Te Whatu Ora
Health New Zealand

COVID-19 Testing Plan

Revised December 2022

Te Kāwanatanga o Aotearoa
New Zealand Government

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This document is available at **tewhatuora.govt.nz**

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Executive summary

Background

As the COVID-19 pandemic nears the end of its third year, Aotearoa New Zealand's response has continually evolved as both the virus and our ability to manage it has changed.

From our initial elimination strategy, we have shifted to a minimisation and protection approach. Our context has changed with the introduction of vaccines and antivirals, and more transmissible new variants with reduced clinical severity and high levels of infection. Our approach to testing, has changed but remains a cornerstone of our response to, and management of, COVID-19.

This plan replaces the previous A3 COVID-19 Testing Plan for Aotearoa New Zealand.

Purpose of the COVID-19 Testing Plan (December 2022 - March 2023)

The COVID-19 Testing Plan (the Plan) covering December 2022-March 2023 outlines target population groups and associated methods of testing.

This Plan (will be reviewed before winter 2023) is responsive not only to the disease prevalence, but also to its significant impact on healthcare and other sectors of society.

It considers the following scenarios:

- changes in disease prevalence from low to high (peaks and troughs in case numbers)
- introduction of one or more significant variant of concern (VOC)
- changes to public health and infection prevention and control (IPC) measures, that may result in changes in case rates in specific groups
- significant impact on response capacity of specific health and other systems at national, regional, and local levels (for example, aged residential care (ARC), hospitals, primary care, laboratories, other specific providers)
- evidence of significant impact on specific population groups (for example, Māori, Pacific people, oncology patients, children); and
- any scenario where there is an identified significant increase/decrease in risk, which would require a change in the approach to testing.

Factors affecting testing decisions

Overall, the decision to test and which method to be used will be influenced by:

- likelihood of the person returning a positive test result (presence of symptoms and/or risk of exposure)
- testing purpose (clinical care, prevention of onward transmission, public health intelligence)
- current community transmission rates
- residence or work settings; and
- availability and turn-around time (TAT) of the testing method.

Manatū Hauora - Ministry of Health is currently developing a risk assessment framework that will provide regional guidelines for moving between transmission categories in COVID-19 response (this Plan will be updated accordingly after this framework is completed). For further information, please e-mail **covid-19testing@health.govt.nz**.

Local planning and protocols

At regional and local levels and within specific settings, the following factors need to be considered when implementing protocols for testing patients, employees/contractors, and visitors to facilities:

- prevalence of disease in the community/facility
- cohorts of people to be tested (priority groups/vulnerable patients, visitors, workforce, people in the community)
- cultural considerations for different groups
- type of facility/setting (for example, ARC, Corrections, or primary care)
- any existing IPC protocols and measures in place, and how testing enables and/or interacts with those measures as part of the overall IPC strategy for the setting
- service/facility capacity and constraints (for example, available staff/hospital beds)
- facility design and ventilation; and
- availability of testing services.

Strategic context

In September 2022, the New Zealand Government replaced the *COVID-19 Protection Framework* with a new long-term approach to managing COVID-19.

Testing to detect COVID-19 is, and will remain, a cornerstone of the public health response, a key step in the clinical pathway for managing COVID-19 in the community and in hospitals.

This Plan is underpinned by the following principles:

- **preparedness**: we are ready to respond to new variants with appropriate measures when required (tools in place, including surveillance, to inform a response)
- **protective and resilient**: we continue to build resilience across the system and continue introducing population and individual protective measures. These measures are part of our baseline response reducing COVID-19 impact on individuals, families, whānau, communities, businesses, and the healthcare system that will make us more resilient to further waves of COVID-19.

The Plan has been developed in conjunction with other Manatū Hauora - Ministry of Health guidance and plans for COVID-19, including the *Surveillance Strategy and Surveillance Plan*[1].

Purposes of testing in response to COVID-19

Testing is a process which starts with the recognition of an indication for testing and ends with an intervention undertaken based on the result of the test. The test used as part of this process, is partly dependent on the planned interventions - public health, infection prevention control measures, or clinical management - based on the result of the test.

There are three main purposes for testing, each of which has a specific aim and method to inform decision makers. These are:

- diagnosis of symptomatic people
- surveillance (population or subpopulation level); and
- asymptomatic screening testing.

[1] **COVID-19: Surveillance strategy 22 December 2021**

The recommended type of test to be performed and the breadth of testing undertaken for each purpose will vary dependent on the overall context of COVID-19 and public health measures in place at the time.

1. Diagnosis

Diagnostic testing supports clinical and public health decisions by confirming/refuting a diagnosis. It is part of a clinical and/or public health management pathway for an individual/population group and is undertaken based on the signs and symptoms of a disease (for example, symptoms compatible with COVID-19).

2. Surveillance

Surveillance testing is used to monitor frequency and distribution of infections and provide scientific and public health intelligence to improve our understanding of the epidemiology and presentation of a disease, efficiency and efficacy of its management, and associated outcomes. It assists in supporting and informing public health decision making and actions at national, district, and local levels within Aotearoa New Zealand.

Testing is an essential tool in providing COVID-19 intelligence, with relevant data used alongside information sourced from other areas (clinical, behavioural insights, surveys, international experience etc.).

