

Auckland Council | COVID-19 Risk Assessment

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Version 2

1. Approach

- 1.1. The risk assessment is being undertaken in line with the risk assessment process outlined in Auckland Council Health, Safety and Wellbeing Corporate Standard 3: Risk Assessment (corporate standard 3¹). It also considers guidance issued by WorkSafe NZ and incorporates that advice into the approach taken.
- 1.2. The approach that Auckland Council has established for health and safety risk is aligned with ISO31000, the international standard for risk management, and it is not intended or appropriate to design a separate risk framework to assess and evaluate any specific risks.
- 1.3. The approach will include an assessment of the inherent risk associated with COVID-19, an evaluation of the effectiveness of existing controls and their impact on current residual risk, and the potential risk impact from the use of vaccines.
- 1.4. The scope of this review is an assessment of the risk associated with COVID-19 infection for any of Auckland Council's staff, and on the risk that our staff may pose to members of the community – particularly for those who are under 12 or otherwise vulnerable. Furthermore, there is an acknowledgement that where Auckland Council places a risk on an individual of infection that risk is then carried forward to pose a risk to that persons colleagues, whanau and social networks.
- 1.5. Peer review has been undertaken by senior H&S professionals within Council, and expert public health advice² has been received to validate any health-based considerations.

2. Context of risk assessment

- 2.1. Auckland Council has a commitment to the health, safety and wellbeing of our staff, and the people of Auckland. This is summed up in Our Charter which declares that we put the health, safety and wellbeing of our people and the people of Auckland first. Our bottom line is that we never compromise our health, safety and wellbeing at work³.
- 2.2. We have a duty of care in the Health and Safety at Work Act 2015 to take every reasonably practicable step to eliminate, or otherwise minimise, any risks to our people. This duty extends to those people who may be exposed as a result of

¹ <https://aklcouncil.sharepoint.com/sites/wellbeing-and-safety/SitePages/corporatestandards.aspx>

² Advice received from Dr Alexandra Muthu, Occupational and Environmental Physician - ADHB. FAFOEM (RACP), MInstD, MBChB, PGDipPH (dist), PGDipPaeds, PGDipOM, MRO

³ <https://aklcouncil.sharepoint.com/sites/policies/SitePages/look-after-safety-wellbeing.aspx>

interacting with Auckland Council workers. Auckland Council continually assesses these risks and this includes the risk that is posed by COVID-19 in the workplace.

- 2.3. Tāmaki Makaurau is currently experiencing an escalating outbreak of the Delta variant of COVID-19 in the community. At the time of authoring, there are a number of cases occurring daily, with new daily case numbers regularly exceeding 100⁴, and an R0 value of approximately 1.2 to 1.3 (*Prime Ministers press conference, 12 October 2021*) indicating a continuing expectation of rising case numbers.
- 2.4. New Zealand has moved away from an elimination strategy, towards one of minimisation and protection. This will result in a degree of ongoing transmission with restrictions now being eased. It is reasonable to expect that with these loosening infections, and a strategy of “minimise and protect” it is more likely that COVID-19 is becoming endemic, and the reduction of the number of infections will be managed predominantly through the use of vaccinations⁵ alongside other public health measures.
- 2.5. Vaccination rollout using Pfizer vaccine is currently underway across New Zealand and Auckland now has a vaccination rate of over 95% for first dose and 91% for the second dose⁶. Note that this current vaccination rate is considered to be the environmental context for the risk assessment, and current case numbers and deaths are occurring within this context. While vaccinations have not yet been determined to be a fundamental control for Auckland Council, they are considered a “proposed control” at the time of assessment.
- 2.6. The purpose of this risk assessment is to determine the current risk associated with COVID-19, and to assess the effectiveness of control mechanisms, including the potential use of vaccination as a workplace control, on reducing risk to a level that is deemed acceptable, or as low as reasonably practicable.

