CHRISTCHURCH CITY COUNCIL
REVIEW OF COVID-19 RISK ASSESSMENT

MARCH 2022

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Purpose of this Report

1. This report summarises the March 2022 review of the COVID-19 risk assessment initially undertaken by Christchurch City Council in December 2021.

2. The purpose of the review was to examine and update the risk assessment based on:

   2.1. The current risks associated with COVID-19 for Council workers, elected members and members of the public accessing our service.

   2.2. A high level assessment of the current controls (risk migration mechanisms) used to reduce risks.

   2.3. Current public health advice about COVID-19.

3. The report also includes a summary of staff feedback on the use of vaccination requirements as risk mitigate mechanisms.

Executive Summary

4. On 10 January 2022, Christchurch City Council implemented a vaccination policy which required that:

   4.1. All roles carried out at Council workplaces must be carried out by workers[1,2] who are vaccinated against COVID-19.

   4.2. All members of the public entering a Council workplace must have a My Vaccine Pass.[3]

5. The COVID-19 situation continues to rapidly evolve and we are now dealing with a different situation from when we made our policy decision.

6. The pandemic appears to be receding, vaccination rates are up across the city and country, children's vaccinations have become available, Omicron is now the dominant variant, and the Government has revised its strategy.

7. However, caution is needed. Even though the pandemic wave is starting to decline, there are still thousands of people being infected every day. Christchurch has just reached its expected peak. The medium to long term trajectory of the pandemic is highly uncertain. The effect of the opening of the borders is unknown. If New Zealand follows the pattern seen in Australia, we may see case numbers decline and then increase again in a second wave.

8. We have a duty of care under the Health and Safety at Work Act 2015 to take every reasonably practicable step to eliminate, or otherwise minimise, any risks to our workers. This duty

[1] Workers as defined by the Health and Safety at Work Act 2015 includes employees, contractors, most volunteers and some others who do work for the Council.

[2] Our elected members are officers as defined within the Health and Safety at Work Act 2015. Elected members (while not an employee, contractor, or volunteer) also carry out work in our workplaces in their role as elected members so they may also be considered to be workers under the Health and Safety at Work Act 2015.

[3] Third party hirers of our community facilities where no council staff were present could choose whether they work within the COVID-19 Protection Framework or require a My Vaccine Pass.

extends to those people who may be exposed as a result of interacting with Council workers, or within our workplaces.

9. Council's risk assessment in December 2021 identified that the risk for workers of exposure and transmitting of COVID-19 was higher than their risk outside work. This review has concluded that the risk for workers remains higher than their expected risk outside of work.

10. Council's risk assessment in December 2021 identified that the consequences of infections were high to extreme in the absence of a vaccination requirement. This review has identified that the consequence of infection remains high. Where the Council places a risk of infection on workers that risk is then carried forward to pose a risk to that person's colleagues, whānau and social networks.

11. COVID-19 vaccines remain the best public health measure to protect people from COVID-19 and reduce the likelihood of new variants emerging. This includes primary series, booster shots, and additional doses for those who need them.

12. Analyses of individual case data from the United Kingdom, the United States, and South Africa all agree the vaccines are beneficial. The most reliable comparisons between vaccinated and unvaccinated people have consistently shown a benefit of vaccination. The effectiveness of the vaccines does wear off over time, and the effectiveness is lower against Omicron than it was against Delta or the original COVID strain, but it still improves a person's chances of avoiding infection, keeping out of hospital and making a full recovery.[4]

13. New Zealand is one of the most fully vaccinated countries globally with 95-96% of the population having completed the primary course (two doses). This provides protection against COVID-19 at a population level. However, only around 76% of the eligible population have received their third dose (booster) therefore the population level protection against transmission could wane over time unless the percentage of people who have completed a third dose increases. This could drop to a level lower than the population protection when the government mandates where introduced 2021 when approx. 90% of the population has recently completed two doses.

14. Council continues to use complementary controls to mitigate ongoing Covid-19 risk, including supporting workers to stay at home when sick, requiring mask use in some indoor settings, improving ventilation in the workplace, physical distancing, testing and basic hygiene practices. Additional controls could be incorporated into this strategy.

15. The review of the risk assessment suggests:

    15.1. Maintaining the MVP requirement for all Council employees[5] and reviewing this early May 2022.

    15.2. Removing the MVP requirements for customers and people accessing Council services.

16. The rationale for these decisions is discussed in detail in the Discussion Section, page 32-36

[4] https://theconversation.com/most-covid-patients-in-nzs-omicron-outbreak-are-vaccinated-but-thats-no-reason-to-doubt-vaccine-benefits-179648

[5] WorkSafe refers to employees rather than workers because requiring (as opposed to encouraging) vaccination is an issue that affects employment arrangements.

17. Maintaining the staff vaccination requirement until May 2022 would allow time for active cases in Christchurch to reduce and the trajectory of the pandemic and Government intentions regarding MVP infrastructure to be better understood. It would also provide time for Council to review individual roles to identify the adequacies of controls if a MVP requirement was removed and/or if any additional controls need to be put in place, particularly for our staff who are vulnerable, or have family members who are vulnerable. A number of staff have expressed concerns about vulnerable colleagues and/or family members.

18. Expert public health advice was:

> *"Given that we are still in the middle of a major covid outbreak, I think you are fully justified in maintaining a vaccine mandate for your staff, both to keep them safe and also to ensure you can reduce the risk that a high proportion of your workforce could be off work at the same time. Omicron is so contagious that vaccination is required to slow down the speed of spread." Professor Rod Jackson (30 March 2022).*

19. Removal of the MVP requirement for the public accessing our services is a pragmatic decision. Under the Health & Safety at Work Act 2015 we are required to consider all the risks.

    19.1. Physical and verbal abuse of our frontline staff by a small minority of people who harbour strong objections to MVP is creating H&S risk for our staff. Many of our staff have expressed concerns about retaining the MVP for customers because of the continued stress and impact on morale.

    19.2. The majority of service users are vaccinated.

    19.3. A small minority of residents are unable to attend or access some rate funded activities because they do not have a MVP.

    19.4. The MVP sought to reduce the risk of transmission, particularly for people who were unable to be vaccinated (e.g. young children) or those vulnerable to infection. There is now a Health Order in place that requires us to allow access to all students in schools groups regardless of their vaccination status.

    19.5. Settings where transmission of the COVID-19 virus spreads more easily include close-contact settings, especially where people have conversations very near each other and confined and enclosed spaces with poor ventilation. Staff have told us that these settings tend to be staff to staff rather than customer to staff.

COVID-19 Global Pandemic

20. Coronavirus disease (COVID-19) is an infectious disease caused by the SARS-CoV-2 virus. Since its initial outbreak, COVID-19 has spread rapidly, with a sharp rise in the accumulative number of infections worldwide. As of 20 March 2022, over 468 million confirmed cases and over 6 million deaths have been reported globally.

21. Health care systems and societies worldwide have been challenged by emerging variants of the virus. During late 2020, the emergence of variants that posed an increased risk to global public health prompted the characterisation of specific Variants of Interest (VOIs) and Variants of Concern (VOCs), in order to prioritise global monitoring and research, and ultimately to inform the ongoing response to the COVID-19 pandemic. Variants posing a diminishing risk relative to other circulating variants may be reclassified.

22. Variants are categorised as Variants of Concern (VOC) if associated with one or more of the following changes at a degree of global public health significance:

    22.1. Increase in transmissibility or detrimental change in COVID-19 epidemiology;

    22.2. Increase in virulence or change in clinical disease presentation;

    22.3. Decrease in effectiveness of public health and social measures or available diagnostics, vaccines, or therapeutics.[6]

23. Currently circulating variants of concern (VOCs) are:

    23.1. Delta B.1.617.2

    23.2. Omicron (Includes all descendent lineages)

24. The Omicron variant is currently the dominant variant circulating globally.[7] The Omicron BA.2 sub variant is more dominant in New Zealand but both BA.1 and BA.2 are circulating.[8]

25. The Omicron variant is more transmissible than other variants. This is linked to the variant's ability to evade immunity, resulting from previous infection or vaccination. The WHO advises that the virus can spread from an infected person's mouth or nose in small liquid particles when they cough, sneeze, speak, sing or breathe.[9] Despite consistent evidence as to SARS-CoV-2 contamination of surfaces and the survival of the virus on certain surfaces, there is no direct evidence of fomite transmission.[10]

26. The Ministry of Health advises that a person is most infectious and more likely to spread the virus in the few days around the time that symptoms develop. This means that some individuals can be contagious before they develop symptoms.[11] People who develop severe

[6] World Health Organization. (2021). Tracking SARS-CoV-2 variants [last updated on 31 December 2021] https://www.who.int/en/activities/tracking-SARS-CoV-2-variants/
[7] https://www.who.int/publications/m/item/weekly-epidemiological-update-on-covid-19---22-march-2022
[8] The Omicron variant of SARS-CoV-2 diverged from previous SARS-CoV-2 variants as a result of adaptive evolution. Omicron, like other variants, continue to change and there are now two main sub-variants – BA.1 and BA.2. https://www.health.govt.nz/covid-19-novel-coronavirus/covid-19-health-advice-public/about-covid-19/covid-19-about-omicron-variant
[9] https://www.who.int/news-room/questions-and-answers/item/coronavirus-disease-covid-19-how-is-it-transmitted#:~:text=Current%20evidence%20suggests%20that%20the,%2C%20speak%2C%20sing%20or%20breathe.
[10] https://aci.health.nsw.gov.au/covid-19/critical-intelligence-unit/covid-19-transmission-flowchart
[11] https://www.health.govt.nz/covid-19-novel-coronavirus/covid-19-health-advice-public/about-covid-19#spreads

disease can be infectious for longer. The Ministry of Health also advises that some people who have the virus may not have any symptoms (asymptomatic cases) and could still be infectious.[12] However, the WHO report that it is still not clear how frequently this occurs and more research is needed in this area.[13] Earlier studies have suggested little to no transmission occurred from asymptomatic case-patients.[14]

27. Most people infected with the virus will experience mild to moderate respiratory illness and recover without requiring special treatment.[15] However, Omicron can still cause severe illness and even death, especially in people who are at risk of severe outcomes.[16,17] The Ministry of Health reports that there is increasing evidence emerging on the long-term health impacts of COVID-19 (long COVID).[18]

28. People aged 60 years and over, and those with underlying medical problems like high blood pressure, heart and lung problems, diabetes, obesity or cancer, are at higher risk of developing serious illness. However, anyone can get sick with COVID-19 and become seriously ill or die at any age.

[12] https://www.health.govt.nz/covid-19-novel-coronavirus/covid-19-health-advice-public/about-covid-19#spreads
[13] https://www.who.int/news-room/questions-and-answers/item/coronavirus-disease-covid-19-how-is-it-transmitted#:~:text=Current%20evidence%20suggests%20that%20the,%2C%20speak%2C%20sing%20or%20breathe.
[14] Bender JK, Brandl M, Höhle M, Buchholz U, Zeitlmann N. Analysis of asymptomatic and presymptomatic transmission in SARS-CoV-2 outbreak, Germany, 2020. Emerg Infect Dis. 2021 Apr [date cited]. https://doi.org/10.3201/eid2704.204576
[15] https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(22)00056-3/fulltext
[16] https://www.health.govt.nz/covid-19-novel-coronavirus/covid-19-health-advice-public/about-covid-19/covid-19-about-omicron-variant
[17] https://www.cdc.gov/coronavirus/2019-ncov/variants/omicron-variant.html
[18] https://www.health.govt.nz/covid-19-novel-coronavirus/covid-19-health-advice-public/about-covid-19/long-covid

Why we put Vaccine Pass requirements in place

30. Our Vaccination Policy was put in place in January 2022 to protect the health of our staff, elected members and the communities we serve. It was based on:

    30.1. Our legal obligations under the Health & Safety at Work Act 2015

    30.2. Our risk assessment (December 2021)

    30.3. Staff feedback and consultation.

31. We also drew on the available research and literature on COVID-19 and sought expert advice.

Obligations under the Health & Safety at Work Act 2015

32. Christchurch City Council has an obligation to provide a safe and healthy working environment under the Health and Safety at Work Act 2015. This obligation extends to our workers, elected members, contractors, and those people visiting our workplaces, including our customers, visitors, and wider communities.

