessed as COVID-19 close contacts in the residential care sector may be extremely impactful and compromise the ability of services to provide safe staffing levels and ensure high quality resident care.

109. Current policy and requirements, as stipulated in the relevant Ministerial Orders, require that any persons defined as a close contact of a confirmed COVID-19 case undertake testing and quarantine for a specified period (currently 7 days), and not leave isolation until these testing and quarantine obligations have been fulfilled. The current policy and Order define residential care facility workers as close contacts if they have spent 4 hours or more within a facility with a confirmed COVID-19 case, which has the potential to severely impact staffing levels at any facility with an active COVID-19 case as large numbers of staff would meet the threshold for being classified as close contacts. Given this potential impact on the workforce, which may adversely impact service continuity and the provision of safe and high-quality care, I recommend a change to the definition of close contacts in departmental policy and Quarantine Isolation and Testing Order such that care facility workers exposed through their workplace are reclassified as exposed persons rather than close contacts. Such workers could then be cleared from isolation following a negative COVID-19 PCR test. A similar exemption pathway already exists for hospital-based health care workers.
110. Similar to the policy approach to the management of exposed health care workers, a risk assessment matrix will be utilised to minimise the transmission risk from such workers, and only asymptomatic workers who have returned a negative COVID-19 PCR test and continue to test negative on RA testing will be eligible to return to work.

Alignment of policies for a consistent approach

111. In addition to the above policies, the Minister may consider the additional policies outlined below to further strengthen the Victorian response to the COVID-19 pandemic and ensure alignment with national and jurisdictional policies, specifically for managing maritime arrivals, unvaccinated air arrivals and Victoria's test, trace, isolate and quarantine approach.
112. As discussed above, consistency is important in reducing the variation between Australian jurisdictions and the difficulties of compliance that such variation brings. This does not mean that each State or Territory must set its public health measures at the level implemented by other States or Territories, particularly given the very different epidemiological circumstances and health system pressures faced at different times. Instead, it is appropriate for each jurisdiction to discuss what can be done in general to align public health measures, and then to do their own work to optimise the implementation of those broader principles within their own context.

Maritime arrivals

113. I recommend that international arrivals entering Victoria via Victorian maritime ports, regardless of their vaccination status, continue to be managed in a different way to fully vaccinated air arrivals, because of the unique nature of the industry and associated higher risk profile.

114. International maritime crew continue to represent an increased risk to public health when compared to fully vaccinated international air arrivals due to several factors which include:
- i. International air arrivals are subject to a robust vaccination status verification, whereby status is checked prior to boarding (by the airline) and is also checked again at the airport upon arrival (largely Commonwealth-led), to determine if the person must enter hotel quarantine or is eligible for an international passenger arrival permit. Currently there is no such Commonwealth process to check vaccination status for international maritime crew.
 - ii. International air passengers are required to adhere to Commonwealth pre arrival conditions, which includes having a negative COVID-19 PCR test result taken within 3 days of their departure to Australia. International aircrew must have evidence of a negative PCR test result within 3 days of departure or a negative RA test result within 24 hours of departure. Pre departure tests provide some level of reduction in the risk that arrivals will have COVID-19 in transit or on arrival. Currently, a pre-departure test is not required by the Commonwealth for international maritime crew as, given the nature and duration of international maritime voyages, it would be impractical to implement.

The combined effect of the lack of either of the above controls for international maritime crew is that such crew continue to represent an increased risk to public health when compared to fully vaccinated international air arrivals with negative COVID-19 pre departure test results. Until such time as a robust vaccination verification and testing process can be established for this group, having a policy where vaccination status determines arrival requirements in Victoria is not operationally feasible.

115. It is recommended that international arrivals into Victoria's maritime ports should be required to undertake hotel quarantine at government-run quarantine hotels for a period of 7 days unless an exemption to quarantine at an alternative location is granted. This 7-day period of quarantine for maritime crew would be in alignment with the proposed quarantine duration for unvaccinated international air arrivals as outlined in paragraphs 116 to 118. Quarantine should be undertaken at the port of arrival unless an exemption is granted to travel domestically to quarantine in another jurisdiction. Time at sea prior to arrival in Victoria from an international port should not count towards the quarantine period because of the nature of maritime vessels and voyages. A vessel being at sea does not equate to each crew member effectively quarantining away from other potentially infected crew members. Even if all crew members appear well at the beginning of a voyage, one infected crew member could result in all crew potentially being exposed by the time of arrival into Victoria. This approach is similar to the current approach in NSW.