There are several objectives of surveillance, including data which enables

- early warning of changes in epidemiological profiles
- monitoring morbidity and mortality trends
- burden of disease on healthcare capacity to enable a proportionate response to the continually changing status of the pandemic (for example, healthcare workers, hospitalisations, and intensive care unit admissions)
- monitor priority groups and settings
- monitoring and early detection of new VOCs; or
- enhanced surveillance to monitor those at the highest risk of disease, including:
    - characterisation of variant transmissibility; severity, and immune evasion
    - determining the rate of long COVID-19, and assessing contributing risk/immune factors
    - determining correlation of protection; and
    - measuring antibodies to estimate cumulative population immunity compared to reported case rate, and further understanding of immunity from infection vs immunity.

NZ COVID-19 Surveillance Strategy and Surveillance Plan

There are active and passive surveillance programmes in place in Aotearoa New Zealand and they are described in the **COVID-19 Surveillance Strategy and Surveillance Plan**.

The NZ Surveillance Strategy and Surveillance Plan, updated 22 December 2021, are currently under review to ensure that COVID-19 surveillance systems and programmes remain fit for purpose including community infection and seroprevalence surveys. This Plan should be considered in conjunction with the **Surveillance Strategy and Surveillance Plan**.

3. Asymptomatic screening testing

Screening testing is used to support early diagnosis and prevent asymptomatic transmission. Screening testing for COVID-19 may be undertaken in the community (household contacts), in a healthcare (hospital) or non-healthcare setting (Corrections facilities).

It aims to identify cases early, prior to onset of symptoms, to

- support early treatment and care (particularly, for priority/vulnerable people)
- reduce onward transmission in the community and within specified settings, and/or
- support workforce planning and enable service/business continuity.

Regular asymptomatic screening testing of healthcare staff is only necessary when

- staff are at an increased risk of exposure
- staff and others at the facility have a higher risk of transmission due to the nature of the facility
- there are higher transmission rates locally, regionally, or nationally
- staff are working with vulnerable people at higher risk of severe illness from COVID-19 (for example, transplant patients); and
- identification of all cases (early in the disease course, or cases that remain asymptomatic) is deemed necessary to minimise the impact on the facility and/or protect very vulnerable people.

Te Tiriti o Waitangi

The COVID-19 pandemic has seen Māori experience poorer outcomes compared to other ethnicities. It is critical that the needs of Māori, and the commitments made in Te Tiriti o Waitangi, are integral to the health and disability response to COVID-19.

The principles of Te Tiriti o Waitangi provide the foundations for meeting our obligations under Te Tiriti in our day-to-day work. All levels of our health-and-disability system need to be responsive to Māori, ensuring that the principles of Tino Rangatira, Equity, Active Protection, Options, and Partnership[2] are reflected in practice.

The following should be used to promote and advance culturally safe practices in all priority groups and settings:

- proactive collaboration and formal engagement with Māori subject matter experts/advisors/iwi and Māori providers to inform managing delivery testing gaps for Māori
- timely, consistent, and easily understood communication, including promoting health literacy for individuals, whānau and community; and
- creating culturally safe environments for individuals and their whānau.

Equity and advancing equitable access and outcomes

In Aotearoa New Zealand, people have differences in health management and outcomes that are not only avoidable, but also unfair and unjust. Equity recognises that people with different levels of advantage require different approaches and resources to obtain equitable health outcomes. For each testing option, different approaches to service delivery and commissioning is required to ensure they are fit for purpose for Māori, Pacific, disabled, rural communities, and others who experience and/or are at risk of inequitable outcomes from COVID-19 and/or compromised access to testing.

Therefore, the Plan and response measures need to continue empowering and supporting community groups and advocates to make decisions to respond directly to health and wellbeing needs and challenges in their communities.

Pacific Peoples

The COVID-19 pandemic has exacerbated existing inequities for Pacific peoples, who have had the highest hospitalisation rates for COVID-19, and experienced mortality rates 2.4 times greater than European and other population groups[3].

Key issues centred on response and preparedness challenges which included access to resources, the siloed agency conditions to support localised agile responsive models of care, and appropriate and timely communication of public health messages. Despite this,

[2] **Te Tiriti o Waitangi | Ministry of Health NZ**
[3] **Public Health Agency. 2022. COVID-19 Mortality in Aotearoa New Zealand: Inequities in Risk. Wellington: Ministry of Health.**

the Pacific community rallied, and Pacific providers and churches provided a critical part of the response.

Pacific providers, churches, and communities must be actively engaged and prioritised in local and regional tactical approaches to COVID-19 testing. A specific Pacific ethnic approach should be facilitated where appropriate to maximise opportunities for equity of access to testing.

Disability Community

Our objective is to provide accessible testing for disabled communities, treating its members and their whānau with dignity and respect.

Close engagement with disabled people, their representative organisations and whānau, Whaikaha, along with providers, local advisory groups, carers, and support providers will provide tactical advice on how both national and regional testing services can best respond to the needs of disabled people and their whānau.

Guidance on testing for disability community and community providers can be found **here**.

Priority and vulnerable people

Priority and vulnerable people are those inequitably impacted and/or at greatest risk of harm and poor outcomes from COVID-19.