33. Under the Health and Safety at Work Act 2015, a Person Conducting a Business or Undertaking (PCBU) must ensure, so far as is reasonably practicable, that the workplace and anything arising from the workplace, are without risks to the health and safety of any person (public and workers included). Where a risk is identified, PCBUs must eliminate the risk, so far as is reasonably practicable. When elimination is not possible, they must reduce the risk so far as is reasonably practicable.

34. There are tensions between the legislation put in place to enact the COVID-19 Protection Framework, the rights of individuals under the New Zealand Bill of Rights Act 1990, health and safety and employment law, and the nature of the Council's role in providing services to the community under the Local Government Act 2002 and other legislation. Balancing these considerations was not an easy process. The overriding consideration was the health and safety of workers, elected members and our community in the context of the significant risk that COVID-19 presents.

Council's risk assessment December 2021

35. Our risk assessment undertaken in December 2021 identified that the nature of the work raised the risk of COVID-19 infection and transmission above the risk expected to be faced outside work.

36. The risk assessment recognised that the range of consequences for a person infected with COVID-19 was extremely broad and would depend on a myriad of factors. The assessment considered the risk to our workers and the risk that our workers may pose to members of the community – particularly for those who are under 12 or otherwise vulnerable.[19] Our risk

[19] Vulnerable populations include people aged ≥60 years and/or with comorbidities that increase risk of serious COVID-19 disease; disadvantaged groups such as marginalized populations, and those in low resource settings and lower income groups. This include older people, immunocompromised people, such as those with cancer, people who have had transplants, those with rheumatological

assessment identified that if there was widespread community transmission, there could be challenges associated with the health system's capacity. This could impact on staff and elected members' health and safety if they required health services.

37. The December 2021 risk assessment considered the range of controls available. It noted that public health and social measures (controls) had proven critical to limiting transmission of COVID-19 and reducing mortality and morbidity. It also noted that vaccination was the only control known to reduce the likelihood of infection, the likelihood of transmission, and the seriousness of consequences if infected.

38. That risk assessment concluded that public health and social measures and vaccinations act in concert, and a combination of measures was required.

Staff feedback in December 2021

39. Staff feedback in 2021 indicated that most staff believed that safeguarding each other and the common good was important. The majority of staff considered that asking people to be vaccinated before coming into the workplace was both fair and reasonable. There was a high degree of concern about working in the workplace if there was no vaccine requirement in place due to the higher risk of exposure to COVID-19.

40. Many identified that vaccination requirements were necessary to protect those who were vulnerable, including unvaccinated children and the immunocompromised. There was a high degree of support for vaccinations by staff who have, or whose family members have, health conditions that make them more vulnerable to COVID-19.

Other impacts

41. While our decision regarding a vaccination policy for staff in December 2021 was based on protecting health and safety there were also business continuity benefits. The Council provides core critical services to all residents of Christchurch. Our business continuity plans identified that the risk of staff acquiring COVID-19 could have a serious impact on the provision of critical services, such as drinking water and waste water services, transport and traffic management and regulatory services.

42. The risk of loss of key workers in teams providing essential services due to someone acquiring COVID-19 (at or outside of work) and bringing it into the workplace was assessed. Our water services, flooding control, regulatory responsibilities, and public safety would all be impacted if a proportion of workers or an entire team was infected or required to isolate. The consequences were assessed as catastrophic for four of our operational teams - network operations, shift engineers, electrical and treatment plant operations - and major for two teams - treatment plant maintenance, and laboratory.

43. The Council's Business Continuity Planning is actively managed and updated to ensure we can manage any major disruptions in the event of a community outbreak, enable the

conditions, and also anyone taking immunosuppressants or long-term steroids. It also includes people with lung disease, like COPD and asthma, and heart disease.

continuation of service delivery and minimise the impact on the Council and city. Business continuity plans also identified that transmission of COVID-19 could cause disruption to other services due to staff absences. The potential for this was significant as, at the time, all close contacts of an individual with COVID-19 were required to isolate for a significant period of time.

Why we are reviewing our risk assessment and Vaccination Policy?

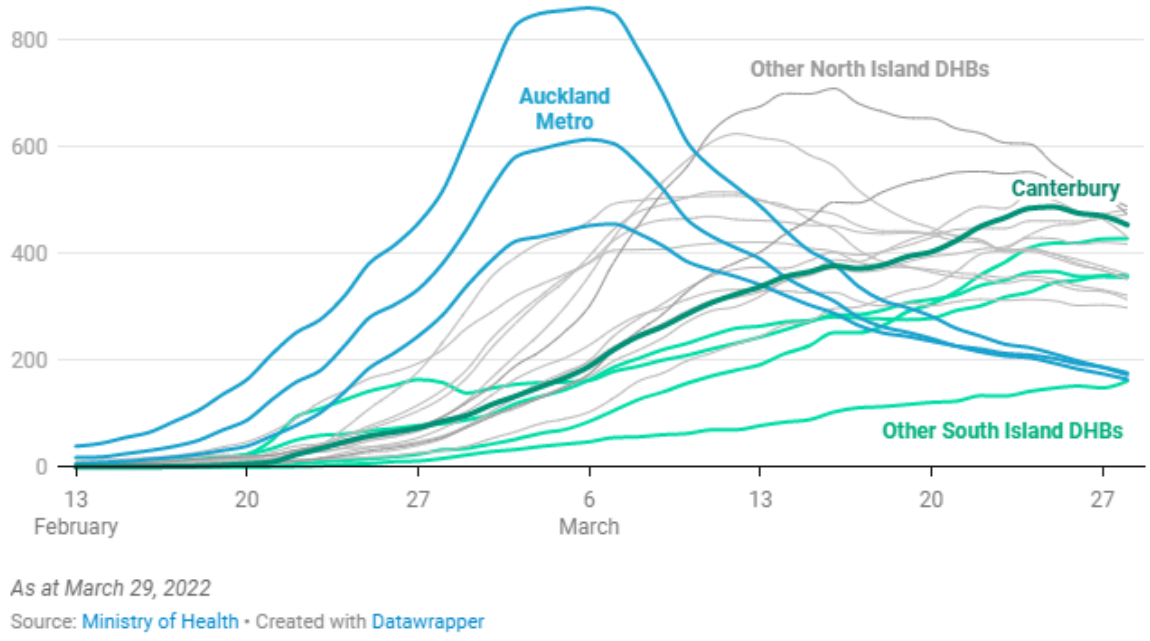
44. Our Vaccination Policy, adopted at the end of December 2021, identified that we would regularly review our policy and risk assessment, particularly if levels of COVID-19 in the community changed or there was a legislative change.

45. In 2022, the situation continues to rapidly evolve and we are now dealing with a different situation from when we made our policy decision. The pandemic appears to be receding, vaccination rates are up across the city and region, children's vaccinations have become available, Omicron is now the dominant variant, and the Government has revised its strategy.

COVID-19 Pandemic Wave

46. The Omicron wave appears to be receding in New Zealand, with the number of new infections declining nationally. The Ministry of Health COVID-19 modelling of reported cases is illustrated below.

Figure 1: Daily cases per 100,000 people 7- day average reported cases for each DHB

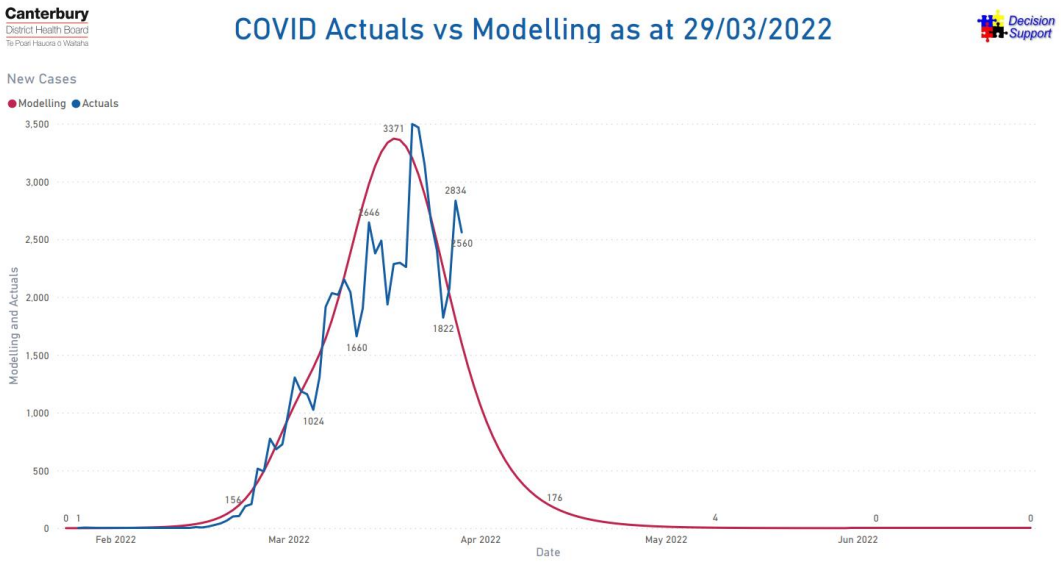


Source: NZ Herald 31st March 2022 [20]

47. The Canterbury District Health Board expects community cases in Canterbury and hospitalisations to have peaked by the end of March 2022.[21] The case modelling for Canterbury is illustrated below.