Continued mandatory hotel quarantine for unvaccinated international arrivals with some updates to testing requirements and quarantine duration

116. In line with quarantine requirements for persons who are classified as close contacts, I recommend that the period of quarantine is revised for unvaccinated international arrivals who arrive in Victoria from an overseas airport. Currently, any person aged 18 years and over who arrives by air into Victoria, and who is unvaccinated and without a medical exemption is required to enter quarantine at a hotel or other managed facility for 14 days. Given that close contacts in the community are now required to undertake 7 days of quarantine, the quarantine duration for unvaccinated international arrivals who enter hotel quarantine could also be updated to 7 days in order to maintain a consistent approach. This change would reflect the current epidemiological risk profile in Victoria, where the vast majority of the population is vaccinated, and rates of community transmission of the Omicron variant are elevated.
117. International arrivals who are unvaccinated and without a medical exemption are served with a Detention Notice by an Authorised Officer (AO) upon arrival at a Victorian airport and are required to enter a managed quarantine facility for their quarantine period. A managed quarantine facility is generally a quarantine hotel run by COVID-19 Quarantine Victoria (CQV), however other dedicated quarantine facilities including the Victoria Quarantine Hub may, in future, be appropriate for this purpose provided similar procedures and standards are in place for resident management and care, infection prevention and control and optimal ventilation.
118. Based on evidence for incubation and latency periods of circulating global SARS-CoV-2 strains,^{35,36,37} a period of 7 days detention does not exceed the period reasonably necessary to reduce a serious risk to public health. I recommend consideration of this change to the Minister, pending further discussions at the national level to seek a consensus approach to this issue.
119. The relative risk of SARS-CoV-2 incursion and transmission international arrivals has substantially diminished relative to the risk from local acquisition in the context of the unprecedented levels of community transmission in Victoria and other Australian jurisdictions due to Omicron variant. Given this shift in the epidemiological risk profile in Victoria, additional testing obligations for this cohort, following this initial test within 24 hours of arrival, to prevent the introduction of novel threats is no longer an impactful use of our valuable testing resources which are already under strain.
120. Maintaining the COVID-19 testing requirement within 24 hours of arrival for international arrivals, alongside the pre-departure testing requirement for passengers set by the Commonwealth and aircrew set by the Victorian state, remain necessary to determine the

COVID-19 status of incoming arrivals given the risk of exposure during transit, however there is a diminishing need for subsequent testing in this cohort. Such changes to consolidate testing requirements for international arrivals aligns with the National Cabinet announcement made on 5 January 2022 and is anticipated to be adopted across most jurisdictions. for consistency.

121. While evidence for Omicron continues to emerge, TGA-approved and recognised COVID-19 vaccines have been demonstrated to reduce symptomatic disease and severe disease for Omicron, as well as transmission of pre-Omicron variants and the ancestral strain. Thus, unvaccinated travellers pose a higher incursion risk than those who are fully vaccinated. Further, with large parts of the world still unvaccinated, and major COVID-19 outbreaks persisting across the globe, the risk of new variants emerging and arriving at our shores remains.
122. As a corollary to the changes in testing and quarantine requirements for international arrivals, the removal of restrictions on entering sensitive settings following arrival to Victoria and the conditional obligation of pre-entry COVID-19 testing are also warranted. Currently, the risk of transmission is greater from locally acquired sources compared to this overseas cohort and the consolidated testing requirement still adequately assesses the COVID-19 status of these international arrivals prior to attending the sensitive settings. Further certain sensitive settings with the most vulnerable populations such as RACFs and hospitals are proposed to have additional protective measures as outlined in paragraphs 75 to 81 which helps circumvent risk of incursion.
123. While those with medical exemptions from vaccination pose a similar public health risk to those who have foregone vaccination voluntarily, individuals with medical exemptions have temporary or ongoing medical contraindications to vaccination due to circumstances out of their control, and the Minister may consider that placing perpetual requirements for mandatory in-facility quarantine for these groups is not a proportionate response, particularly as the number of individuals who fall into this group is relatively small and the aggregate public health risk of incursion due to this group is, therefore, also small.
124. Managed quarantine facilities provide the most stringent safeguards against onward transmission from an infectious person, with robust testing regimens, infection control practices and other public health measures in place to ensure early detection and management of COVID-19 cases and associated close contacts.
125. In limited circumstances, AOs may use their discretion in issuing Detention Notices to determine that, due to extenuating circumstances related to the individual's health or wellbeing,