3. Inherent risk description

- 3.1. The inherent risk calculation is based on the risk of infection if no control measures are applied. The purpose of this is to understand the “uncontrolled” risk of COVID-19, noting that if controls are not applied or successful this would be the risk posed to our workers.
- 3.2. Within the Auckland Council HSW Framework, risk is considered to be a function of the potential **consequences** of an event, compared to the **likelihood** of that event occurring (not the likelihood of the consequence).
- 3.3. While not described within the risk framework, the likelihood of infection (the event, within the context of a virus) is established by looking at the probability of infection if exposed (the infectiousness), and the degree of exposure to the risk that exists.

⁴ <https://www.health.govt.nz/our-work/diseases-and-conditions/covid-19-novel-coronavirus/covid-19-data-and-statistics/covid-19-current-cases>

⁵ Prime Ministers speech 22 October 2021, COVID-19 Protection Framework announcement - <https://www.beehive.govt.nz/speech/covid-19-protection-framework>

⁶ <https://www.health.govt.nz/our-work/diseases-and-conditions/covid-19-novel-coronavirus/covid-19-data-and-statistics/covid-19-vaccine-data>

- 3.4. Where consequence or likelihood has multiple levels at which it may reasonably be rated, the accepted practice is to select the highest of those ratings. This ensures that low probability/high consequence risks (critical risks) can be appropriately assessed and managed, with the understanding that the high consequence may be experienced at any time, however are not seen often enough as to generate trends.

4. Assessment of Consequence

- 4.1. The assessment of consequence of potential harm considers that the established range of consequences from COVID-19 infection is broad, and while the majority of those infected can have mild or asymptomatic experience of illness, there is a reasonably foreseeable and demonstrated potential for some of those infected to succumb to the virus or associated complications. These deaths can occur in the absence of pre-existing conditions, and have occurred with otherwise fit and healthy individuals. In the statistics noted, this is *with* the application of controls, and therefore without controls the mortality rate for COVID-19 would arguably be much higher.
- 4.2. In New Zealand, out of 10,891 cases, 43 individuals (0.4%) have been established to have died as a result of infection. The other cases are either active, or have since recovered⁷.
- 4.3. Globally there have been approximately 259,000,000 recorded cases of COVID-19, and 5,183,000 deaths (2%)⁸.
- 4.4. In the United States of America (as an example of an industrialised nation with significant case data available) 1.61% of all known cases have died as a result of their infection⁹.
- 4.5. There is also a degree to which there are consequences relating to business continuity, and the ability of Auckland Council to deliver particular services to the community. As an example waste collection, regulatory responsibilities, and public safety may all be impacted if a team was to be infected or be otherwise required to isolate. The consequences associated with business continuity may be considered significant but secondary to health and safety consequences.
- 4.6. Aside from the risk of death, there is a risk for some people of developing the long-term illness commonly referred to as “long COVID”. Long COVID is a collection of symptoms that can last for days, weeks, or months and can range from mild to disabling. This disease appears to be more common among people with more severe initial symptoms 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 children¹⁰

⁷ <https://www.health.govt.nz/our-work/diseases-and-conditions/covid-19-novel-coronavirus/covid-19-data-and-statistics/covid-19-current-cases> – 28 November 2021

⁸ <https://covid19.who.int/> - 28 November 2021

⁹ <https://covid.cdc.gov/covid-data-tracker/#datatracker-home> – 28 November 2021

¹⁰ <https://www.health.govt.nz/our-work/diseases-and-conditions/covid-19-novel-coronavirus/covid-19-health-advice-public/long-covid>

- 4.7. The range of reasonable consequence ratings is therefore *1. Insignificant* through to *5. Extreme* (see appendix 1: Risk Matrix Settings Table).
- 4.8. As detailed in paragraph 3.4, the highest reasonable rating is selected where there is a range of options that are reasonable, therefore the consequence of potential harm for COVID-19 infection is **5. Extreme**.
- 4.9. It is also considered that the health consequences associated with COVID-19 does not vary based *solely* on the tasks being undertaken, and although there are some tasks that are conducted by particular demographics which may have more susceptibility to COVID-19 (due to socio-economic or comorbidity factors), this consequence rating is suitable for use across all Auckland Council roles and work types.