The Plan prioritises people who have higher rates of morbidity, hospitalisation, mortality, and hardship due to COVID-19. Expedited access to testing and accurate early identification of infection in these groups allows early intervention of treatment and support to reduce the burden of disease for individuals and their whānau.

Priority people are those who are inequitably impacted by outbreaks of COVID-19. These include:

- Māori
- Pacific Peoples
- disabled people including tāngata whaikaha Māori and Pacifica disabled people
- people with mental health and addiction issues; and
- other inequitably impacted populations including some other migrant ethnic communities, remote and rural people, rough sleepers and those in transitional housing, and other groups experiencing disadvantage.

Vulnerable people are those who are at higher risk of severe illness from COVID-19. These include:

- people with medical conditions including long-term health conditions and/or who are immunocompromised
- older people (65 and over)
- Māori and Pacific people with co-morbidities are particularly vulnerable especially if not vaccinated
- people in residential care facilities, including Correction facilities who often have a large number of vulnerable people.

Testing response framework

Context

This section contains information on how the Plan intends to optimise utilisation of the available laboratory testing capacity and capability, and have non-laboratory tests available to support the response and adjust as needed. Additionally, three categories reflecting transmission rates have been introduced, along with target groups for testing, in Aotearoa New Zealand with the recommended testing guidelines for the general public.

Utilisation of testing in Aotearoa New Zealand

The recommended use of test(s)/method(s) will be narrowed and widened dependant on the impact COVID-19 is having at a given time, on our communities, healthcare services or within specific environments. The testing technologies available and the recommended use of them in the different community transmission categories is described in *Table 1A - Recommended testing for target groups by rate of transmission by setting* found **here**.

In testing for COVID-19 and other respiratory illnesses, there are six initial dimensions to consider which determine the most appropriate testing modality and mode of delivery:

- **Who** is to be tested
- **Why** (purpose) – this may be an individual, whānau or community/facility purpose or a combination of these
- **What** viral or other pathogens need to be ruled in/out
- **Which** is the best test to achieve the purpose in a culturally, logistically, and equitably acceptable way for the testing recipient, and in a practical and cost-effective way for the system
- **Where** it can be accessed - ease of access to and from collection site; and
- **When** the test result is needed for action - timeliness of results for public health and clinical decision making.

These dimensions must be weighed up, and underpinned, by a Te Tiriti o Waitangi and health equity response as described in the Plan which has implications for each dimension.

The mode and service delivery models vary in some settings to enable access and meet turn-around requirements for various priority population groups. Testing Technologies and Modalities are summarised **here**.

COVID-19 transmission categories

Three categories reflect transmission rates and the associated level of burden on the health system and other sectors.

Determination of transmission status at a national level will be assessed through the Public Health Risk Assessment process, and subsequently communicated to providers.

Transmission status in a specific setting/facility will be assessed by local IPC experts and/or Public Health Service to ascertain the recommended testing response and other public health measures.

Manatū Hauora - Ministry of Health is currently in the process of developing a risk assessment framework that will provide further guidelines to support regions with their decision making around the COVID-19 response. Information on the transmission categories and risk framework in this section will be updated once the framework is complete. If any further information is required email: **covid-19testing@health.govt.nz**.

This Plan defines three transmission categories and risk scenarios to reflect different scenarios and testing advice proportionate to the level of transmission.

Low transmission (no surge): low-grade community transmission where testing collection/distribution and laboratory testing capacity are meeting testing demand, with a low level of demand on the health system and other sectors.

Medium transmission (escalating or de-escalating): case numbers (based on surveillance data, circulating variants and/or through modelling) are escalating and de-escalating between high and low transmission scenarios, and there is evident demand increase in testing services and availability of resources compared to the low transmission scenario.

High transmission (surge): widespread community transmission where testing demand ranges from placing a burden on, to exceeding, testing collection/distribution and laboratory testing capacity, with a high-level burden on the health system and other sectors.

Target groups for testing

For the majority of people, infection with SARS-CoV-2 is either asymptomatic or results in a self-limiting illness.

The target groups below represent people with symptoms, significantly increased exposure (for example, household contacts) or regular/close exposure to priority population groups or vulnerable people, where asymptomatic transmission may have a greater impact, and associated settings.

As the pandemic evolves, target groups for testing may also change.

In the current Plan, three groups are targeted for testing.

People with COVID-19-compatible symptoms (diagnostic testing)

People with COVID-19 compatible symptoms have a higher probability of testing positive for COVID-19 than those with no COVID-19 compatible symptoms. Their risk of transmitting SARS-CoV-2[4] to others may also be higher.

The purpose of testing people in this group is early detection of cases and improving COVID-19-related health outcomes by supporting timely:

- access to antiviral therapeutics for those eligible (**here**); and
- isolation to reduce the likelihood of onward virus transmission in communities and to vulnerable and priority population groups.

This group remains a priority irrespective of virus transmission rates in the community, including consideration of a differential diagnosis (for example, those at risk of rheumatic fever or GAS in children).

People with known household exposure to SARS-CoV-2 (screening testing)

The purpose of testing people in this group is early detection of cases to reduce onward transmission of SARS-CoV-2, and protection of vulnerable people and priority population groups in the community, at home, and in hospital settings, hospice, or residential care homes and correction facilities.