it is more appropriate for the international arrival to complete the required period of quarantine at an alternative location including residential premises. An assessment of the appropriateness of this alternative location as a quarantine location must form part of the AO's decision-making process in issuing such a notice.

126. AHPPC recently reaffirmed its position on the importance of managed quarantine programs for international travellers, releasing a statement on end-to-end best practice arrangements.³⁸

127. As Victoria negotiates this most recent stage of the pandemic, models for managed quarantine programs and the management of international arrivals must shift to respond to evolving epidemiology and new challenges, however, these changes should align at a national level and be consistent, as far as possible, across all Australian jurisdictions.

Changes to vaccination exemption to include participants of COVID-19 vaccination clinical trials

128. To align with Commonwealth policy, individuals on an approved COVID-19 vaccination clinical trial should be permitted to have a temporary exemption from receiving a COVID-19 vaccination.

129. The Commonwealth Department of Health in collaboration with Services Australia are implementing system enhancements to the Australian Immunisation Register (AIR) to allow participants on an approved COVID-19 clinical trial to have a COVID-19 Digital Certificate generated for the duration of the trial period. The Commonwealth Department and Services Australia are responsible for managing the exemption process, including the provision of exemption evidence, for these trial participants.

130. The pathway to vaccination for these participations at the cessation of the clinical trial has been developed by the Commonwealth Department with guidance from ATAGI.

131. To ensure that these trial participants can participate in Victoria's vaccinated economy, this group should be included as an 'excepted person' as part of the Pandemic Open Premises Order.

Changes to Test, Trace, Isolate and Quarantine approach to align with national position and guidelines

132. The projected modelling for COVID-19 cases in Victoria indicates that rapid growth in COVID-19 case numbers is expected throughout January 2022 and beyond. To protect system capacity, I advise continual review and when warranted, adjustments to the Test, Trace, Isolate and Quarantine (TTIQ) approach. TTIQ lies at the core of case, contact and outbreak management and it continues to undertake its core function of controlling chains of transmission as efficiently as possible within the constraints of available resources, to ultimately protect the Victorian

community. The TTIQ 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.

133. I advise continuation of the recent system adjustments that confer a greater responsibility on individuals to self-monitor infection status with the increasing use of rapid antigen tests (as discussed above), in cases notifying their own household, social and workplace/ educational contacts, and revision of isolation and quarantine periods to 7 days regardless of vaccination status. This approach becomes increasingly important as response teams reach capacity and can avert delays in contact tracing or implementation of appropriate public health measures. It 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.
134. Similarly, a requirement for operators and employers to notify the Department once outbreak thresholds have been reached helps instigate public health measures while normalising the actions that individuals can take to help protect their contacts or settings, and hence the community. Increasing the current threshold for which workplaces must notify the department from every case to 5 cases over a 7-day period is reflective of not only the shift in epidemiology but also aligns to the approach taken for cases and contacts wherein the community plays a more active and self-directed model of management. In supporting workplaces and industries to move into this style of operation, the department has developed contact management guidelines, workplace and industry toolkits, and a reporting tool for support by the department and local public health units. The intention of these resources and educational materials, has been to empower workplaces to undertake the same actions that would be completed by the department, without department oversight or reporting, allowing businesses to return to full operations as soon as possible.
135. There will be ongoing emphasis on developing community empowerment and skill building, which may involve shifting the role of local public health units (LPHUs) from outbreak investigation, towards case linkage priorities. This will involve ensuring timely diagnosis is available for community members to allow reinforcement of isolation and quarantine measures, and to allow behaviour modification to occur in a timely way.
136. A National Cabinet position on the definition of close contacts and their testing and isolation requirements was agreed on 30 December 2021.³⁹ I advise that Victoria should continue to align with this appropriate national position with the additional benefit of this uniformity potentially supporting public trust, understanding and confidence in these public health measures.