5. Assessment of Probability

- 5.1. The Delta variant of COVID-19 is described by the New Zealand Ministry of Health as being a more infectious mutation of the virus. It is predicted that without any controls, the R0 value would be between 5 and 6 – meaning that one infected person may infect up to 5 to 6 others. It has been described as “highly transmissible”.
- 5.2. The probability of infection taking hold when directly exposed to someone carrying the COVID-19 virus can vary, but there is evidence to show 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 without any controls in place¹¹. This is seen in the number of household infections that occur when those household members share a space with a COVID-19 positive person. There is also increasing evidence of infection occurring due to incidental exposure outside the home, as seen in MIQ facilities between rooms when doors have been opened.
- 5.3. The infectiousness has also been identified in the challenges associated with connecting some cases epidemiologically due to the transient nature of some of the exposure events. An example of this is the way in which the initial infection in this outbreak occurred, with no known direct exposure link, and the possibility of unidentified chains of infection.
- 5.4. On this basis, it is reasonably foreseeable that if a person is exposed to COVID-19 without any controls in place there is a **high probability** of infection as a result.

6. Assessment of Exposure

- 6.1. The degree to which a person is exposed to COVID-19 is the determining factor as to whether a person will become infected, and therefore be prone to the consequences associated with the virus. When examining WorkSafe NZ guidance on risk assessments¹², the risk factors described by the regulator relate specifically to

¹¹ <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>

¹² <https://www.worksafe.govt.nz/managing-health-and-safety/novel-coronavirus-covid/how-to-decide-what-work-requires-a-vaccinated-employee/>. Note: While the issued guidance can assist in undertaking an

whether a person will be exposed, and if exposed, how quickly might the contact tracing identify that they have been exposed.

- 6.2. For the purposes of this assessment, exposure will be rated as either high, medium, low or nil and then combined with the probability of infection calculation to determine the likelihood rating.
- 6.3. New Zealand is currently moving from an elimination strategy, to one of minimisation and protection, which attempts to slow the spread of COVID-19 rather than removing community transmission. There is an understanding within a suppression strategy that COVID-19 may still circulate within the community, and is predicated on other effective controls (such as vaccination) being in place to reduce the risk. With community transmission remaining for the foreseeable future, there is a higher degree of exposure possible – particularly in Auckland.
- 6.4. When considering exposure, it is important to consider the degree to which our workers may be exposed to COVID-19, and the degree to which our workers expose *others* to the virus. As our duties under the Health and Safety at Work Act 2015 extend to others in our workplaces, or those who are impacted by our operations, it is appropriate to consider the level of risk to those communities as well.
- 6.5. The WorkSafe guidance refers to a number of example questions relating to exposure, where the risk is seen to be framed around:
 - a) The number of people the employee comes into contact with when carrying out work.
 - b) The degree to which employees carrying out the tasks are in proximity to other people, and for how long.
 - c) Whether there is a higher risk of infection and transmission within the work environment, compared to the non-work environment.
 - d) The level of interaction with people who are not known to the employee.
- 6.6. Auckland Council has a significant number of roles and activities, with 7127 staff undertaking 1800 role types, however all roles can be placed into one or more of the following broad categories. While impractical to assess each role individually, it is reasonably practicable to assess the risk of these categories to determine exposure as a proxy for a role-by-role based assessment and subsequently, the level of risk posed to those workers:
 - a) Office-based staff without public-facing roles.
 - b) Staff who have public-facing roles.
 - c) Staff with roles that mean they spend most of their time outside.

assessment, if a PCBU has an existing methodology for assessment of risk, and it meets the same standard of robustness as guidance provided, then the PCBU may utilise its own risk assessment process as a reasonable alternative. In this case, WorkSafe guidance has assisted in the determination criteria for exposure.

d) Staff who work with children under 12¹³, or other vulnerable members of the community.