[4] Severe acute respiratory syndrome coronavirus 2 (SARS CoV 2) is a strain of coronavirus that causes COVID-19.

All household contacts of known COVID-19 cases are recommended to test daily for five days from the day when the first case in the household tested positive or developed symptoms, as they are at the greatest risk of infection and its transmission.

People with higher risk of SARS-CoV-2 exposure or exposure to new variants or environments where disease amplification is more likely

The purpose of testing people in this group is reducing onward transmission of SARS-CoV-2, and protecting vulnerable and priority population groups in hospitals, hospices, residential care homes, or correctional facilities.

This target group includes people:

- who have frequent, close, or extended contact with others who have the potential for greater exposure to SARS-CoV-2, including people who care for people with COVID-19 (for example, healthcare workers and support care workers); and
- entering as new residents, living/working in, or visiting, closed/high-population-density facilities where disease amplification is likely, and there is an increased risk of severe illness.

Testing of the above target groups is summarised in **Appendix 1, Table A1**.

Symptomatic Testing

COVID-19 testing operational guidance for General Practice and urgent care can be found **here**.

For patients who have tested positive for COVID-19 in the last 28 days, and present with symptoms, refer to reinfection guidance in **Table A2**.

Symptomatic – general population

Current testing guidance for the general population is to conduct a self-test RAT immediately if COVID-19-compatible symptoms develop - and if the result is positive, isolate at home for seven days from the symptoms onset.

If cases detected in the community are in priority/vulnerable population groups, they will be referred to the healthcare provider when they record a positive RAT result.

If an individual tests negative but is still symptomatic, RAT should be repeated in 24 and 48 hours. If the symptoms persist or worsen, the healthcare provider should be contacted.

Asymptomatic testing

Asymptomatic screening for the general population is not recommended.

Symptomatic – priority and vulnerable population groups

COVID-19 testing operational guidance for priority and vulnerable people in general practice and urgent care can be found **here**. For specific settings refer to setting specific guidance.

Symptomatic testing

COVID-19 guidance for recent arrivals can be found here.

People with known household exposure to SARS-CoV-2

For all household contacts of known positive cases, it is recommended that they complete a daily self-test RAT for five days from the day when the first case in the household tested positive or developed symptoms. They should be vigilant for symptoms, especially until Day Ten, and like symptomatic people, do a RAT if they develop symptoms. Please see case definition and clinical testing guidelines for COVID-19 **here**.

Household contacts of known positive cases only	**Test modality: self-test RAT** Test daily for five days from the day when the first case in the household tests positive or developed symptoms
Household contacts: for definition, testing, and management see here	

Settings

Context

This section outlines settings where people are at higher risk of SARS-CoV-2 exposure or exposure to new variants or environments or where disease amplification is more likely.

In the context of high transmission, asymptomatic screening could be considered to maintain the workforce and to protect our vulnerable population. Asymptomatic screening for the general population is not recommended.

The following settings/facilities have been grouped based on the people who reside in, receive care from, work in, or visit these settings/facilities, and risk factors in each group.

Asymptomatic screening does not replace the need for maintaining all other practical protective measures to reduce morbidity, mortality, and transmission of infection based on local risk assessments and protocols.

For all symptomatic people in any setting the default testing approach is described for the target symptomatic group above.

Specific guidance for positive cases in settings where there are healthcare workforce issues is described in the **Guidance for return to work of healthcare workers**.

Requirements for priority population groups (as patients or visitors or workers) should be considered in the context of each setting.

Healthcare settings

Healthcare services are the ones most affected by COVID-19 due to their role and the transmission risk in healthcare facilities to priority and vulnerable population groups, and workers and visitors.

The impact on healthcare to date has been significant, particularly during periods of surge. It is recognised that a hospital or hospital service or other health settings may be at capacity for non-COVID-19 reasons, and therefore the threshold level to escalate a response to COVID-19 may be lowered by service providers.

General guidance is provided to support nationally consistent decisions, while recognising that due to various operational factors, there will be variations in delivery at regional, local, and national facilities.

Symptomatic testing

All people with COVID-19-compatible symptoms should test for COVID-19.

For people with self-limiting illness, follow public health guidelines and/or infection prevention control guidance for service/clinical care.

Testing considerations

The following should be considered when undertaking testing of patients:

- When screening, clinicians should consider the required sensitivity and specificity of the test as determined by the individual's vulnerability, and balance the risk of the planned procedures against test availability and TAT.
- Assumed infection prevention control measures will be implemented as per local guidance (for example, streaming patients based on symptomology, known COVID-19 status and/or vulnerability) to reduce hospital-acquired infection transmission risk, and where not feasible, implement guidance for high transmission/surge.
- If a patient has had a known COVID-19 infection within the last 28 days of release from isolation and is symptom-free, repeat testing is not indicated.
- If an inpatient's length of hospital stay is more than 48 hours at the time of high transmission, consideration may be given to repeat screening if indicated in a high-transmission setting.

Asymptomatic staff screening

It is essential that health workforce is maintained to ensure ongoing care of people.

If healthcare workforce is significantly affected by COVID-19, service providers may undertake their own risk assessments to ensure safety of patients and the workforce.