[20] https://www.nzherald.co.nz/nz/covid-19-omicron-outbreak-canterbury-has-passed-peak-says-epidemiologist-michael-baker/NSCXABREZQXAEMMYVBGCOO6GAM/
[21] https://www.cdhb.health.nz/?tab=2&accordion=2-7

Figure 2 CDHB Case Modelling

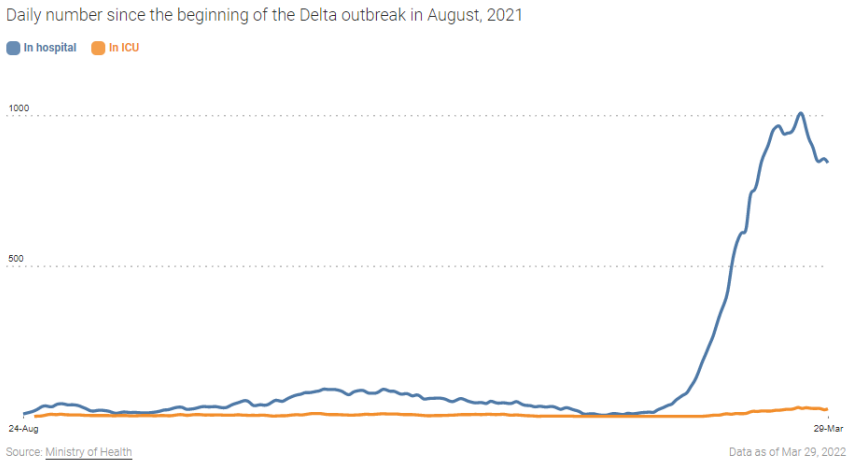


Source: Canterbury District Heath Board (31 March 202)

48. The peak burden in hospitalisations is an important data point in the Omicron epidemic and is a more valid indicator of the epidemic peak than are daily case numbers. This is because case numbers under-represent true infections in the community as some people have no symptoms, some have symptoms that are too mild to motivate them to get tested, and some people may not upload their positive test (RAT) results.[22]

49. The New Zealand data indicated that nationally hospitalisation appears to have peaked.

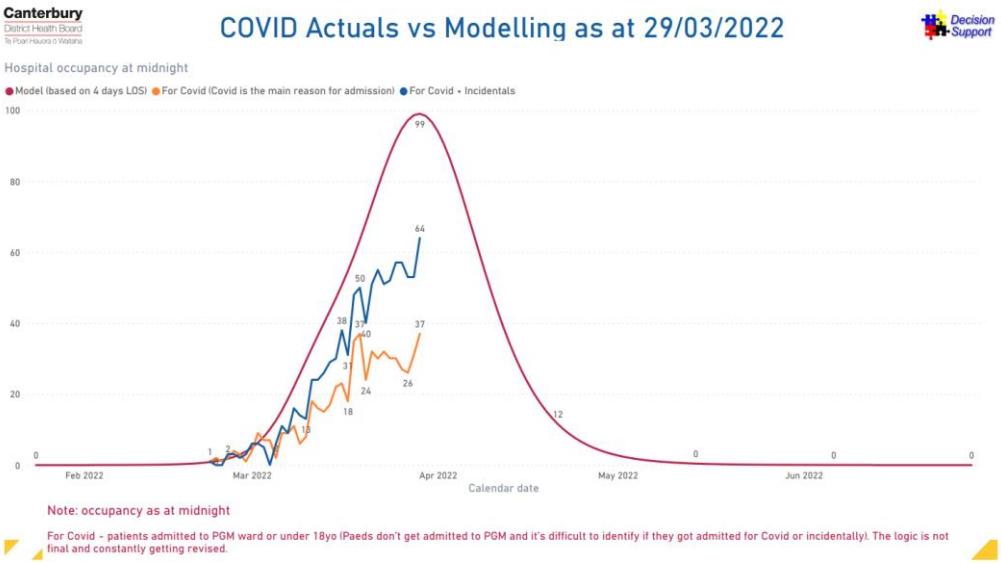
Figure 3 Covid-19 patients in hospital and intensive care



Source: https://interactives.stuff.co.nz/2020/05/coronavirus-covid-19-new-zealand-latest-data-cases/

[22] Wilson, N, Summers, J. and Baker, M (2022). Covid-19 Hospitalisations Now Peaking in Aotearoa NZ – But Key Covid-19 Control Measures Still Need to be Maintained. March 21,2022.

Figure 4 Canterbury District Health Board COVID-19 Hospital Occupancy



50. The medium to long term trajectory of the pandemic is highly uncertain.[23] It is predicted that we are not going to totally eradicate COVID-19. For an infectious disease to be classed as endemic, the rate of infections has to be more or less stable across the years, rather than having unexpected spikes as COVID-19 has been doing.

51. If New Zealand follows the pattern seen in Australia, we may see case numbers decline to a new baseline level, and then increase again as a second wave.

52. The Government has suggested that there will likely be further outbreaks of Omicron, seasonal flu, and the potential for the emergence of a new variant of concern which could be more or less virulent.[24]

53. A new Delta X Omicron Recombinant variant has been identified in the UK and is being monitored by UKHSA. News sources report a small number of cases. The significance of this variant is not yet known.[25,26,27, 28]

Omicron is now the dominant variant

54. Our December 2021 risk assessment was undertaken within the context of a Delta outbreak. Omicron is now the major variant in New Zealand and many countries worldwide.

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[23] Wilson, N, Summers, J. and Baker, M (2022). Covid-19 Hospitalisations Now Peaking in Aotearoa NZ – But Key Covid-19 Control Measures Still Need to be Maintained. March 21,2022. https://blogs.otago.ac.nz/pubhealthexpert/covid-19-hospitalisations-now-peaking-in-aotearoa-nz-but-key-covid-19-control-measures-still-need-to-be-maintained/

[24] https://covid19.govt.nz/assets/Proactive-Releases/independent-advisory-groups/VM01-13032022-Vaccine-manates.pdf

[25] Ministry of Health (2022). COVID-19 Omicron Update 2 Date: 22 February 2022. https://www.health.govt.nz/system/files/documents/pages/22_february_2022_-_variants_update.pdf

[26] UK Health Security Agency. SARS-CoV-2 variants of public health interest. 11 February 2022. https://www.gov.uk/government/publications/sars-cov-2-variants-of-public-health-interest/sars-cov-2-variants-of-public-health-interest-11-february-2022

[27] Mahase,E (2022) Covid-19: What do we know about the delta omicron recombinant variant? BMJ 2022;376:o792 (Published 24 March 2022)

[28] https://www.who.int/publications/m/item/strategic-preparedness-readiness-and-response-plan-to-end-the-global-covid-19-emergency-in-2022

55. The Omicron variant of SARS-CoV-2 diverged from previous SARS-CoV-2 variants as a result of adaptive evolution. Omicron, like other variants, continues to change and there are now two main sub-variants – BA.1 and BA.2. The BA.2 sub variant is more dominant in New Zealand but both BA.1 and BA.2 are circulating.[29]

56. The Omicron variant is more transmissible than the original virus that causes COVID-19 and the Delta variant. This is linked to the variant's ability to evade immunity resulting from previous infection or vaccination. Omicron is more likely to cause reinfections compared with other variants. The interval between being infected and that person infecting others is also shorter for Omicron than for Delta. Someone with Omicron infection can spread the virus to others, even if they are vaccinated or don't have symptoms. Vaccination and boosters help to reduce transmission of the virus.[30]

57. Persons infected with the Omicron variant can present with symptoms similar to previous variants. Research suggests that Omicron infection generally causes less severe disease than prior variants.[31] Estimates of the proportion of Omicron infections that are asymptomatic range from 25-54%.[32]

58. Omicron can still cause severe illness and even death, especially in people who are at risk of severe outcomes, such as the elderly and those with severe underlying health conditions.[33] [34] The presence and severity of symptoms can be affected by COVID-19 vaccination status, the presence of other health conditions, age, and history of prior infection.[35]

59. While a smaller proportion of people need to go to hospital compared to people infected with Delta,[36] Omicron has resulted in many more people being hospitalised than at any other time in the pandemic. This is because Omicron can cause so many infections over a short period of time. If we had a second wave of Omicron and even if only a small percentage of people with Omicron infection need hospitalisation, the large volume of cases could overwhelm the healthcare system

Government Policy Change

60. With the Government reviewing its approach, including reduced isolation requirements, changes to contact tracing, border entry requirements, and a relaxation of mandates, it is appropriate that we review our approach.

61. Key changes to the previous guidance are:

    61.1. Removal of outdoors face mask requirements from 26 March 2022

[29] https://www.health.govt.nz/covid-19-novel-coronavirus/covid-19-health-advice-public/about-covid-19/covid-19-about-omicron-variant
[30] https://www.cdc.gov/coronavirus/2019-ncov/variants/about-variants.html#:~:text=The%20Omicron%20variant%20causes%20more,of%20all%20variants%2C%20including%20Omicron.
[31] https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(22)00056-3/fulltext
[32] https://www.health.govt.nz/system/files/documents/pages/22_february_2022_-_variants_update.pdf
[33] https://www.health.govt.nz/covid-19-novel-coronavirus/covid-19-health-advice-public/about-covid-19/covid-19-about-omicron-variant
[34] https://www.cdc.gov/coronavirus/2019-ncov/variants/omicron-variant.html
[35] https://www.cdc.gov/coronavirus/2019-ncov/variants/omicron-variant.html
[36] https://www.cdc.gov/coronavirus/2019-ncov/variants/omicron-variant.html

61.2. Removal of the requirement for workplaces to display QR code posters from 26 March 2022, for staff and visitors to scan in, and for worksites to maintain records of visitors to worksites

61.3. On 4 April 2022, vaccine mandates made under the COVID-19 Public Health Response (Vaccinations) Order 2021 will be removed for all sectors, except health and disability workers (which includes aged care workers), prison staff, and border workers.

61.4. My Vaccine Pass (MVP) is not required for entry to worksites from 4 April 2022, although some agencies may wish to continue to restrict entry to those able to present a valid MVP. Agencies that wish to continue to use My Vaccine Passes as a condition of entry for visitors can but should consider their limitations as they are only evidence of the holder having had two doses or a medical exemption[37]

61.5. The Prime Minister stated that businesses, events or venues may still choose to use vaccine passes and the Government will maintain the systems in place, and update the passes over time to include boosters. Organisations also have the ability to have workforce vaccination requirements following their own health and safety risk assessments.

Vaccination Rates and Population Immunity

62. Vaccination rollout using Pfizer, AstraZeneca and Novavax vaccines is continuing across New Zealand including the provision of a third (booster) dose. Vaccines are now available for 5-12 year olds. Boosters are available for those aged over 18 years.

63. With our high vaccination rates, and the immunity acquired from the current outbreak, the Government believes we can manage future waves of Omicron with less restrictive settings. In New Zealand, the all ethnicities vaccination rates of eligible people aged 12+ are:

- 4,054,876 first dose (96.3%);
- 4,002,185 second dose (95.1%),
- 2,572,645 boosted (72.7% of those eligible) [38]

64. In Canterbury District Health Board district the vaccination rates are:

- First dose (99.7%);
- Second dose (98.7%);
- Boosted (75.8%)[39]

65. Many of the people who have not been vaccinated will have been infected recently and may have some protection. It is not yet clear how well immune responses to Omicron protect against a second Omicron infection, or infection with new variants. Some studies found that

[37] https://www.publicservice.govt.nz/resources/public-service-workforce-guidance-for-the-covid-19-protection-framework?e6967=action_viewall
[38] https://www.health.govt.nz/covid-19-novel-coronavirus/covid-19-data-and-statistics/covid-19-vaccine-data
[39] https://www.health.govt.nz/covid-19-novel-coronavirus/covid-19-data-and-statistics/covid-19-vaccine-data

unvaccinated people were more likely to be re-infected than those who were vaccinated.[40] [41] Getting infected with Omicron may not give much cross-protection against other variants.[42,43]

Vaccine Effectiveness

66. Vaccines typically have both direct effects on those who are vaccinated and indirect effects on the wider population due to a reduced probability that people will come into contact with an infected individual (herd immunity).