137. 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

138. 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 that Omicron presents to Victoria.



Professor Benjamin Cowie

Victorian Acting Chief Health Officer

Dated this 10th day of January 2022

References

- ¹ Australian Government. AHPPC statement on testing, tracing, isolating and quarantining in high levels of COVID-19 community transmission. Canberra, AU: Department of Health; 2021 Dec 30. [cited 2022 Jan 05] Available from: [AHPPC statement on testing, tracing, isolating and quarantining in high levels of COVID-19 community transmission | Australian Government Department of Health](#)
- ² Victorian Department of Health. Coronavirus update for Victoria – 2 January 2022 [Internet]. Melbourne, VIC: Victorian Department of Health; 2022 Jan 2 [cited 2022 Jan 5]. Available from: <https://www.health.vic.gov.au/media-releases/coronavirus-update-for-victoria-2-january-2022>
- ³ World Health Organisation [Internet]. Geneva Switzerland: World Health Organisation; 2021. Classification of Omicron (B.1.1.529): SARS-CoV-2 Variant of Concern; 26 Nov 2021 [cited 22 Dec 2021]. Available at: [https://www.who.int/news/item/26-11-2021-classification-of-omicron-\(b.1.1.529\)-sars-cov-2-variant-of-concern](https://www.who.int/news/item/26-11-2021-classification-of-omicron-(b.1.1.529)-sars-cov-2-variant-of-concern)
- ⁴ Network for Genomic Surveillance in South Africa 2021. SARS-CoV-2 Sequencing Update 17 December 2021. South Africa: Network for Genomic Surveillance in South Africa; 2021 Dec 17. 33p. Report: 2021 Dec 17.
- ⁵ Karim SSA, Karim QA. Omicron SARS-CoV-2 variant: a new chapter in the COVID-19 pandemic. Lancet [Internet]. 2021 Dec [cited 2021 Dec 22];398(10317):2126-2128. Available at: <https://www.thelancet.com/action/showPdf?pii=S0140-6736%2821%2902758-6>
- ⁶ National Institute for Communicable Disease South Africa [Internet]. South Africa: National Institute for Communicable Disease; 2021. National COVID-19 Daily Report; 2021 Dec 22 South Africa [cited 2021 Dec 22]. Available at: <https://www.nicd.ac.za/diseases-a-z-index/disease-index-covid-19/surveillance-reports/national-covid-19-daily-report/>
- ⁷ United Kingdom Health Security Agency. UK Summary [Internet]. London England: United Kingdom Health Security Agency; 2021 [updated 2021 Dec 21; cited 2021 Dec 22]. Available at: <https://coronavirus.data.gov.uk>
- ⁸ Danish Health Authority [Internet]. Copenhagen Denmark: Danish Health Authority; 2021. COVID-19 surveillance; 2021 Dec 21 [cited 2021 Dec 22]. Available at: <https://www.sst.dk/en/English/Corona-eng/Status%20of%20the%20epidemic/COVID-19%20updates%20Statistics%20and%20charts>
- ⁹ New South Wales Government [Internet]. Sydney NSW: New South Wales Government; 2021. COVID-19 data and statistics; 2021 Dec 22 [cited 2021 Dec 22]. Available at: <https://www.nsw.gov.au/covid-19/stay-safe/data-and-statistics>
- ¹⁰ World Health Organisation, *WHO COVID-19 Weekly Epidemiological Update 19-28 December 2021. Ed 72. Available from: https://www.who.int/publications/m/item/weekly-epidemiological-update-on-covid-19---28-december-2021*
- ¹¹ National Institute for Communicable Diseases. Latest confirmed cases of COVID-19 in South Africa (2 January 2022). Available at: [LATEST CONFIRMED CASES OF COVID-19 IN SOUTH AFRICA \(2 January 2022\) - NICD](#)
- ¹² UK Health Security Agency. SARS-CoV-2 variants of concern and variants under investigation in England. Technical briefing 32. [Internet]. 2021 Dec 17 [cited 2021 Dec 22]. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1042046/Technical_Briefing_32.pdf