- 6.7. Office-based staff who do not have public-facing roles work for long periods in indoor environments where there is limited interaction with the public, however there is regular and prolonged interaction expected within the office between a potentially large number of other co-workers and teams, including individuals or teams who are undertaking work outside of the office and need to undertake certain tasks within the office. This exposure is more likely in enclosed spaces, or in locations where people eat or talk, such as kitchen spaces and lunch spaces. It is seen with other respiratory illnesses (such as colds or influenza) that these spread easily through office environments, and so it is reasonable to assume that the spread of COVID-19 would be similar if controls were not introduced. There is also the potential for any of any of these workers to be infected outside the workplace, and arrive at work prior to a test and diagnosis, and then transmit the virus to others.

Number of people the workers will come into contact with: Moderate

Proximity to other people: Distancing is mostly achievable within the workplace, however there are limitations in many parts of these workplaces

Risk of transmission compared to non-work environment: Similar risk where restrictions are being eased regionally, however kitchens, tea rooms etc are a much higher risk.

Level of interaction with people who are not known: Low

For these workers, there is a **moderate level of exposure**.

- 6.8. Public-facing staff undertake a range of tasks in environments that may be either indoor or outdoor, some within the control of Auckland Council, and some that are not. There are a number of activities which may require our workers to interact in close proximity with others from across every community within Auckland. Wherever there is interaction with the public, there is opportunity for COVID-19 to spread to our staff, or from our staff into the community. There have already been a number of exposure events within a number of public facing roles and activities already at alert levels 4 and 3 of the current outbreak.

Number of people the workers will come into contact with: High

Proximity to other people: Distancing is sometimes achievable within the workplace

Risk of transmission compared to non-work environment: Higher risk where restrictions are being eased regionally

Level of interaction with people who are not known: High

For these workers, the level of exposure for these workers to be **high**.

¹³ There is a potential for vaccine doses to be approved for children aged between 5 and 12, however this has not yet approved for application in New Zealand.

- 6.9. Staff working outdoors undertake work where the environment is not conducive to the spread of COVID19 due to the impact of wind and sunlight, however there is a low degree of residual exposure that can be accompanied with working alongside others. These workers will also spend time indoors with others from time-to-time, for example in break rooms, offices and vehicles.

Number of people the workers will come into contact with: Low

Proximity to other people: Distancing is mostly achievable within the workplace

Risk of transmission compared to non-work environment: Similar risk where restrictions are being eased regionally

Level of interaction with people who are not known: Moderate

The exposure level for these workers is deemed to be **low**

- 6.10. For staff working with children under 12, or other vulnerable members of the community, there is potential for harmful exposure in both directions, and the consequences may be more direct for these persons. Staff working with children will be working in close proximity to a part of the population in which there is no current option for vaccination – 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. Those members of the community may be exposed to COVID-19 as a result of an interaction with a staff member who may be infected, and our duty of care extends to these members of the community

Number of people the workers will come into contact with: High

Proximity to other people: Can be challenging due to nature of work

Risk of transmission compared to non-work environment: Higher risk where restrictions are being eased regionally

Level of interaction with people who are not known: High

The level of exposure for these workers is **high**. The risk of infection to children under 12, or vulnerable members of the community from our staff is also considered to be **high** for these same reasons.

7. Determination of likelihood

- 7.1. As detailed previously, the likelihood of infection is directly related to the probability of infection from an exposure to COVID-19, alongside the level of exposure that a person has to the virus via others who may have the illness. This is assessed using an assumption of *no current or proposed controls being in place* (such as PPE, hygiene, physical distancing or vaccination).

- 7.2. For each of the role categories defined earlier, the following likelihood ratings have been established against the criteria in Corporate Standard 3:
- Office based staff: **HIGH** probability of infection and **MODERATE** level of exposure results in the likelihood being **4. LIKELY**. This indicates that infection will likely occur at some time.
 - Public-facing staff: **HIGH** probability of infection and **HIGH** level of exposure results in the likelihood being **5. ALMOST CERTAIN**. This indicates that infection is expected to occur in most circumstances.
 - Staff working outside: **HIGH** probability of infection and **LOW** level of exposure results in the likelihood being **3. POSSIBLE**. This indicates that infection may occur at some time – similar occurrences are known to have happened.
 - Staff working with children under 12, or with vulnerable members of the community: **HIGH** probability of infection and **HIGH** level of exposure results in the likelihood being **5. ALMOST CERTAIN**. This indicates that infection is expected to occur in most circumstances.