Specific guidance for healthcare workers provides the following general advice:

- staff who are/were household contacts and/or who work with vulnerable patients/clients may be able to return to work with asymptomatic screening testing; and
- additional precautions beyond Day Five may be advised for staff who were household contacts, and work with vulnerable patients/clients.

In general, asymptomatic testing of healthcare workers is not recommended if they are using systematic IPC measures which significantly reduce the risk of workplace exposure. However, in the context of high transmission, consideration can be made to test

asymptomatic critical healthcare workers to maintain sufficient workforce. **Please refer to HCW guidance for more information**.

High transmission

Daily asymptomatic RAT screening testing of staff may be considered during high community transmission (surge) or within facility transmission. For guidance for visitors to healthcare facilities see **here**.

Symptomatic visitors should avoid visiting healthcare facilities while unwell.

When assessing asymptomatic screening of visitors to facilities, the recommendations are:

- visitors who have recently been a case/household contact should avoid visiting a facility for ten days from the onset of symptoms or the date of the positive test (if asymptomatic); and
- in high transmission (surge) period, visitors should undertake a self-test RAT prior to entry (at home before arrival or on site at the facility).

A facility/service risk assessment should be undertaken in relation to supporting patients to have whānau visitors if it is safe to do so.

Hospital and secondary care facilities

Testing in hospital and secondary care facilities is for diagnosis, protection through early detection, reducing transmission in these facilities to vulnerable patients, and ensuring that sustainable healthcare workforce is maintained for all health services.

This setting includes:

- hospitals
- day stay units; and
- units with extremely high-risk patients[5].

Guidance on testing in these settings can be found **here**.

[5] There are some extremely high-risk patients within some settings, who require specific consideration (for example, haematology and oncology patients).

Primary care and other clinic-based settings

Testing in primary care and clinic-based settings is for protecting vulnerable patients, reducing transmission in these facilities, and ensuring sustainable healthcare workforce to maintain for all health services.

Settings in this group include:

- primary care
- General Practice
- Pharmacy[6]
- Outpatient clinics; and
- Other health professional clinics (dentist, chiropractor, physiotherapist etc.).

Guidance on testing in these settings can be found **here**.

Testing for diagnostic purposes in general practice and urgent care can be found **here**.

Closed health and non-health facilities (increased risk of viral amplification)

The common factor for all these facilities is that the population groups here are vulnerable to poorer health outcomes. There are usually several people, at least sharing close accommodation, ventilation is variable, and they are dependent on the workforce for their day-to-day care or supervision within the facility. Residents are more vulnerable to COVID-19 infection as well as psychosocial impacts of isolation due to COVID-19. Some facilities in rural locations face additional challenges in caring for residents if staff/residents are affected by COVID-19.

The purpose of testing in these settings is to keep residents safe and connected to family and whānau, keep facilities operational by enabling care workers to return to work, and prevent/minimise the spread of COVID-19 in the facility.

In these settings, in higher transmission scenarios, consideration should be given to asymptomatic testing of workforce, visitors, and at times, residents for risk assessment of

[6] People with a high risk of severe illness from COVID-19 are eligible for treatment with COVID-19 antiviral medicines. Many pharmacists can supply COVID-19 antivirals without a prescription, if a person tests positive with a self-RAT at home, or if they are a household contact.

transmission in the community and/or facility (the likelihood that a person entering the facility is infected) and/or in facility.

The most important protective measures against COVID-19 and other respiratory pathogens in the workplace are ensuring that employees are supported to stay home when they have onset of respiratory symptoms, there is encouragement of mask wearing when individuals are working in close contact with others, and good hygiene practices are promoted.

Ventilation and heating should be optimised within available resources. Overcrowding should be avoided.

These facilities include residential homes and facilities that may care for a larger proportion of priority population groups or vulnerable people.

Guidance for closed facilities can be found **here**.

Aged residential care (ARCs) and hospices

ARC and hospices in Aotearoa New Zealand provide care to over 36,000 vulnerable and older residents. Their movement between secondary care and community/ARC facilities needs specific consideration of patients disposition in health and residential settings.

Guidance for testing in an ARC facility is found **here**.

Corrections and youth justice facilities

Correctional facilities represent a unique set of circumstances and risks as well as legislative obligations to people in prison. COVID-19 presents a significant threat to the health of residents due to the high proportion of residents in priority/vulnerable population groups, and workers.

As the risk of spread is greater within a residential correctional facility, preventing COVID-19 from entering a facility is key to mitigating this risk.

Guidance for testing in closed facilities is found **here**.

Community residential care facilities (including mental health and addiction)

There is a range of residential settings depending on the needs of the person, including age-related disability where the person is often placed in ARC facilities, specialist intellectual disability, care and protection, mental health, and addiction needs.

In Aotearoa New Zealand, there is a wide variation in the number of clients in facilities (from 1 to 50).

Guidance for Community Providers and Disability Sector is found **here**.

Workplace testing (business)

Testing needs to be considered as one tool for preventing COVID-19 in the workplace and protecting employees.

Non-public health-led asymptomatic screening testing for COVID-19 may be deployed in a specific workplace setting during times of high community transmission to support workforce planning and maintaining business continuity.