67. Research indicates that vaccinations provide less protection against infection from Omicron than for Delta. Protection against infection decreases over time, but protection from serious disease and hospitalisation remains high, particularly after 3 doses. [44,45,46]

68. While the Omicron variant has made it easier for vaccinated individuals to catch COVID-19, people who have received three doses are less likely to transmit the virus compared with people who are unvaccinated.[47]

69. The Independent Advisory Group identified that "evidence is mounting about delayed effects of infection with SARS-CoV-2, including the condition known as Long Covid. By reducing the risk of such complications, vaccination benefits both the individual and the community."[48]

[40] People who had their second vaccine over 90 days ago were also more likely to be reinfected than people who had their second vaccine more recently from 14 to 89 days ago
[41] Cavanaugh AM, Spicer KB, Thoroughman D, Glick C, Winter K. Reduced Risk of Reinfection with SARS-CoV-2 After COVID-19 Vaccination — Kentucky, May–June 2021.
Office of National Statistics (2022) Office for National Statistics – Coronavirus (COVID-19) Infection Survey
[42] https://www.nature.com/articles/d41586-022-00214-3
[43] WHO Collaborating Centre for Infectious Disease Modelling, MRC Centre for Global Infectious Disease Analysis, Jameel Institute, Imperial College London (2021) Report 49 - Growth, population distribution and immune escape of Omicron in England
[44] Andrews N, Stowe J, Kirsebom F, et al. Covid-19 vaccine effectiveness against the omicron (B.1.1.529) variant. N Engl J Med. DOI: 10.1056/NEJMoa2119451.
[45] https://www.health.govt.nz/system/files/documents/pages/22_february_2022_-_variants_update.pdf
[46] https://www.cdc.gov/coronavirus/2019-ncov/variants/omicron-variant.html
[47] https://covid19.govt.nz/assets/Proactive-Releases/independent-advisory-groups/VM01-13032022-Vaccine-manates.pdf
[48] https://covid19.govt.nz/assets/Proactive-Releases/independent-advisory-groups/VM01-13032022-Vaccine-manates.pdf

Review of Risk Assessment Process

Process used for our Risk Assessment (in December 2021)

70. In December 2021, the Council conducted a risk assessment, including risk of exposure and transmission; risk of infection; consequences of infection and control measures. Our December 2021 risk assessment process drew on: information provided by the Ministry of Health; the guidance provided by Te Kawa Mataaho Public Service[49] and WorkSafe; the requirements of the COVID-19 Protection Framework; and the available research and literature on COVID-19. We also sought independent expert advice.

71. The Council's risk assessment considered the range of controls available.

Process used for our Review Process (in March 2022)

72. Our March 2022 review process drew on:

    72.1. Information provided by central government agencies, including Ministry of Health, Public Service Guidance, Te Kawa Mataaho Public Service Commission[50], WorkSafe and Employment New Zealand.

    72.2. Available research and literature on COVID-19.

73. We sought expert advice from:

    73.1. Professor Rod Jackson, Professor of Epidemiology & Biostatistics, University of Auckland BHSc, MBChB, Dip Obs, Dip Com Hlth, MHSc, PhD.

    73.2. Professor Michael Plank, Professor in the School of Mathematics and Statistics at the University of Canterbury. BSc(Hons), PhD. Professor Plan undertakes modelling to support New Zealand's all-of-government response to COVID-19.

74. We discussed aspects of the review with some Heads of Service.

75. We also consulted our staff about their preferred approach via an online survey.

Advice from Government Agencies in the Policy Review Process

76. We have considered advice provided by key government agencies regarding our review process and our consideration, including Public Service Commission, WorkSafe, and Employment New Zealand. Unfortunately much of this advice was late (30 March 2022) and appeared to be contradictory.

77. Further time is needed to fully apply the process suggested by Worksafe and Employment New Zealand and consider how the suggested factors apply to Council roles and to enable us to discuss these with employees and their representatives.

[49] Te Kawa Mataaho Public Service. (2021). Public-Service-workforce-guidance-for-the-COVID-19-Protection-Framework.pdf https://www.publicservice.govt.nz/resources/public-service-workforce-guidance-for-the-covid-19-protection-framework/
[50] Te Kawa Mataaho Public Service. (2021). Public-Service-workforce-guidance-for-the-COVID-19-Protection-Framework.pdf https://www.publicservice.govt.nz/resources/public-service-workforce-guidance-for-the-covid-19-protection-framework/

78. Both agencies identified that employers must engage with workers and their representatives in good faith when developing, implementing or reviewing an employer vaccination requirement or other COVID-19 controls.

Public Service Commission Advice on Review Process[51]

79. The Public Service Commission advised:

    79.1. Agencies should keep vaccination policies under regular review and should update their health and safety risk assessment and vaccination policy in light of updated health advice or changing circumstances. Agencies should retain the ability to move quickly in response to emerging waves, new variants or updated health advice

    79.2. Agencies should start planning to refresh their workplace assessments and to review their workplace vaccination policies.

    79.3. Agencies are encouraged to consult with staff and union(s) about those changes. If the agency chooses to relax its policy for the meantime, to agree what circumstances may cause a return to tighter settings in future, to allow a rapid escalation if required.

    79.4. Every workplace, and workforce, is different, and it is expected that agencies will tailor their responses to address their particular workplace and workforce context.

    79.5. Health and safety assessment for some agencies, or parts of an agency's workforce, may mean that stronger measures are required. This may include retaining a requirement to be vaccinated (with booster) to do part of, or all of a role.

    79.6. There may be options or contexts that sit between a policy built on "educate, expect and support" and a requirement for the workforce to be vaccinated to enter the workplace.

    79.7. Government has signalled that boosters may be required for My Vaccine Passes in the near future. The health advice is clear that three doses of the vaccine reduce the chances of hospitalisation and lower the transmissibility of Omicron. Put simply, if you don't get the virus, you can't give it to someone else.

    79.8. Risk assessments should consider the consequence of the most credible worst-case scenario associated with the risk of infection with COVID-19 and the likelihood of transmitted infection occurring and it leading to that consequence.

    79.9. Additional protection or actions may be required to keep staff safe as an alternative to full vaccination.

WorkSafe and Employment New Zealand Advice on Review Process

80. We also considered new advice provided by WorkSafe and Employment New Zealand on 30 March 2022 after most of our assessment had been completed.

81. Employment New Zealand identified that where a government vaccination mandate does not apply, employers can complete a work health and safety risk assessment. This will allow them to determine what COVID-19 controls are appropriate, which could include implementing an

[51] https://www.publicservice.govt.nz/resources/public-service-workforce-guidance-for-the-covid-19-protection-framework?e6967=action_viewall. Updated 30 March 2022

employer vaccination requirement. This may include requiring work be done only by vaccinated workers.[52] Employers may also maintain employer vaccination requirements, where they need one to ensure that their employees can access third party sites.

82. Employment New Zealand suggested that assessments should reflect the latest public health information and advice to determine what controls are appropriate in their workplaces. Any previously completed assessments should be reviewed to reflect the latest guidance.

83. WorkSafe suggested that a risk assessment might identify work can only be undertaken by a vaccinated employee for work health and safety purposes, for example where the risk of contracting and transmitting COVID-19 at work is higher than it is in the community. It suggested that some of the public health factors that help determine whether the risk in the workplace is higher than that in the community were:

    83.1. Is there a greater risk of the worker being exposed to new variants at work than they would be in the community?

    83.2. Does the worker regularly, as part of their work, interact with people who are at greater risk of severe illness should they contract COVID-19?

    83.3. Does the worker regularly interact with people who are less likely to be vaccinated against COVID-19?

    83.4. Does the worker work in a confined indoor space and have close and sustained interactions with others?

84. WorkSafe believe that few workplaces will be able to justify an employer vaccination requirement for health and safety or public health reasons. Worksafe's expectation is that an employer:

    84.1. follows public health guidance when carrying out a risk assessment, and

    84.2. engages effectively with workers and their representatives, and

    84.3. regularly reviews the risk assessment as the situation changes.

85. Where an employer can demonstrate it has done this, it is very unlikely that WorkSafe will take enforcement action, even if they disagree with the decisions an employer has made in their risk assessment.

[52] https://www.employment.govt.nz/leave-and-holidays/other-types-of-leave/coronavirus-workplace/covid-19-vaccination-and-employment/

Our Review of Exposure Risk

86. The degree to which a person is exposed to COVID-19 is a determining factor as to whether a person will become infected, and therefore be prone to the consequences associated with the virus. Exposure risk assesses the magnitude, frequency, and duration of exposure to the virus

Risk of Exposure (December 2021)

87. Our December 2021 risk assessment concluded that it is reasonably foreseeable that, our people could be regularly exposed to COVID-19 as part of their regular work. There was **an unacceptable exposure risk** from the many types of interactions our workers undertake.

88. The risk assessment in December 2022 identified that roles at Council have frequent interactions within, across and beyond our facilities and work settings. Our external experts identified that "transmission across council is a risk"[53] and "because the virus is airborne, open plan spaces mean that everyone in the office is put at elevated risk if there are unvaccinated people working there".[54]

89. Our role assessments identified that there was a greater risk of the worker being exposed to COVID-19 at work than they would be outside work.

Figure 5 Exposure Risk by Role Categories (December 2021/January 2022)

	Number of people	Proximity	Interaction with people not known	Risk transmission compare to outside work	Exposure Risk
Office-based roles without public-facing roles.	Moderate	High	Moderate	High	High
Roles that work in our public facilities	High	High	High	High	High
Roles who have other public-facing roles.	High	Moderate/High	High	High	High
Roles that spend most of their time outside.	Moderate	Low	Low	High	High
Roles that work with children <12yr, or other vulnerable people	High	High	High	High	High
Roles that operate essential services	Low	High	Low	Low	Low

Source:

Considerations for Reassessment of Risk of Exposure / Transmission (March 2022)

90. Our review considered the risk of exposure and whether the risk of the worker being exposed to new variants at work is higher than in the community. The assessment criteria were adjusted to reflect the new context and the new advice from WorkSafe :

    90.1. Number of people worker interacts with

    90.2. What is the setting the exposure is in e.g. a confined indoor space, involve close and sustained interactions, locations where people eat or talk etc

    90.3. Does the worker regularly, as part of their work, interact with people who are at greater risk of severe illness should they contract COVID-19?

    90.4. Does the worker regularly interact with people who are less likely to be vaccinated against COVID-19?

[53] Dr Alistair Humphrey, Public Health Physician
[54] Professor Michael Plank, Te Kura Pāngarau University of Canterbury

90.5. Is there a greater risk of the worker being exposed to new variants at work than they would be in the community [when not at work]?

91. Due to the changed context in March 2022, including the removal of government mandates, we also reviewed:

91.1. Worker to worker exposure

91.2. Worker to public exposure.

92. Current evidence suggests that the virus spreads mainly between people who are in close contact with each other, for example at a conversational distance.[55] The virus can spread from an infected person's mouth or nose in small liquid particles when they cough, sneeze, speak, sing or breathe. Another person can then contract the virus when infectious particles that pass through the air are inhaled at short range (this is often called short-range aerosol or short-range airborne transmission) or if infectious particles come into direct contact with the eyes, nose, or mouth (droplet transmission).

93. Any situation in which people are in close proximity to one another for long periods of time increases the risk of transmission. The virus can also spread in poorly ventilated and/or crowded indoor settings, where people tend to spend longer periods of time.[56] Activities where more particles are expelled from the mouth, such as singing or breathing heavily during exercise, also increase the risk of transmission.

94. The virus can also spread in poorly ventilated and/or crowded indoor settings, where people tend to spend longer periods of time. This is because aerosols can remain suspended in the air or travel farther than conversational distance (this is often called long-range aerosol or long-range airborne transmission).