8. Inherent risk score range

- 8.1. Inherent risk level is determined by looking at the likelihood and consequence of infection without any prevention or mitigation in place, and plots these on a matrix as shown below (*Corporate Standard 3*):

Risk Matrix						
Consequences	5 Extreme	Medium	High	High	Critical	Critical
	4 Major	Medium	Medium	High	High	Critical
	3 Moderate	Low	Medium	Medium	High	High
	2 Minor	Low	Low	Medium	Medium	Medium
	1 Insignificant	Low	Low	Low	Medium	Medium
		1 Rare	2 Unlikely	3 Possible	4 Likely	5 Almost Certain
		Likelihood				

- 8.2. As the consequences have been determined to be **EXTREME**, and the range of likelihood is between **POSSIBLE** and **ALMOST CERTAIN** for all roles within Auckland Council, the range for inherent risk is between **HIGH** and **CRITICAL**.

9. Risk tolerance

- 9.1. Corporate Standard 3 identifies the current level of tolerance for risk at Auckland Council in relation to the level of risk rating, and the required actions to be undertaken to reduce the risk further – or whether a level of risk may be tolerated at the current level of control (where further controls are not reasonably practicable).
- 9.2. The acceptance of a level of risk is consistent with modern safety practice and reflects that risk must be managed to a level that is “As Low As Reasonably Practicable”. This acknowledges that there is a degree to which risk can’t be lowered further without an unacceptably high cost in relation to effort or cost.
- 9.3. For public-facing staff, and those who work with children and vulnerable members of the community, the extreme risk identified for those workers (and the community) is deemed to be **Unacceptable**, and further controls must be introduced to lower the risk before that work can be recommenced.
- 9.4. For office-based staff, and those who work outdoors, the high risk for these workers is assessed as being **Undesirable**, and again, controls must be put in place to lower the risk to an acceptable level
- 9.5. The uncontrolled risk associated with COVID-19 in our workplace is at a level that is not tolerated at Auckland Council, and no work should be taken unless controls have been implemented.

10. Impact of existing controls

- 10.1. There are a broad range of controls already in place to prevent infection, and these are associated with particular levels within the established hierarchy of control from the lowest level of effectiveness through to the highest:

- a) PPE Control: The use of face coverings.

Effectiveness: partially effective

These work by reducing the spread of viral particles from person-to-person by capturing droplets and aerosols that would normally be expelled through breathing, talking, coughing or sneezing. There are varying degrees of effectiveness, depending on the material being used, the fit, and whether these are worn correctly. It has been regularly observed by the author that proper use of face coverings is not always the case. 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.

N95 or surgical masks may be better than reusable cloth masks (particularly for aerosols), but must be replaced more often and can become ineffective when they become moist (either from the environment or from the humidity of exhaled breath). Masks work by reducing the probability that viral particles will be passed from person-to-person, however there has still been infection between persons who are masked due to the limitations and issues raised above and so are not to be considered infallible as a control measure.

b) Administrative Control: Physical distancing.

Effectiveness: partially effective

Physical distancing of at least one metre within the workplace, and 2 metres between people in public works by reducing the opportunity for viral particles to pass from one person to another and is effective for transmission by droplet, however aerosol transmission of Delta has reduced the effectiveness of this control. It is heavily reliant on people “following the rules”, and has been shown to be a challenging control to manage due to a number of factors (including incidental breaches and the lack of visual cues to remind people of what 2 metres looks like in different environments).

c) Administrative Control: Screening and Monitoring.