-
- ¹³ Danish Health Authority. COVID-19 surveillance. Current data on the development of coronavirus/COVID-19. [Internet]. 2021 Dec 21. [cited 2021 Dec 22]. Available at: <https://www.sst.dk/en/english/corona-eng/status-of-the-epidemic/covid-19-updates-statistics-and-charts>
- ¹⁴ Amy Greenbank. Modelling predicting 25,000 COVID cases a day by January in NSW 'very preliminary', report author says. [Internet] 2021 Dec 16. Australian Broadcasting Authority. Available at: <https://www.abc.net.au/news/2021-12-16/uns-w-modelling-25-000-covid-19-cases-a-day-january-preliminary/100703352>
- ¹⁵ National Institute for Communicable Diseases. Latest confirmed cases of COVID-19 in South Africa (5 January 2022). [Internet]. 2021 [cited 6 Jan 2022]. Available at: [LATEST CONFIRMED CASES OF COVID-19 IN SOUTH AFRICA \(5 January 2022\) - NICD](#)
- ¹⁶ Department of Health Victoria. DIME COVID-19 Integrated Intelligence 05 January 2022. Melbourne, VIC: Department of Health.
- ¹⁷ UK Health Security Agency. SARS-CoV-2 variants of concern and variants under investigation in England. Technical briefing 33. [Internet]. 2021 Dec 23 [cited 2022 Jan 5]. Available at: [UKHSA Technical Briefing 33, 23 December 2021](#)
- ¹⁸ Australian Technical Advisory Group on Immunisation (ATAGI), Australian Government Department of Health, 2021. ATAGI recommendations on the use of a booster dose of COVID-19 vaccine. Accessed 29 December 2021. <[ATAGI recommendations on the use of a booster dose of COVID-19 vaccine | Australian Government Department of Health](#)>
- ¹⁹ Levin EG, Lustig Y, Cohen C, Fluss R, Indenbaum V, Amit S, Doolman R, Asraf K, Mendelson E, Ziv A, Rubin C, Freedman L, Kreiss Y, Regev-Yochay G. Waning Immune Humoral response to BNT162b2 Covid-19 Vaccine over 6 Months New England Journal of Medicine. 2021; 385:384 DOI: 10.1056/NEJMoa2114583
- ²⁰ World Health Organization, Enhancing Readiness for Omicron (B.1.1.529): Technical Brief and Priority Actions for Member States World Health Organization HQ 2021 Dec 17
- ²¹ Willett BJ, Grove J, Maclean O, Wilkie C, Logan N, De Lorenzo G et al. The hyper-transmissible SARS-CoV-2 Omicron variant exhibits significant antigenic change, vaccine escape and a switch in cell entry mechanism. medRxiv [Internet]. 2022 Jan 3 [cited 2022 Jan 5]. Available from: [The hyper-transmissible SARS-CoV-2 Omicron variant exhibits significant antigenic change, vaccine escape and a switch in cell entry mechanism | medRxiv](#) DOI: 10.1101/2022.01.03.21268111
- ²² Andrews N, Stowe J, Kirsebom F, Toffa S, Rickeard T, Gallagher E et al. Effectiveness of COVID-19 vaccines against the Omicron (B1.1.529) variant of concern. medRxiv [Internet]. 2022 Jan 6 [cited 2022 Jan 6]. Available from: <https://khub.net/documents/135939561/430986542/Effectiveness+of+COVID-19+vaccines+against+Omicron+variant+of+concern.pdf/f423c9f4-91cb-0274-c8c5-70e8fad50074>
- ²³ Australian Government. AHPPC statement on the Omicron public health implications and response options. Canberra, AU: Department of Health; 2021 Dec 22. [cited 2022 Jan 04] Available from: <https://www.health.gov.au/news/ahppc-statement-on-the-omicron-public-health-implications-and-response-options>
- ²⁴ Australian Government. AHPPC statement on the Omicron public health implications and response options Canberra, AU: Department of Health; 2021 Dec 22. [Internet] [cited 2022 Jan 06]