95. The "Three C's" describe settings where transmission of the COVID-19 virus spreads more easily:

95.1. Crowded places;

95.2. Close-contact settings, especially where people have conversations very near each other;

95.3. Confined and enclosed spaces with poor ventilation. [57]

96. The risk of COVID-19 spreading is especially high in places where these "3Cs" overlap. This is because aerosols can remain suspended in the air or travel farther than conversational distance (this is often called long-range aerosol or long-range airborne transmission).[58]

97. Based on the factors summarised above, our workers create an exposure risk to each other. Our workers are together in:

97.1. enclosed spaces;

97.2. locations where people eat or talk, such as kitchen spaces and lunch spaces;

[55] https://www.who.int/news-room/questions-and-answers/item/coronavirus-disease-covid-19-how-is-it-transmitted#:~:text=Current%20evidence%20suggests%20that%20the,%2C%20speak%2C%20sing%20or%20breathe.
[56] https://www.who.int/news-room/questions-and-answers/item/coronavirus-disease-covid-19-how-is-it-transmitted#:~:text=Current%20evidence%20suggests%20that%20the,%2C%20speak%2C%20sing%20or%20breathe.
[57] https://www.who.int/news-room/questions-and-answers/item/coronavirus-disease-covid-19-how-is-it-transmitted
[58] https://www.who.int/news-room/questions-and-answers/item/coronavirus-disease-covid-19-how-is-it-transmitted

97.3. rooms with poorer ventilation, such as meeting rooms;

97.4. regular and prolonged interactions, such as meeting, briefing, joint work tasks;

97.5. close proximity, such as in vehicles;

97.6. situations where masks are not worn, such as kitchen spaces and lunch spaces; changing spaces and showers.

98. Workers are likely to have more prolonged face-to-face contact with each other than worker to customer interactions. The longer a person is close to someone with the infection, the likelier the virus is to transmit.

99. Staff working outdoors undertake work where the spread of COVID-19 is less likely. However, these workers also spend time indoors with others during the working day time-to-time, for example in break rooms, offices, health and safety briefings, work meetings and vehicles.

100. Staff working with children are likely to be working in close proximity meaning that there is a higher degree of exposure if these children are infected with COVID-19. There is also a risk of exposure for those children, and to others who may be vulnerable, where a staff member may have a COVID-19 infection.

101. The recent COVID-19 Health Response (Protection Framework) Order means that all children and young people are able to participate in all school-organised teams and groups regardless of their vaccination status. This applies to onsite and offsite activities for both curriculum-related (including offsite education outside the classroom) and extra-curricular activities offered by a registered school. We cannot prevent students who are not vaccinated from participating.

Assessment of Exposure Risk (March 2022)

102. Our review of inherent **exposure risk in March 2022** has concluded that the **high exposure risk** (prior to controls) remains for workers at our core worksites.

103. Our review identified that workers continue to require frequent interactions within, across and beyond our facilities and work settings and the risk of transmission across Council remains. Because of the number, frequency and nature of interactions, along with the settings in which they take place, our many workers continue to be at greater risk of being exposed to COVID-19 at work than they would be outside work. Some of this has been moderated by controls we have put in place in some workplace settings.

104. The nature of the work in the Council workplace is interactive. The context in which the Council operates means that workers, elected members, customers, contractors and members of the public have frequent interactions within, across and beyond our facilities and work settings.

105. Our staff interact with each other regularly, both within each office/facility and across locations (for example, facilities based workers frequently coming in to the Civic offices for meetings). Most workers work indoors, in confined and enclosed spaces. Even our field workers, such as Parks staff, regulatory officers and parking officers spend time indoors, in confined enclosed spaces. Team members share working spaces – kitchens, toilets, meeting rooms, lifts, offices and vehicles.

106. Our community facing roles interact with people daily, in our community facilities. Our Regulatory staff also interact daily with customers. Other roles also interact with the public and even office-based roles engage with external people directly.

107. An exception may be our roles that operate essential water services who are isolated in pumps stationed and their sites.

Figure 6 inherent Exposure Risk by Role Categories (prior to controls) (March 2022)

	Number of people	Setting	Interaction people less likely to be vaccinated	Interaction with people at greater risk	Exposure risk compare to outside work	Exposure Risk
Office-based roles without public-facing roles.	Moderate	High	Low	Low	High	Moderate to High
Roles that work in our public facilities	High	Moderate for public High staff	High (children)	High	High	High
Roles who have other public-facing roles.	High	Moderate for public High staff	Low	High	High	High
Roles that spend most of their time outside.	High	Low for public High staff	Low	Moderate	High	Moderate tp High
Roles that directly operate essential water services[59]	Low	High	Team specific	Low	Low	Low

108. Further consideration of the assessment of the residual risk is required. This would enable an assessment of the effectiveness of our current controls and any further controls.

Review of Risk of Infection

Risk of Infection (December 2021)

109. Our risk assessment identified that the probability of infection when exposed to COVID-19 viral particles can vary from person to person, but there was evidence to indicate that in the absence of other controls, there is a **moderate to high** probability of becoming infected when directly exposed to someone who has COVID-19.[60]

110. The Delta variant of COVID-19 was considered "highly transmissible". It is estimated that on average, without vaccination, one person infected with Delta may infect 5 or 6 other people.[61]

Review of Infection Risk (March 2022)

111. The emergence of the Omicron variant of COVID-19 poses a threat to the health and wellbeing of our workers and the wider community.

[59] Our risk assessment used the term "Essential Service" workers to refer to water and wastewater service roles which were isolated in pump stations and other locked down facilities

[60] Ministry of Health. (2021). COVIC-19: About Delta variant. https://www.health.govt.nz/our-work/diseases-and-conditions/covid-19-novel-coronavirus/covid-19-health-advice-public/about-covid-19/covid-19-about-delta-variant (30 September 2021)

[61] Ministry of Health. (2021). COVIC-19: About Delta variant. https://www.health.govt.nz/our-work/diseases-and-conditions/covid-19-novel-coronavirus/covid-19-health-advice-public/about-covid-19/covid-19-about-delta-variant (30 September 2021)

112. The Omicron variant is more transmissible than other variants. This is linked to the variant's ability to evade immunity resulting from previous infection or vaccination. Omicron is more likely to cause reinfections compared with other variants. The interval between being infected and that person infecting others is also shorter for Omicron than for Delta. Someone with Omicron infection can spread the virus to others, even if they are vaccinated or don't have symptoms. Vaccination and boosters help to reduce transmission of the virus.[62]

113. Persons infected with the Omicron variant can present with symptoms similar to previous variants. Data suggest that Omicron infection generally causes less severe disease than infection with prior variants.[63] Omicron can still cause severe illness and even death, especially in people who are at risk of severe outcomes.[64] [65]

Review of Consequences

Consequences of Infection (December 2021)

114. The December 2021 risk assessment identified that the range of consequences for persons infected with COVID-19 is extremely broad and depended on a myriad of factors. The risk assessment concluded that the potential **consequences of infection for unvaccinated workers were severe** and the potential **consequences for a vaccinated worker were moderate.**

115. The consequences for vaccinated persons were assessed as less than for unvaccination persons as vaccination had been shown to:

    115.1. significantly reduce the likelihood of getting infected

    115.2. be materially effective in reducing the severity of the symptoms associated with the virus, including the incidence of hospitalisation and death

    115.3. reducing the risk of long-COVID.

116. The 'vaccinated vulnerable' were at increased risk.

Considerations in our Review of Consequences (March 2022)

117. Our review considered:

    117.1. Risk of illness

    117.2. Severity of illness

    117.3. Risk of Long COVID.

[62] https://www.cdc.gov/coronavirus/2019-ncov/variants/about-variants.html#:~:text=The%20Omicron%20variant%20causes%20more,of%20all%20variants%2C%20including%20Omicron.
[63] https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(22)00056-3/fulltext
[64] https://www.health.govt.nz/covid-19-novel-coronavirus/covid-19-health-advice-public/about-covid-19/covid-19-about-omicron-variant
[65] https://www.cdc.gov/coronavirus/2019-ncov/variants/omicron-variant.html

118. Research suggests that Omicron infection generally causes less severe disease than prior variants.[66] Estimates of the proportion of Omicron infections that are asymptomatic range from 25-54%.[67] A smaller proportion of people need to go to hospital compared to people infected with Delta.[68] [69]

119. Omicron can still cause severe illness and even death, especially in people who are at risk of severe outcomes, such as elderly and those with severe underlying health conditions.[70] The presence and severity of symptoms can be affected by COVID-19 vaccination status, the presence of other health conditions, age, and history of prior infection.[71]

120. Omicron has resulted in many more people being hospitalised than at any other time in the pandemic. This is not because Omicron is very severe but because Omicron can cause so many infections over a short period of time.

121. If we had a second wave of Omicron and even if only a small percentage of people with Omicron infection needed hospitalisation, the large volume of cases could overwhelm the healthcare system. The greater number of cases could result in a greater number of our staff requiring hospitalisations[72] and unable to work.

122. Our December 2022 Assessment did not consider the consequences of Long COVID as little was known about it at that time. The term 'Long COVID' is commonly used to describe signs and symptoms that continue or develop after acute COVID-19 (4 weeks from the initial infection). Most people with COVID-19 recover completely and return to normal health. However, some people who have been infected with the SARS-CoV-2 virus report a diverse range of symptoms beyond the time of 'recovery' from the acute phase of COVID-19 illness.

123. The Ministry of Health reports that there is increasing evidence emerging on the long-term health impacts of COVID-19 (long COVID).[73] Reports suggest that Long COVID occurs in at least 20-30% of individuals who have been infected with SARS-CoV-2 and is strongly related to the severity of the initial illness[74,75,76] but can also affect those who initially had mild or moderate COVID-19. This includes young adults with no pre-existing medical conditions. Long COVID is seen in all age groups, including children.[77]

124. There is evidence that vaccination is wholly or partly protective against long COVID, whether vaccination occurs before or after COVID-19. This is in addition to any benefit of vaccination in preventing COVID-19 infection. [78,79]

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[66] https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(22)00056-3/fulltext
[67] https://www.health.govt.nz/system/files/documents/pages/22_february_2022_-_variants_update.pdf
[68] https://www.cdc.gov/coronavirus/2019-ncov/variants/omicron-variant.html
[69] https://www.health.govt.nz/system/files/documents/pages/22_february_2022_-_variants_update.pdf
[70] https://www.health.govt.nz/covid-19-novel-coronavirus/covid-19-health-advice-public/about-covid-19/covid-19-about-omicron-variant
[71] https://www.cdc.gov/coronavirus/2019-ncov/variants/omicron-variant.html
[72] Coronavirus (COVID-19) Hospitalizations. Avail: https://ourworldindata.org/covid-hospitalizations (accessed 16/03/2022)
[73] https://www.health.govt.nz/covid-19-novel-coronavirus/covid-19-health-advice-public/about-covid-19/long-covid
[74] https://www.health.govt.nz/covid-19-novel-coronavirus/covid-19-health-advice-public/about-covid-19/long-covid
[75] UK Health Security Agency. The effectiveness of vaccination against long COVID: A rapid evidence briefing. https://ukhsa.koha-ptfs.co.uk/cgi-bin/koha/opac-retrieve-file.pl?id=fe4f10cd3cd509fe045ad4f72ae0dfff: UK Health Security Agency, 2022.
[76] Potter, J. (2022) Long COVID: a crucial reason for vax, mask, and distance. March 2022.
[77] https://www.health.govt.nz/our-work/diseases-and-conditions/covid-19-novel-coronavirus/covid-19-health-advice-public/long-covid
[78] UK Health Security Agency. The effectiveness of vaccination against long COVID: A rapid evidence briefing. https://ukhsa.koha-ptfs.co.uk/cgi-bin/koha/opac-retrieve-file.pl?id=fe4f10cd3cd509fe045ad4f72ae0dfff: UK Health Security Agency, 2022.
[79] Potter, J. (2022) Long COVID: a crucial reason for vax, mask, and distance. March 2022.

Review of Assessment of Consequences (March 2022)

125. Our March 2022 risk assessment concluded that the potential consequences of infection for unvaccinated workers is high and the potential consequences for a vaccinated worker were moderate.