In particular, this relates to any workplace where critical workforce (lifelines) is at a higher risk of transmission of SARS-CoV-2 or where there is a greater representation of priority and vulnerable population groups in the workforce. This is not without business continuity risks, as it may mean that asymptomatic cases are required to isolate when they may otherwise have been able to work.

Employers should seek expert advice when considering a testing programme outside the recommended public-health-led testing response.

Guidance for businesses can be found **here**.

Boarding schools and tertiary student residences

Symptomatic people are included in the targeted symptomatic testing group.

In student residences, preventive measures are strongly recommended to stop onward transmission between residents.

If there is a high incidence of COVID-19 in a specific facility, all those with symptoms should be tested in line with the advice for the general population. Asymptomatic testing may be considered in line with public health guidance.

Measures and testing approach

Te Whatu Ora will work in partnership with key agencies in the event of a large outbreak in education settings or residences.

Border settings and airports

Testing is strongly recommended for people who are, or become, symptomatic after arriving in, and entering, Aotearoa New Zealand - to support early detection of infection (to inform the need for isolation) and new variants introduced from overseas.

Border surveillance strategies are outlined in the **Surveillance strategy and plans**.

Guidance on testing on arrival in New Zealand can be found **here**.

Variants of Concern (VOCs)

People at higher risk of exposure to, or developing, new variants

The purpose of testing for these people is to perform WGS to detect new variants. Consequently, a polymerase chain reaction (PCR) test is required for symptomatic people who meet the following criteria:

- overseas travel history to areas where there are identified VOCs, or workers who interface with these people at the border; and
- immunocompromised people who are at the higher risk of producing a mutation of the virus, that creates a new variant.

Strategic framework

The Strategic Framework for **COVID-19 Variants of Concern** key response measures have been identified, as a combination of baseline measures and extra measures that would be used with more severe VOCs.

The Plan will be updated with further information as required when the Strategic Framework for COVID-19 Variants of Concern is updated.

New VOC will be assessed through the Public Health Risk Assessment process and subsequent testing response to support public health action, will be communicated through this process to providers.

Appendix 1

Table A1: Recommended testing target groups by rate of transmission by setting

Target group/setting	Symptomology	Low transmission (no surge) or low-risk setting	Medium transmission (escalating and/or de-escalating) or risk setting	High transmission (surge) or high-risk setting
Factors for service managers to consider in assessing transmission: hospital bed capacity + laboratory testing capacity + capability + testing supplies + staffing levels + demands for testing services + case rates +hospitalisation rates				
People with COVID-19-compatible symptoms (diagnostic testing) for clinical or public health purposes	**Symptomatic public**	General population (community and self-testing) - RAT If RAT is negative, and symptoms are COVID-19-compatible, repeat RAT in 24 and 48 hours	**Escalating**: advise to keep a RAT supply at home. Both PCR and RAT are reasonable testing options, and the choice depends on other factors (for example, test availability, workforce capacity, lab capacity[7] RAT may also be used to inform immediate clinical care while waiting for the PCR test result. Consider using repeat RAT (for example, in 24, 48, and 72 hours) in rural or other areas where access to PCR is limited.	**RAT for clinical and public health management decisions:** in general, there is no need to confirm result by PCR unless WGS is required. In some instances, a confirmatory PCR may be judged clinically appropriate (for example, for complex medical conditions generating significant considerations before antivirals are prescribed; HCW before implementing isolation in the face of workforce shortages). If RAT result is negative, and the symptoms are COVID-19-compatible, repeat RAT in 24 and 48 hours. Use PCR for people at higher risk of infection or with severe disease or where a result can influence treatment options.
	Symptomatic patient presenting to **General Practice (GP)** – please refer to the **COVID-19 Testing Operational Guidance for General Practice and Urgent Care**			
	Symptomatic international arrival	Self-test with **RAT -** if positive, get a **PCR** to enable **WGS**		
People with known exposure to SARS-CoV-2	**Asymptomatic**	**Household contacts**: for definition, testing, and management **see here** **Healthcare workers**, including household contacts: for definition, testing, and management **see here**		
People at higher risk of exposure to SARS-CoV-2 or a setting where disease amplification is likely (asymptomatic)				
ARC, Corrections, Community	**Symptomatic**	**PCR (if available) or RAT**	**RAT or PCR** (depending on the time to receive a result and action required)	**RAT** **PCR if available** for priority and vulnerable residents

[7] For specific guidance on Primary Care and other clinical-based settings, please refer to **Guidance: Primary care and other clinic-based settings**.