Available from: [AHPPC statement on the Omicron public health implications and response options | Australian Government Department of Health](#)

- 25 Liu Y, et al, The impact of non-pharmaceutical interventions on SARS-CoV-2 transmission across 130 countries and territories. *BMC Med*, 2021. 19(1): p. 40.
- 26 Bo Y, et al., Effectiveness of non- pharmaceutical interventions on COVID-19 transmission in 190 countries from 23 January to 13 April 2020. *Int J Infect Dis*, 2021. 102: p. 247- 253.
- 27 Talic S, et al., Effectiveness of public health measures in reducing the incidence of COVID-19, SARS-CoV-2 transmission, and COVID-19 mortality: systematic review and meta-analysis. *BMJ*, 2021. 375: p. e067508.
- 28 Chu DK, et al., Physical distancing, face masks, and eye protection to prevent person-to-person transmission of SARS-CoV-2 and COVID-19: a systematic review and meta-analysis. *Lancet*, 2020. 395(10242): p. 1973- 1987.
- 29 Haug N, Geyrhofer L, Londei A, Dervic E, Desvars-Larrive A, Loreto V, et al., Ranking the effectiveness of worldwide COVID-19 government interventions. *Nature Human Behaviour*, 2020. 4: p. 1303- 1312.
- 30 Department of Health Victoria. 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 10 December 2021. Melbourne, VIC: Department of Health. p. 14-15 [Internet] [cited 2022 Jan 07] Available from: <https://www.health.vic.gov.au/sites/default/files/2021-12/advice-minister-from-cho.pdf>
- 31 Department of Health Victoria. 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 23 December 2021. Melbourne, VIC: Department of Health. p. 17-18 [Internet] [cited 2022 Jan 07] Available from: <https://www.health.vic.gov.au/sites/default/files/2021-12/Advice-to-the-Minister-from-the-CHO-23-December-2021.pdf>
- 32 Australian Institute of Health and Welfare, The first year of COVID-19 in Australia: direct and indirect health effects. 2021, Canberra: AIHW.
- 33 Australian Government. ATAGI recommendations on the use of a third primary dose of COVID-19 vaccine in individuals who are severely immunocompromised. [Internet] 2021 Dec 24 [cited 2022 Jan 06] Available from: [ATAGI recommendations on the use of a third primary dose of COVID-19 vaccine in individuals who are severely immunocompromised | Australian Government Department of Health](#)
- 34 Ministry of Justice (UK) HM Prison and Probation Service COVID-19 Official Statistics. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1016258/HMPPS_COVID19_Aug21_Pub.pdf
- 35 Elias C, et al., The incubation period of COVID-19: A meta-analysis. *International journal of infectious diseases*, 2021. 104:708-10.

-
- ³⁶ Kang M, et al. Transmission dynamics and epidemiological characteristics of Delta variant infections in China. medRxiv. 2021:2021.08.12.21261991.
- ³⁷ Jansen L, et al. Investigations of a SARS-CoV-2 B.1.1.529 (Omicron) Variant Cluster – Nebraska, November – December 2021. MMWR Morb Mortal Wkly Rep 2021. 70: 1782-1784. DOI: <http://dx.doi.org/10.15585/mmwr.mm705152e3>
- ³⁸ Australian Government. AHPPC statement on the national principles for end-to-end best managed quarantine arrangements for international travellers. [Internet] [cited 2022 Jan 04] Available from: [AHPPC statement on national principles for end-to-end best practice managed quarantine arrangements for international travellers | Australian Government Department of Health](#)
- ³⁹ Australian Government. New approach to Test, Trace, Isolate and Quarantine Arrangements (TTIQ) in the context of high levels of COVID-19 community transmission. [Internet]. 2021 [cited 4 Jan 2022]. Available at: [National Cabinet Statement | Prime Minister of Australia \(pm.gov.au\)](#)