126. The change to the assessment of consequences for unvaccinated persons is due to:

    126.1. Data suggest that Omicron infection generally causes less severe disease

    126.2. A person is less likely to need hospitalisation if they contract Omicron

    126.3. Increased concerns about Long COVID.

127. It is noted that Omicron can still cause severe illness and even death, especially in people who are at risk of severe outcomes, such as elderly and those with severe underlying health conditions.

Review of Controls

Review of Controls in December 2021

128. In December 2021 there were a range of controls in place in the Council to prevent infection. We reviewed how these were applied and their effectiveness in protecting people from becoming infected or falling seriously ill from COVID-19.

129. The risk assessment then considered the role of vaccination in an overall COVID-19 control strategy. It identified that there was a significant risk reduction associated with the use of vaccination alongside other controls. No other control then available was as effective against reducing the effects of COVID-19. Without vaccination we would be reliant on existing control measures that are not as effective and may not be sustainable or realistic over time.

Review of Effectiveness of Controls (March 2022)

130. Council uses regular email communication and signage to communicate key public health messages and critical procedures. Council utilises a range of controls. Each of these controls works by reducing the likelihood of infection, either by impacting the probability of infection, or by decreasing the level of exposure.

131. Our current review considered the controls and their relative effectiveness in the new context. A description of our controls and our assessment on their potential effectiveness is summarised in Appendix 1.

132. This was a rapid desktop review and more investigation is needed to be confident about their application and effectiveness. It is crucial to identify measures that prevent and control COVID-19 transmission in different workplace settings and for different roles.

133. We need to identify effective measures which will protect vulnerable employees and customers.

Review of Vaccination as a Control

134. Research indicates that vaccinations provide less protection against infection from Omicron than for Delta. Protection against infection decreases over time, but protection from serious disease and hospitalisation remains high, particularly after 3 doses. [80,81,82]

Vaccine protection against infection

135. Research indicates that vaccinations provide less protection against infection from Omicron than for Delta. Breakthrough infections in people who are vaccinated can occur:

    135.1. People who received two doses of either the Pfizer–BioNTech or Moderna mRNA-based vaccine have 4-6 months of substantial protection against symptomatic disease caused by either BA.1 or BA.2. But protection wanes to around 10-20% after only 4–6 months after a second dose, meaning that the vaccines prevented only 10-20% of the cases that would have occurred if all of the individuals had been unvaccinated.[83]

    135.2. Vaccines that initially offered, say, 90% protection against mild cases of disease might only be 70% effective after 6 or 7 months

    135.3. A third (booster) shot brought the protection against symptomatic infection by either subvariant back to 70% 2–4 weeks after a third dose.

136. Protection against infection decreases over time, but protection from serious disease remains.

Vaccine protection against symptomatic disease

137. Vaccination offers some protection against symptomatic disease, however, current evidence suggests that vaccine effectiveness against symptomatic disease with the Omicron variant is lower than against the Delta variant, with rapid waning. [84,85,86]

138. UK Health Security Agency (UKHSA), formerly Public Health England (PHE), provides COVID-19 vaccine surveillance reports. It reports on the clinical trials for COVID-19 vaccines in UK and on ongoing monitoring of the vaccines' effectiveness from studies in UK populations. The latest Surveillance report identifies that vaccine effectiveness against symptomatic disease with the Omicron variant is substantially lower than against the Delta variant, with rapid waning.

139. Large clinical trials were undertaken for each of the COVID-19 vaccines approved in the UK which found that they are highly efficacious at preventing symptomatic disease in the populations that were studied. Vaccine effectiveness against symptomatic COVID-19 has been

[80] Andrews N, Stowe J, Kirsebom F, et al. Covid-19 vaccine effectiveness against the omicron (B.1.1.529) variant. N Engl J Med. DOI: 10.1056/NEJMoa2119451.
[81] https://www.health.govt.nz/system/files/documents/pages/22_february_2022_-_variants_update.pdf
[82] https://www.cdc.gov/coronavirus/2019-ncov/variants/omicron-variant.html
[83] https://www.nature.com/articles/d41586-021-02532-4
[84] https://www.nature.com/articles/d41586-021-02532-4
[85] Andrews N, Stowe J, Kirsebom F, et al. Covid-19 vaccine effectiveness against the omicron (B.1.1.529) variant. N Engl J Med. DOI: 10.1056/NEJMoa2119451.
[86] https://www.health.govt.nz/system/files/documents/pages/22_february_2022_-_variants_update.pdf

assessed in England based on community testing data linked to vaccination data from the National Immunisation Management System (NIMS), cohort studies such as the COVID Infection Survey and GP electronic health record data:

139.1. After 2 doses of the AstraZeneca vaccine, vaccine effectiveness against the Omicron variant starts at 45 to 50% then drops to almost no effect from 20 weeks after the second dose.

139.2. With 2 doses of Pfizer or Moderna effectiveness dropped from around 65 to 70% down to around 10% by 25 weeks after the second dose.

139.3. Two to 4 weeks after a booster dose of either the Pfizer or Moderna vaccine, effectiveness ranges from around 60 to 75%, dropping to 25 to 40% from 15+ weeks after the booster. Vaccine effectiveness estimates for the booster dose are very similar, irrespective of the primary course received.

139.4. Vaccine effectiveness is generally slightly higher in younger compared to older age groups.[87]

Vaccine protection against severe illness and hospitalisation

140. Vaccines prevent many of the worst COVID-19 cases, even in response to BA.2. Protection against hospitalisation remains high, particularly after 3 doses.[88,89] People who are up to date with their COVID-19 vaccines and get COVID-19 are less likely to develop serious illness than those who are unvaccinated and get COVID-19.

141. A recent UK government vaccine surveillance report reported that:

141.1. one dose of vaccine was associated with a 35% reduced risk of hospitalisation among symptomatic cases with the Omicron variant,

141.2. two doses with a 67% reduction up to 24 weeks after the second dose and a 51% reduced risk 25 or more weeks after the second dose, and

141.3. third dose was associated with a 68% reduced risk of hospitalisation.[90]

142. When combined with vaccine effectiveness against symptomatic disease this was equivalent to vaccine effectiveness against hospitalisation of:

142.1. 52% after 1 dose,

142.2. 72% 2 to 24 weeks after dose 2,

142.3. 52% 25+ weeks after dose 2 and

142.4. 88% 2+ weeks after a booster dose[91]

143. WHO reports that to date, ten studies of VE against the Omicron variant show:

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[87] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1063023/Vaccine-surveillance-report-week-12.pdf

[88] Andrews N, Stowe J, Kirsebom F, et al. Covid-19 vaccine effectiveness against the omicron (B.1.1.529) variant. N Engl J Med. DOI: 10.1056/NEJMoa2119451.

[89] https://www.health.govt.nz/system/files/documents/pages/22_february_2022_-_variants_update.pdf

[90] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1045329/Vaccine_surveillance_report_week_1_2022.pdf

[91] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1045329/Vaccine_surveillance_report_week_1_2022.pdf

143.1. Reduced protection of the primary series COVID-19 vaccines for all outcomes (severe disease, symptomatic disease, and infection) than has been observed for other variants of concern.

143.2. VE estimates against the Omicron variant remain highest for severe disease, while they are lower for symptomatic disease and infection.

143.3. Booster vaccination substantially improves VE for all outcomes for all products. However, due to short follow-up time after boosters, more data are needed to characterize the duration of VE following a booster dose. No data is yet available on the duration of protection of inactivated vaccines against Omicron.[92]

143.4. Reductions in VE do not necessarily mean loss of protection, as indicated by the absolute VE estimate. For example, a 10-percentage point reduction in VE against symptomatic disease for mRNA vaccines would still mean high vaccine effectiveness of ~85%. Likewise, vaccines have shown higher VE against severe disease; thus, small reductions in VE against severe disease due to VOCs may still mean substantial protection.[93]

144. The WHO advises that results of vaccine effectiveness (VE) studies should be interpreted with caution because estimates vary with the type of vaccine administered and the number of doses and scheduling (sequential administration of different vaccines).

USA Studies

145. Other research indicates that vaccination with existing mRNA vaccine is an effective preventive measure against the omicron variant, both for the prevention of hospital admissions and for the prevention of progression to critical illness and death among those admitted to hospital. For example, a multistate study of adults in the USA, identified that:

145.1. mRNA vaccines were associated with strong protection against hospital admissions with COVID-19 due to the Alpha, Delta, and Omicron variants;

145.2. for each of the variants, vaccination was associated with a reduced risk of covid-19 progressing to critical illness or death;

145.3. although disease severity for in-hospital patients was somewhat lower for the COVID-19 Omicron variant than Alpha and Delta variants, patients admitted to hospital with due to the omicron variant still had a substantial risk of critical illness and death.

145.4. vaccination against COVID-19, including a third dose of an mRNA vaccine, is critical for protecting populations against covid-19-associated morbidity and mortality.

145.5. three vaccine doses were required to achieve protection against omicron similar to the protection that two doses provided against the delta and alpha variants (effectiveness of the mRNA vaccines to prevent COVID-19 associated hospital admissions was 65% (51% to 75%) for two doses against the omicron variant; and 86% (77% to 91%) for three doses against the omicron variant). [94, 95]

[92] https://www.who.int/publications/m/item/weekly-epidemiological-update-on-covid-19---22-march-2022
[93] https://www.who.int/publications/m/item/weekly-epidemiological-update-on-covid-19---22-march-2022
[94] https://www.bmj.com/content/376/bmj-2021-069761
[95] https://www.scientificamerican.com/article/vaccines-remain-effective-against-ba-2-but-protection-from-infection-wanes-over-time/

146. Other USA studies found that:

146.1. VE against Omicron-related hospitalisation for two doses of Pfizer was 68% (95% Confidence Interval: 58−75), and VE for three doses of Pfizer was 89% (95% CI: 84−92). VE against omicron-related hospitalisation after two or three doses remained steady for several months.[96]

146.2. VE against Omicron-related hospitalisation for mRNA vaccines was 81% 14–179 days after dose 2, 57% ≥180 days after dose 2, and 90% ≥14 days after dose 3.[97]

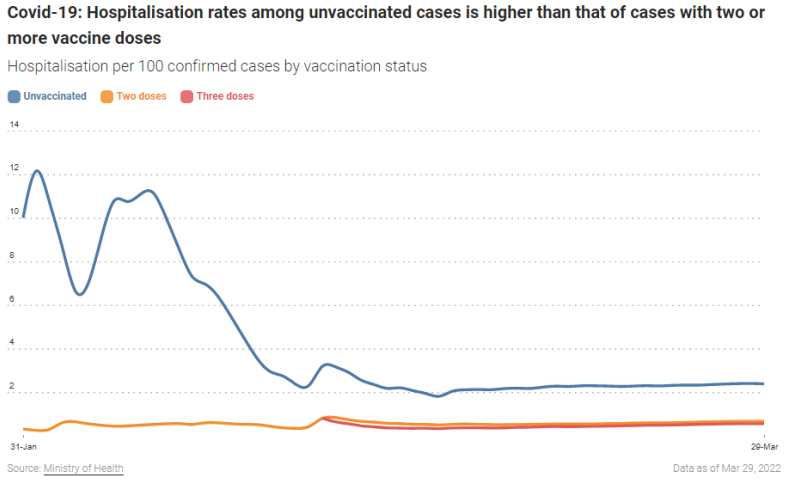
146.3. VE against Omicron-related emergency department and urgent care encounters for mRNA vaccines was 52% 14–179 days after dose 2, 38% ≥180 days after dose 2, and 82% ≥14 days after dose 3.[98]

New Zealand

147. The Ministry of Health reports that vaccine effectiveness against hospitalisation appears to be 60-70% after a primary vaccine course but declines to ~45% from 25 weeks after second dose. VE against hospitalisation increases to ~90% after a booster dose (including in those over 65 years of age).