Effectiveness: partially effective

This control involves requiring staff and others to not come into the office when ill, use contact tracing apps to regularly scan QR codes when entering or moving around buildings, and having resources available to quickly identify, track and isolate positive cases. These controls are prone to failure as they are either behaviourally driven, or require the application of those correct behaviours to drive them (for tracking as an example).

d) Administrative Control: Hygiene

Effectiveness: partially effective

Practicing good sneeze and cough hygiene and the regular use of handwashing and/or hand sanitiser helps to remove viral particles which may have been deposited on hands, which is particularly important when touching the face, eating, or adjusting masks. This is highly dependent on a number of factors, including the type of soap or sanitiser being used, the method and duration of handwashing, and whether individuals remember to clean their hands prior to touching the face etc. Rules have also been put in place in relation to staying home if sick, and this relies on people following this requirement – however when applied correctly can reduce the potential exposure to COVID-19. This particular control relies heavily on behaviours which may be impacted subconsciously, so is not an effective control in isolation and requires a number of other controls to be in place to create defence in depth. The aerosol nature of virus transmission also limits the effectiveness of this control.

e) Engineering Control: Workplace Design

Effectiveness: partially effective

Design factors such as ventilation systems and air circulation can reduce the level of exposure if designed correctly with COVID-19 transmission in mind. Many buildings occupied or entered by Auckland Council staff will not have been designed in a way that provides adequate protection, however some buildings (such as 135 Albert Street) have a level of air changes and ventilation which exceeds American Society of Heating, Refrigeration and Air-Conditioning Engineers (ASHRAE) standards and provides an equivalent degree of protection to the use of an N95 face mask. This is reliant on other controls, such as physical distancing and hygiene being in place and only reduces exposure so far.

f) Isolation Control: Working from home

Effectiveness: effective

This control is currently being used extensively in Auckland to reduce the level of exposure to COVID-19. It works by removing people from situations and environments whereby they may be infected. It is effective for work-related exposure for those who are able to work from home during periods of lockdown, however it should be noted that there are potential exposure events that may occur outside the home, when staff access essential services. These exposure events are outside the influence and control of Auckland Council so are not considered as part of this assessment. Working from home is an effective short-term control (it is used as part of lockdown measures to reduce exposure), however is unlikely to be effective long-term due to potential wellbeing, cultural and productivity challenges associated with being isolated from work colleagues. While in a heightened alert level, many services have been halted which requires workers who are not undertaking essential services to be sheltering at home. Once alert level restrictions are eased, most employees will be required to work onsite at some point in order to effectively undertake their duties and therefore the control itself becomes unreasonable.

- 10.2. 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. Due to the way these controls work, they do not reduce the potential consequences of COVID-19. For each role, it is expected that the rating of likelihood may be reduced to a range between **2. Unlikely** for office-based or outside workers and **3. Possible** for public-facing roles and those working with children or vulnerable persons based on the role categories described earlier. There is no change to consequence due to the lack of any control that impacts on the seriousness of the illness if COVID-19 is acquired.
- 10.3. While many of our people are currently vaccinated, we have not considered this a “current control” as this has not been defined as a required control at this point. This assessment considers the application of vaccinations as a “proposed” control, and the effectiveness of this as a control measure will be assessed separately.

11. Current residual risk scores

- 11.1. Based on a revised likelihood score for Auckland Council roles of either Unlikely or Possible, and with an Extreme consequence still reasonably foreseeable using these controls, the residual risk score remains at **HIGH** for all roles.
- 11.2. This **HIGH** rating is still outside of the level deemed acceptable for Auckland Council (see Appendix 3: Risk Tolerance Table), and requires further controls to be implemented.