Residential Care Facilities **(disease amplification is likely)**		If RAT is negative, and symptoms are COVID-19-compatible, repeat RAT in 24 and 48 hours	If RAT is negative, and symptoms are COVID-19-compatible, repeat RAT in 24 and 48 hours	
	Asymptomatic	Asymptomatic testing is not recommended (unless for public health purposes) For the case close household-like contacts, refer to the above guidance	Consider asymptomatic RAT testing for people (staff and visitors[8], new/transferring residents) entering these settings	Consider asymptomatic RAT testing for people (staff and visitors, new/transferring residents) entering these settings[9]
Hospital care[10]	**Symptomatic**	**Rapid PCR or LAMP:** when available and meets turn-around time (TAT) requirements (for all hospitalised positive PCR[11] cases, refer samples for WGS) **or** **RAT (**in absence of rapid PCR service): if the RAT result is positive, follow up with PCR for WGS (if practicable) for ICU and patients hospitalised due to COVID-19	**Rapid PCR** or **LAMP** (for all hospitalised positive PCR cases refer samples for WGS) **or** **RAT (**in absence of rapid PCR service): if the RAT result is positive, follow up with PCR for WGS (if practicable) for ICU and patients hospitalised due to COVID-19	**RAT** (in the absence of timely PCR service **or insufficient PCR capacity** or as per local hospital guidelines) **and/or** **Rapid PCR or LAMP** for priority and vulnerable population groups Follow up with PCR for WGS (if practicable) for ICU and patients hospitalised due to COVID-19
	Asymptomatic	No routine screening recommended unless it is a known close contact of a case. However, RAT screening of visitors and/or staff may be appropriate in settings/facilities with high-risk patients/residents (for example, haematology and oncology - please refer to **Guidance: Hospitals & secondary based care facilities** No routine screening for visitors	Vulnerable and priority patients requiring admission **RAT** to inform clinical and public health management decisions No routine screening for visitors	Emergency admissions to hospital or high-risk dependency unit - please refer to **Guidance: Hospitals & secondary based care facilities** **RAT** to inform clinical and public health management decisions No routine screening for visitors
Outpatients, specialised clinics	**Symptomatic**	If unwell, encourage to stay at home, and not attend non-urgent care appointments If urgent care is required, **RAT** is recommended as per local guidance		
	Asymptomatic	Testing is not recommended (unless for public health purposes)		
Emergency service patients (ambulance and FENZ)	**Symptomatic**	**RAT** to inform immediate clinical care		
	Asymptomatic	Testing is not recommended (unless for public health purposes or household contacts)		

[8] For specific guidance for healthcare settings, please refer to **Guidance: Hospitals & secondary based care facilities**. Where staff testing is undertaken, a regime of RATs on at least three days per week is recommended (i.e. repeat testing to improve sensitivity).
[9] For specific guidance on ARC and Closed Facilities, please refer to **Guidance: Aged residential care and closed facilities**. Where staff testing is undertaken, a regime of RATs on at least three days per week is recommended (i.e. repeat testing to improve sensitivity).
[10] For extreme high-risk patients in specific settings in hospitals, please refer to specific guidance to **Guidance: Hospitals & secondary based care facilities**.
[11] Some hospitals may use LAMP instead of a RAT/PCR to aid a patient's disposition. PCR testing is strongly recommended for patients referred to ICU for WGS.

Table A2: Symptomatic patient presenting to general practice (for additional information – Operational Guidance for General Practice and Urgent Care)

<table>
<tr><th>Description</th><th>Target Group</th><th>Low transmission (no surge)[12]</th><th>Medium transmission (escalating or deescalating)[13]</th><th>High transmission (surge)[14]</th></tr>
<tr><td colspan="5">If your patient has had COVID-19 in the last 28 days, please refer to <u>reinfection</u> section</td></tr>
<tr><td rowspan="2">A COVID-19 clinical assessment undertaken by a nurse, nurse practitioner or general practitioner for symptomatic patients and includes a COVID-19 test – either a RAT or PCR.

Patients should be encouraged to do a self-test RAT at home, wherever possible, prior to attending general practice and upload the result to My Covid Record.

Primary care providers should accept a self-reported RAT result when triaging patients on the self-test RAT result.

A claim cannot be made for self-test RAT that was completed at home.</td><td>Priority and vulnerable people

Symptomatic <u>able</u> to conduct a self-test RAT prior to consultation</td><td colspan="3">If the patient has not completed a test at home:

• if feasible, consider providing a patient with RAT to self-test prior to consultation
• if not feasible, follow the guidance below</td></tr>
<tr><td>RAT self-test at home prior to consultation

• if positive test result - treat accordingly
• if negative test result and COVID-19-compatible symptoms – immediate PCR test, and consider alternative diagnosis (for example, strep throat)

or repeat RAT in 24 hours, depending on the time to receive a PCR test result and required action</td><td colspan="2">RAT Self-test at home prior to consultation

• if positive test result - treat accordingly
• if negative test result and COVID-19-compatible symptoms – if greater than 12 hours since the last test, consider repeat RAT in clinic; if negative, patient to repeat at home. Consider treatment while awaiting repeat test result.

PCR test may be used for more complex patients (for example, immunosuppressed patients where symptoms may indicate prolonged persistent infection)</td></tr>
<tr><td>Priority and vulnerable people

Symptomatic <u>unable</u> to conduct a self-test RAT</td><td>RAT in clinic

• if positive test result - treat accordingly
• if negative test result and COVID-19-compatible symptoms – do PCR test, and consider alternative diagnosis (for example, strep throat)

or repeat RAT in 24 hours, depending on the time to receive a PCR test result and required action</td><td colspan="2">RAT in clinic

• if positive test result - treat accordingly
• if negative test result and COVID-19-compatible symptoms – consider PCR test and treatment while awaiting PCR test result

or if high clinical concern, PCR test (depending on the time to receive a result and required action)</td></tr>
</table>

[12] Low transmission (no surge): Low grade community transmission where testing collection/distribution and laboratory testing capacity is meeting testing demand, with a low level of demand on the health system and other sectors.