New Zealand data

148. Vaccines protection against serious illness is reflected in the COVID rates of hospitalisation in New Zealand. In New Zealand rates of hospitalisation for unvaccinated people have been much higher than for vaccinated.



Source: https://interactives.stuff.co.nz/2020/05/coronavirus-covid-19-new-zealand-latest-data-cases/

[96] Tartof, S.Y., et al., BNT162b2 (Pfizer–Biontech) mRNA COVID-19 Vaccine Against Omicron-Related Hospital and Emergency Department Admission in a Large US Health System: A Test-Negative Design. SSRN Electronic Journal, 2022

[97] Thompson, M.G., et al., Effectiveness of a Third Dose of mRNA Vaccines Against COVID-19–Associated Emergency Department and Urgent Care Encounters and Hospitalizations Among Adults During Periods of Delta and Omicron Variant Predominance — VISION Network, 10 States, August 2021–January 2022. MMWR. Morbidity and Mortality Weekly Report, 2022. 71(4).

[98] Thompson, M.G., et al., Effectiveness of a Third Dose of mRNA Vaccines Against COVID-19–Associated Emergency Department and Urgent Care Encounters and Hospitalizations Among Adults During Periods of Delta and Omicron Variant Predominance — VISION Network, 10 States, August 2021–January 2022. MMWR. Morbidity and Mortality Weekly Report, 2022. 71(4).

Discussion

149. The review of the risk assessment suggests:

    149.1. Maintaining the MVP requirement for all Council employees and reviewing this in May 2022.

    149.2. Removing the MVP requirements for customers and people accessing Council services.

Rationale for this approach

Expert Advice

150. Expert public health advice confirmed that this approach was justified to keep our staff safe and reduce the risk that a high proportion of our workforce is sick at the same time:

> *"Given that we are still in the middle of a major covid outbreak, I think you are fully justified in maintaining a vaccine mandate for your staff, both to keep them safe and also to ensure you can reduce the risk that a high proportion of your workforce could be off work at the same time. Omicron is so contagious that vaccination is required to slow down the speed of spread."(Professor Rod Jackson 30 March 2022).*

Christchurch has only just reached the peak of the Pandemic wave

151. Even though the pandemic wave is starting to decline, there are still thousands of people being infected every day. Christchurch has only just reached its expected peak. There will still be more cases as we move down from the peak. Once cases peak, it still means people are likely to be infected with COVID-19. [99] [100]

Level of uncertainty

152. The COVID-19 pandemic remains a rapidly evolving situation worldwide and the level of uncertainty remains high:

    152.1. The medium to long term trajectory of the pandemic is highly uncertain. If New Zealand follows the pattern seen in Australia, we may see case numbers decline and then increase again as a second wave.

    152.2. The Government has suggested there will likely be further outbreaks of Omicron, seasonal flu, and the potential for the emergence of a new variant which could be more or less virulent.[101]

    152.3. Long-COVID is still poorly understood. Despite multiple reports of neurological deficits in patients with COVID-19 from across the world, the precise incidence of these manifestations has remained unknown. There is the possibility of life-course impacts in the child population through effects on the developing brain. [102]

[99] https://www.stuff.co.nz/national/health/coronavirus/128185035/christchurch-closing-in-on-auckland-as-new-zealands-covid19-capital
[100] https://www.stuff.co.nz/national/health/coronavirus/128185035/christchurch-closing-in-on-auckland-as-new-zealands-covid19-capital
[101] https://covid19.govt.nz/assets/Proactive-Releases/independent-advisory-groups/VM01-13032022-Vaccine-manates.pdf
[102] Baig, A. M. (2021). Counting the neurological cost of COVID-19. Nat Rev Neurol. 2021. doi: 10.1038/ s41582-021-00593-7. https://www.nature.com/articles/s41582-021-00593-7

153. The Public Service Commission advises that agencies should retain the ability to move quickly in response to emerging waves, new variants or updated health advice. To remove a staff vaccination policy now could jeopardise our ability to respond quickly to an outbreak. The next 2-4 weeks is likely to give a better understanding of risk and mitigations.

154. Because of the level of uncertainty, it is appropriate to take a precautionary approach. The precautionary principle stresses the need to take a cautious approach in situations of high uncertainty where decisions have significant impacts.

Vaccination still provides staff with protection

155. Recent modelling of New Zealand data suggested for the Omicron variant unvaccinated individuals are responsible for 45% of all infections compared to 39% for vaccinated (two-doses) and 15% for boosted (three doses) individuals when normalized by population. Despite the vaccine being less effective at preventing breakthrough transmission for Omicron, only 3% of all infections are from boosted to boosted individuals when normalized by population indicating that three doses of the vaccine provide good protection from infection and breakthrough transmission.[103]

156. Professor Plank advised:

> *"The Pfizer vaccine remains highly effective at preventing severe illness and death with the Omicron variant, especially after a booster dose. Protection against catching and transmitting the virus is lower for Omicron than for Delta and wanes more rapidly. However, there is still some reduction in risk of infection, again especially after a booster dose.*
>
> *Based on estimates of vaccine effectiveness for Omicron [104,105,106,107] and the timing of New Zealand's vaccine rollout, an unvaccinated person who has not been previously infected poses 15-40% more risk than someone who is fully vaccinated but not boosted, and 67-120% more risk than someone who is boosted. It is difficult to separate the differences in risk of (b) infecting others versus (a) being infected, but both (a) and (b) are likely to be in the ranges quoted above. These differences, while still significant, are smaller than they were for Delta.*
>
> *Requiring people to be vaccinated to come on site is far less effective now as a tool to reduce risk of transmission than it was a few months ago. Other factors are probably much more important in minimising risk on site, such as good building ventilation, air filtration, access to high quality masks and tests, and a workplace culture of encouraging people to stay home with even minor symptoms or if they are a close contact of a case.*
>
> *However, vaccines are still highly effective at reducing risk of illness and the resulting isolation, sick leave and ongoing health burden that could impact workforces. The risk of*

[103] Watson,L.M. (2022) Likelihood of infecting or getting infected with COVID-19 as a function of vaccination status, as investigated with a stochastic model for New Zealand (Aotearoa) for Delta and Omicron variants. https://www.medrxiv.org/content/10.1101/2021.11.28.21266967v2

[104] United Kingdom Health Security Agency. COVID-19 vaccine surveillance report: week 12. 2022: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1063023/Vaccine-surveillance-report-week-12.pdf

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

[106] Tseng HF, Ackerson BK, Luo Y, Sy LS, Talarico CA, Tian Y, et al. Effectiveness of mRNA-1273 against SARS-CoV-2 Omicron and Delta variants. Nature Medicine. 2022.

[107] Baker JM, Nakayama JY, O'Hegarty M, McGowan A, Teran RA, Bart SM, et al. SARS-CoV-2 B.1.1.529 (Omicron) Variant Transmission Within Households - Four U.S. Jurisdictions, November 2021-February 2022. Morbidity and Mortality Weekly Report. 2022;71(9):341-6.

being hospitalised as a result of Covid-19 is 5-10 times higher for someone who is unvaccinated than someone who is boosted and about 2-4 times higher for someone who is unvaccinated than someone who has had 2 doses[108]." (Professor Michael Plank 31st March 2022).

Risk Settings

157. Due of the changed context in March 2022, including the removal of government mandates, we also reviewed:

    157.1. Worker to worker exposure

    157.2. Worker to public exposure.

158. As outlined in our review of exposure and transmission risks at page 21 our workers create an exposure risk to each other.

Further time is needed to consider controls to keep staff safe

159. We have considered advice regarding policy review processes from key government departments: Public Service Commission, WorkSafe, and Employment New Zealand. Unfortunately this advice was late (30 March 2022) and contradictory.

160. Further time is needed to fully apply the process suggested by Worksafe and Employment New Zealand. Both agencies identified that employers must engage with workers and their representatives in good faith when developing, implementing or reviewing an employer vaccination requirement or other COVID-19 controls.

161. Our review has considered risks at an organisation level.[109] We have consulted our staff about their preferred approach.

162. Further work is needed to consider additional protections and controls that may be required to keep staff safe as an alternative to full vaccination. There may be roles where individualised roles assessments determine vaccination is necessary to protect people carrying out the role or protect particular vulnerable members of the community.

163. Premature and poorly planned changes could potential increase risk.

Protecting our vulnerable workers and their whānau

164. Some people, including older adults and those with underlying conditions such as heart or lung disease, chronic kidney disease requiring dialysis, liver disease, diabetes, immune deficiencies, or obesity, are at higher risk for developing more serious complications from COVID-19.

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[108] United Kingdom Health Security Agency. COVID-19 vaccine surveillance report: week 12. 2022: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1063023/Vaccine-surveillance-report-week-12.pdf

[109] As explained in our risk assessment, the Council has approximately 2,680 workers undertaking a variety of roles and activities. Over 330 separate role assessments were completed, with a number of assessments group similar roles into a single assessment. The roles were grouped into the following the above profiles/categories for the assessment report. The report on the December 2021/January 2022 risk assessment provides a description of the role profiles and categories.

165. A number of respondents in our Staff Survey expressed concerns about vulnerable colleagues, family members and customers, particularly in the context of Vaccine Pass requirements being removed. Generally these respondents felt that retaining Vaccine Pass requirements would be the best way that the Council could protect vulnerable members of our community. Workers with health concerns that make them vulnerable to Covid-19, or those with vulnerable family members, indicated that the requirements had helped them feel safe, and provided a level of comfort when coming to work. Others felt that the Council has a responsibility to protect vulnerable members of our community, and ensure that they still feel safe accessing Council facilities and services.

166. We need to take time to explore specific options for workers who may be at increased susceptibility for SARS-CoV-2 infection or complications from COVID-19, including adjustments to their work responsibilities or locations to minimise exposure.

Staff Feedback on Preferred Options

167. 1257 staff members completed the survey. 63% of respondents preferred the option that involved retaining MVP for staff. 57% of respondents preferred the option that involved removing MVP for the public:

    167.1. The top ranked option was to remove the Vaccine Pass requirement for people accessing Council services, and retain our current Vaccine Pass requirement for people working at Council workplaces.

    167.2. The second ranked option was to retain our current Vaccination policy and review it in May 2022.

    167.3. The third ranked option was to remove the Vaccine Pass requirement for people accessing Council services, and require people working at Council workplaces to have had a third (booster) vaccine dose.

    167.4. The fourth ranked option was to remove the Vaccine Pass requirements for workers, elected members and visitors.

168. Generally those who said that they would prefer some level of vaccine requirement to stay in place for workers indicated that they would feel safer at work if this was the case. A significant number of these respondents agreed that we should remove Vaccine Pass requirements for our customers at facilities, but that requiring workers to be vaccinated would provide a level of protection for front line staff in particular. Others indicated that retaining vaccination requirements for workers would be the most effective way to manage the risk of infection for our workforce and the additional pressure workers face when large numbers are off sick.

169. A number of respondents who indicated that they would like to see Vaccine Pass requirements maintained for workers highlighted that they spend a lot of time at work and with colleagues, whereas our interactions with the public tend to be shorter in duration and often in less confined settings.

170. Some of those that supported removing the vaccination requirement for staff suggested it is time that we learn to live with the virus in the community and adjust to a new normal. Some reported that they respect the right of the individual to refuse a vaccine.