12. Impact of vaccination

- 12.1. According to the Ministry of Health¹⁴, being fully vaccinated (currently described as all doses of an approved vaccine) provides protection in three ways. The first is by minimising the likelihood of infection, and the second is that it reduces the seriousness of illness if infected. The third way it provides protection is that it helps is to reduce the likelihood of transmission by reducing the period in which a person is infectious.
- 12.2. The effectiveness of two doses of the Pfizer vaccine provides 64%-95% protection against symptomatic illness.
- 12.3. Two doses of the vaccine provides 90-96% protection against hospitalisation or severe illness due to Delta infection.
- 12.4. It is clear that there is still potential for infection to occur regardless of vaccination, however it is much less likely for serious hospitalisation to be required and more unlikely for an infected person to pass away as a result of their infection.
- 12.5. There are a small number of people for whom vaccination is contraindicated, and it is likely that there may be a very small number of these people within Auckland Council. Exemption processes are currently in place through the Ministry of Health, based on a specific set of criteria. Due to the very small numbers it is considered that the risk impact of having these persons in the workplace is small where a valid exemption is held, and public health measures continue to be adhered to.
- 12.6. There are a handful of serious side-effects that can occur as a result of vaccination, and MedSafe data shows a 0.1% incidence of serious side effects, which is significantly lower than the risks associated with COVID-19. Most serious side-effects have been treatable, with only 1 death directly related to the 7+ million doses administered to date in NZ¹⁵. As an example of the risk difference between COVID-19 and vaccination, the risk of pericarditis and myocarditis occurring with an individual is nine times higher where someone becomes ill with COVID-19 than it is with the vaccine¹⁶.
- 12.7. As a substitution-based control it is effective in reducing the likelihood of infection, but also the consequences of that infection. It is the only current control available that reduces the reasonably expected consequences that exist with COVID-19.

13. Proposed residual risk scores

- 13.1. As detailed earlier, being fully vaccinated reduces the probability of infection and the consequences of that infection. Where more people within the workplace are vaccinated, it can also reduce exposure due to the reduction in transmission potential.

¹⁴ <https://www.health.govt.nz/our-work/diseases-and-conditions/covid-19-novel-coronavirus/covid-19-vaccines>

¹⁵ <https://www.medsafe.govt.nz/COVID-19/safety-report-36.asp>

¹⁶ Interview with Dr Alexandra Muthu, 10 November 2021

- 13.2. The consequences of infection with COVID-19 for those who are fully vaccinated is likely to be much less severe, with some breakthrough infection possible for a small minority of people. The range of consequences is now **1. Insignificant** through to **3. Moderate**, acknowledging that there may still be some vaccinated people for whom their illness will require a number of days off work to recover, however this will (except in very rare circumstances) not require more than 30 days off work. It is even less reasonably foreseeable that death may result from infection. The rating is therefore set at Moderate for consequence.
- 13.3. Combining the current controls listed previously with the additional effects of vaccination, when used together the likelihood of infection is reduced to **1. Rare** for office workers and those working outside, however remains at **3. Possible** for those who work with members of the public, with children under 12 or with vulnerable members of the community.
- 13.4. The residual risk with all controls, including vaccination, for workers is set out below:
- a) Office based staff: **RARE** likelihood of infection and **MODERATE** level of exposure results in the risk being **LOW**.
 - b) Public-facing staff: **POSSIBLE** likelihood of infection and **MODERATE** level of exposure results in the risk being **MEDIUM**.
 - c) Staff working outside: **RARE** likelihood of infection and **MODERATE** level of exposure results in the risk being **LOW**.
 - d) Staff working with children under 12, or with vulnerable members of the community: **POSSIBLE** likelihood of infection and **MODERATE** level of exposure results in the risk being **MEDIUM**.
- 13.5. **LOW** risk is deemed to be tolerable with all control measures in place
- 13.6. **MEDIUM** risk can be tolerated in exceptional circumstances and requires active monitoring of control compliance

14. COVID-19 Testing

- 14.1. Testing has been raised as a potential control mechanism for COVID-19 infection, however this is better described as a health monitoring tool as it does not reduce the likelihood of infection to the individual involved, and does not impact on the potential consequences. As a result, this does not have a significant impact on the risk score and does not have the same risk reduction properties as vaccination.
- 14.2. There are potential benefits to using COVID-19 testing as an additional measure however, as it may help to prevent a larger outbreak within a workplace where an infected individual might be identified and isolated prior to infecting others.
- 14.3. The tests available at this time have some limitations, in that while Polymerase Chain Reaction (PCR) Nasopharyngeal swab tests are highly accurate, they do take time to

process due to the way that these tests are conducted. Delays between sampling and test results being available are commonly about 2-3 days¹⁷

- 14.4. Rapid Antigen Tests (RAT) are becoming available in NZ for screening and surveillance testing. They are less accurate than a PCR test¹⁸, and are generally more effective at detecting proteins from the virus when the individual has higher viral counts associated with active infection. This is the period when a person may be most infectious. As such, they need to be conducted much more regularly to be an effective tool (every 2-3 days is suggested) 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.
- 14.5. It is considered that as a screening tool, Auckland Council may utilise RAT testing for particular environments as a monitoring method, however it is not considered that they are a suitable alternative to vaccination due to the lack of preventative control or reductions in the potential consequence of infection.