Conclusion

171. The review of the risk assessment suggests:

    171.1. Maintaining the MVP requirement for all Council employees and reviewing this in early May 2022.

    171.2. Removing the MVP requirements for customers and people accessing Council services.

172. Over the next month Council should work with staff and their representatives to:

    172.1. Review individual roles to identify the adequacies of controls if a MVP requirement was removed.

    172.2. Consider placing a greater reliance on other controls such as rapid antigen testing, hygiene controls, capacity limits, mask wearing, physical distancing and working from home to manage any potential risks of transmission and the severity of infection.

    172.3. Consider additional controls that may need to be put in place for our staff who vulnerable, or have family members who are vulnerable.

Appendix 1 - Current Control Measures

Control	Use and effectiveness
PPE	
Mask wearing ***Effectiveness: effective***	Face masks help to reduce the risk of COVID-19 transmission, particularly indoors where physical distancing is difficult. Employees should be supported to continue to wear a face mask at work, to protect themselves and others, including vulnerable employees. Wearing a high-quality, well-fitted mask prevents aerosols from entering the air. Cloth masks should be made of at least three layers of tightly woven fabric (such as cotton or linen), or two layers with a filter layer for extra protection. Appear to be more effective that social distancing mandates/policies Where masks are not fitted properly, or worn in the correct way (Covering the mouth and nose at all times) they are not an effective barrier for viruses. Mask are currently worn when staff are not at their desks. We currently provide medical mask to all frontline staff. Service users/visitors are required This control is heavily reliant on people "following the rules". **Further consideration could be given to:** - Requiring staff to wear medical masks - Requiring masks to be worn at desks as well as in shared area
Workplace behaviour – Administrative Controls	
Encouraging people to stay at home when unwell ***Effectiveness: effective***	This control is heavily reliant on people "following the rules". Employees who are well but who have a sick household member with COVID-19 should notify their supervisor and follow Ministry of Health advice
Non-contact personal contact ***Effectiveness: minimal effectiveness***	Some cultural practices involve physical contact between individuals (for example, handshakes, hugs) and may increase risk of transmission. Promoting alternate (non-contact) ways of greeting or congratulating one another can reduce this risk.
Personal hygiene ***Effectiveness: partially effective***	Practicing good sneeze and cough hygiene and regular handwashing and/or the use of hand sanitiser helps to remove viral particles which may have been deposited on hands, which is particularly important

Control	Use and effectiveness
	when touching the face, eating, or adjusting masks. Avoid touching your eyes, nose, or mouth with unwashed hands. Frequent handwashing is encouraged. SARS-CoV-2 RNA has been detected in biological samples, including the urine and faeces of some patients, however, there have been no published reports of transmission of SARS-CoV-2 through faeces or urine.[110] This is heavily reliant on people "following the rules".
Good respiratory etiquette ***Effectiveness: partially effective***	Practice good respiratory etiquette, including covering coughs and sneezes or coughing/sneezing into your elbow/upper sleeve. This is heavily reliant on people "following the rules".
Environmental adjustments	
Regular surface cleaning ***Effectiveness: minimal effectiveness***	Respiratory secretions or droplets expelled by infected individuals can contaminate surfaces and objects, creating fomites (contaminated surfaces). Viable SARS-CoV-2 virus can be found on those surfaces for periods ranging from hours to days, depending on the ambient environment (including temperature and humidity) and the type of surface. Increased frequency of cleaning and disinfection, particularly of shared areas (for example, toilets and kitchens), high touch surfaces (for example, faucet handles and doorknobs) and equipment (for example, recreational equipment and electronic equipment) is identified as a control. However, recent research has demonstrated comparatively low risk of contact transmission.[111] The World Health Organization has noted that despite evidence of the survival of SARS-CoV-2 on certain surfaces, no reports have directly demonstrated fomite transmission.[112]
Ensure good environmental ventilation in all closed settings ***Effectiveness: partially effective***	People in indoor environments, particularly in crowded or inadequately ventilated spaces, are at a higher risk of becoming infected with COVID-19. When someone infected with COVID-19 has been present, the virus may linger in poorly ventilated spaces or areas with stagnant air for a longer period of time. Good air ventilation and filtration help to prevent COVID-19 spread by reducing virus particles in the air. Ventilation increases the amount of fresh air that flows into a space. Council has improved ventilation (fresh air) and filtration to enclosed work areas to help lower transmission risk.

[110] World Health Organization. (2021). Transmission of SARS-CoV-2: Implications for Infection Prevention Precautions. https://www.who.int/news-room/commentaries/detail/transmission-of-sars-cov-2-implications-for-infection-prevention-precautions
[111] Mondelli, M.U. et al. (2021). Low risk of SARS-CoV-2 transmission by fomites in real-life conditions. Lancet Infect Dis. (2021) 21:e112. doi: 10.1016/S1473-3099(20)30678-2
[112] World Health Organization. (2021). Transmission of SARS-CoV-2: Implications for Infection Prevention Precautions. https://www.who.int/news-room/commentaries/detail/transmission-of-sars-cov-2-implications-for-infection-prevention-precautions

Control	Use and effectiveness
	Improving ventilation alone does not reduce all the risk of transmission. It needs to be considered as part of a suite of infection control measures. Even when good ventilation and filtration is being used, it is still important to wear a mask, keep two metres of physical distance and avoid crowding. It may not be possible or financially viable to redesign all our indoor spaces, ventilation systems, and other infrastructure to sufficiently ameliorate the risk of transmission. Nor do we have the time to undertake such substantial building works. This control is reliant on other controls, such as physical distancing and hygiene being in place and only reduces exposure risks. **Further consideration** - Consider if further improvements to ventilation can be achieved.
Physical barriers ***Effectiveness: partially effective***	Physical barriers separating individuals who must interact at close range are a now very common example of an engineering control. Engineering controls such barriers, partitions, ropes to separate employees from public or building occupants, for example, plexiglass screens, sneeze guards, theatre ropes and stanchions, hazard warning tape, etc. Do not eliminate hazards, but rather isolate individuals from them. Importantly engineering controls must be employed in concert with other controls.
Physical distancing requirements ***Effectiveness: partially effective***	It is clear from available evidence and experience, that limiting close contact between infected people and others is central to breaking chains of transmission of the virus causing COVID-19. Emerging evidence suggests significant risk associated with close-contact transmission over short distances and in poorly ventilated spaces. Physical distancing of at least 1-2 metre within the workplace can reduce the opportunity for viral particles to pass from one person through the air to another However, aerosol transmission of Omicron has reduced the effectiveness of this control. **Further consideration could be given to:** - Minimising congestion in areas such as narrow corridors and reviewing use of shared areas such as changing rooms, staff lunch rooms etc. to reduce people using them at the same time - More space between people in the workplace

Control	Use and effectiveness
	It is heavily reliant on people "following the rules" and has been shown to be a challenging control to manage.
Changes in work arrangements	
Working from Home ***Effectiveness: effective***	Working from home is an effective control, however it may give rise to other potential wellbeing, cultural and productivity challenges. It is not possible for all roles to work from home. Most employees will be required to work on site at some point to effectively undertake their duties and connect with colleagues. Therefore the control itself may be unsuitable and unable to be applied for many roles or for this to be sustainable long-term. Where employees are working from home, their home is considered a workplace and we have a responsibility to eliminate or minimise the risks as much as reasonably practicable. **Further consideration required**
Shift Change Procedures ***Effectiveness: effective***	Change to shifts and work patterns, for example: • Have people coming in half time or stagger the work hours. • Look at existing high-density areas and ask half of workers to work on site certain days with virtual meetings. • Stagger workdays and hours so only 1 out of 2 workspaces is occupied on any day or portion of day. • Stagger start times to avoid bottlenecks at the entrance. May give rise to other potential wellbeing, cultural and productivity challenges. It is not possible for all roles to stagger. Some roles are required to work on site to effectively undertake their duties. Some roles need to connect with colleagues and wouldn't be as affective on split shifts. May require cleaning between shifts, etc. **Further consideration required**
Rosters ***Effectiveness: effective in certain context***	Council has reduced some of the exposure risk due to our temporary roster system. This has reduced the exposure risk to moderate for some office-based roles. It has not been applied to roles in our community facilities. - Staff in our community facilities such as libraries, recreation centres and art gallery exposure to a large number of service users, however most are potentially able to - Maintain physical distancing or limit the time in close contact - Wear face mask for the duration of the exposure - Interact in larger space with ventilation - Reduce the risk in community transmission increases or a new VOC emerges

Control	Use and effectiveness
	This has reduced the exposure risk to moderate for some office-based roles by limiting the number of workers assigned to a particular shift in a workplace at any one time by implement flexible work hours (e.g., rotate or stagger shifts). It has not been applied to roles in our community facilities. **Further consideration required**
Meetings ***Effectiveness: partially effective***	Implement flexible meeting options Use videoconferencing or teleconferencing when possible for work-related meetings and gatherings. Adjust work-related meetings or gatherings that can only occur in-person, hold meetings in open, well-ventilated spaces continuing to maintain a distance and wear masks.
Discontinuing non-essential travel to locations with ongoing COVID-19 outbreaks. ***Effectiveness: unlikely to be effective***	Unlikely to be viable under the COVID-19 Protection Framework.
Rapid Antigen Test ***Effectiveness: partially effective***	Rapid Antigen Tests (RAT) are now available in NZ for screening and surveillance testing. They are less accurate than a PCR test[113] People are most infectious two days before they show any symptoms. Therefore people could be coming to work unaware that they have Covid-19. Regular testing minimises that time lag. They could therefore help to prevent an outbreak within a workplace RATs need to be conducted regularly to be an effective tool and are suitable as a screening method for particular environments where risks are higher or where business continuity depends on identifying breakthrough infections quickly to isolate exposed individuals. RATS are subject to false negatives and rely of people taking a test. **Further consideration could be given to:** - Use of Rapid Antigen Tests, which could be used as a surveillance tool where appropriate, for example as a screening method for particular environments where risks are higher or where business continuity depends on identifying breakthrough infections quickly

[113] https://www.health.govt.nz/our-work/diseases-and-conditions/covid-19-novel-coronavirus/covid-19-health-advice-public/assessment-and-testing-covid-19/how-covid-19-testing-works

Control	Use and effectiveness
Education initiatives	
Consistent health messaging ***Effectiveness: effective***	Consistent health messaging in encourage healthy behaviour Council has used regular email communication and signage to communicate key public health messages and critical procedures.
Encourage third (booster) dose	While two doses are likely to provide a good degree of protection against severe disease from Omicron COVID-19 variants for some time, a booster or third dose offers greater protection. Government has signalled that boosters may be required for My Vaccine Passes in the near future. The health advice is clear that three doses of the vaccine reduce the chances of hospitalisation and lowers the transmissibility of Omicron. While two doses are likely to provide a good degree of protection against severe disease from Omicron COVID-19 variants for some time, a booster or third dose is likely to offer greater protection. Currently employees are paid for time required to get the vaccine or booster and any time off required to deal with immediate or delayed side effects from the vaccine should be treated as sick leave **Further consideration could be given to:** - Employees time off required to deal with immediate or delayed side effects from the vaccine could be treated as paid special leave - If an employee needs to support a child or other dependant to get vaccinated in work hours, this could be treated as paid special leave. - If the employee needs to support the dependant to deal with immediate or delayed side effects, sick or dependant leave should be used. Payment should be in line with usual practice. If the employee has insufficient sick/dependant leave, they may receive additional discretionary paid leave.
Vaccination requirement for new employees	New appointees will also be covered by the vaccination policy and should be made aware of its contents when applying for employment. If the role does require vaccination, the potential employee should be informed of that in writing, prior to accepting the role.

Appendix 2 - Summary of Staff Feedback