15. Summary

- 15.1. This risk assessment shows a significant impact on risk reduction associated with the use of vaccination alongside other controls. It is therefore recommended that Auckland Council implement a policy requirement for full vaccination to be demonstrated for all role types listed within this risk assessment in order for them to undertake work in the environments described. Without vaccination the lowest risk level available, even for those outdoors, is **HIGH** due to the consequences associated with COVID-19. Vaccinated workers allows for a reduction in those consequences, and a further reduction in likelihood when combined with all other current controls in place.
- 15.2. A **MEDIUM** level of risk may be achievable using an alternative method, namely using isolation to restrict workers to their home to undertake work. In this way, it would be rare for that person to be infected during the course of their work – however this may not be a sustainable method of working in the long-term, and there are a large number of roles across Auckland Council where this is not possible due to the nature of their work. It should also be noted that there are other H&S and business risks associated with long-term or permanent working from home arrangements and these risks should be determined and assessed prior to making any decision relating to allowing this to be permitted.

¹⁷ <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>

¹⁸ <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>

Appendix 1: Risk Matrix Settings

Risk Matrix Settings			
Likelihood		Consequence	
1 Rare	Highly unlikely, but may occur in exceptional circumstances	1 Insignificant	Injury requires first aid treatment or pain and discomfort requiring intervention, e.g. workstation assessment.
2 Unlikely	Not expected, but some possibility it could occur at some time	2 Minor	Injury or illness requires medical treatment or other registered practitioner.
3 Possible	Might occur at some time – similar occurrences are known to have happened	3 Moderate	Injury or illness results in time lost from work for one day/shift or more. Notice is issued by regulator or Health and Safety Representative.
4 Likely	Will probably occur at some time in most circumstances	4 Major	Injury or illness results in 30 days lost time, or a permanent disability. Organisational breaches law resulting in prosecution and penalties.
5 Almost Certain	Expected to occur in most circumstances	5 Extreme	One or more fatalities. Considerable penalties and prosecutions, multiple lawsuits and prison terms.

Appendix 2: Risk Matrix

Risk Matrix						
Consequences	5 Extreme	Medium	High	High	Critical	Critical
	4 Major	Medium	Medium	High	High	Critical
	3 Moderate	Low	Medium	Medium	High	High
	2 Minor	Low	Low	Medium	Medium	Medium
	1 Insignificant	Low	Low	Low	Medium	Medium
	1 Rare	2 Unlikely	3 Possible	4 Likely	5 Almost Certain	
	Likelihood					

Appendix 3: Risk Tolerance table

Risk Tolerance and Actions				
Risk Rating	Risk Tolerance	Approval	Actions/Mitigations	Monitoring Review
Low	Tolerable risk with current controls measures	Trained staff member	Proceed and monitor if there are no other potential control measures that may be practicable to reduce the risk further. Monitor to ensure the effectiveness taking corrective action where necessary.	Annually or when activity/action changes.
Medium	Risk can be tolerated in exceptional circumstances	People leader	Review risk assessment and introduce further controls to reduce risk to acceptable level. People leader to sign off. Controls to be actively monitored to ensure effectiveness.	Quarterly or when activity/action changes.
High	Undesirable risk	Department head	Stop task and reassess activity immediately. Control measures are in place to lower risk to acceptable level. Detailed risk assessment with further controls to be approved by the head of department. Controls to be actively monitored to ensure effectiveness.	Monthly or when activity/action changes.
Critical	Unacceptable risk	Executive Leadership Team	Stop task and reassess activity immediately. Detailed risk assessment with further controls to be developed. Activity can only resume when approved by ELT under advice from the Corporate Health, Safety and Wellbeing team. Control measures to be actively monitored to ensure effectiveness.	Monthly or when activity/action changes