[13] Medium transmission (escalating or de-escalating)**:** Medium transmission where case numbers (based on surveillance data, circulating variants and/or through modelling) are escalating and de-escalating between high and low transmission scenarios and there is evident demand increase in testing services and availability of resources compared to the low transmission scenario.

[14] High transmission (surge): Wide-spread community transmission, where testing demand ranges from placing a burden on, to exceeding, testing collection/distribution and laboratory testing capacity, with a high-level burden on the health system and other sectors.

<table>
<tr><td rowspan="7">It is voluntary for general practices to participate in providing self-test RAT kits for patients to take home.

A GP may use clinical discretion at the time of consultation if the patient is deemed high risk, has COVID-19-compatible symptoms, and has a high pre-test probability during high transmission, (for example, known positive contact) as to whether to commence treatment without a test result/or negative RAT if they deem appropriate, and may cease treatment dependent on a subsequent negative PCR result if undertaken.</td><td></td><td></td><td>PCR test may be used for more complex patients (for example, immunosuppressed patients where symptoms may indicate prolonged persistent infection)</td></tr>
<tr><td>General population

Symptomatic – test result</td><td colspan="2">RAT self-test with at home prior to consultation

• if positive test result - treat accordingly

• if negative test result - consider alternative diagnosis of other respiratory pathogens (for example, strep throat) and if negative, repeat RAT 24 and 48 hours later at home, and stay home while unwell.</td></tr>
<tr><td>General population

Symptomatic – no test result</td><td>No prior test:

clinically assess and test if high concern - or advise patient to complete a self-test RAT at home. If negative, repeat 24 and 48 hours later, and stay home while unwell, and consider alternative diagnosis</td><td>No prior test:

clinically assess and test if high concern - or advise patient to complete a self-administered RAT at home. If negative, repeat 24 and 48 hours later, and stay home while unwell</td></tr>
<tr><td>Asymptomatic</td><td colspan="2">Testing not recommended unless for public health purposes</td></tr>
<tr><td colspan="3">Testing on arrival to New Zealand: for more information, please visit: <u>Travelling to New Zealand</u>; <u>Travel to New Zealand by Air</u> links</td></tr>
<tr><td>Symptomatic international arrival</td><td colspan="2">As per public health guidance for symptomatic people. If RAT result is positive, encouraged to get a PCR test to enable WGS for variant surveillance purposes.

RAT packs are available at airports with information on Rapid PCR testing should it be required.</td></tr>
<tr><td>Asymptomatic international arrival</td><td colspan="2">Not recommended.

If a known household contact, the individual will be following public health guidance.</td></tr>
</table>

Appendix 2: Guide for diagnosis of COVID-19 reinfection, rebound, persistent infection, and long COVID-19

The latest evidence shows that reinfection with COVID-19 can occur within a short period of time. Reinfection will become more likely as new variants spread in the community.

When someone uploads a positive RAT result in My Covid Record, if it is 29 or more days since the last infection, it will be categorised as reinfection (same advice and support as for a new infection).

Evidence on reinfections is evolving rapidly. We will continue to monitor emerging information, and update this advice accordingly.

Some people experience a range of ongoing symptoms after the initial COVID-19 illness. The type of symptoms may change over time. Long COVID-19 is a general term for describing symptoms that continue or develop after the initial COVID-19 diagnosis, and cannot be explained by any other condition. In New Zealand, long COVID-19 is divided into:

- ongoing symptomatic COVID-19: signs and symptoms of COVID 19 four-to-twelve weeks after the initial infection; and
- post-COVID-19 syndrome: signs and symptoms that develop during/after an infection, consistent with COVID-19, continue for more than 12 weeks, and are not explained by any other condition.

Long COVID-19 can affect any system of the body, and the severity of symptoms may fluctuate over time. Symptoms will often gradually improve over time.

Currently, there is no diagnostic test available for long COVID-19.

Table A3: Primary care guide on COVID-19 reinfection, rebound, persistent infection, and long COVID-19

This table is intended to be a helpful guide for the primary care sector to provide some definitions and general advice about reinfection, rebound, persistent infection and long COVID (post-COVID-19 condition)

It provides high-level information only and when applying this to individual cases, clinicians need to use clinical judgement and consider overall circumstances for patients, their whānau and the public health setting at the time. This document does not override current advice on the Manatū Hauora - Ministry of Health website on any of the topics mentioned here.

Studies are still evolving around all of these topics, both locally and internationally, and therefore advice is likely to change as more evidence emerges.

	Definition	Incidence	At Risk Population	Timeline	Testing	Infectious	Specialist referral
Reinfection	Second (or more) infection with SARS-CoV-2 (usually different variant)	In New Zealand currently about 10% of all recorded cases	All – more likely in younger, unimmunised	29 days or more from onset of previous infection	RAT or PCR where clinically indicated	Same as primary infection	If severe or worrying symptoms, not improving or if severely immunocompromised
Rebound infection	Recurrent symptoms after initial recovery, usually within 2 weeks of onset, up to 4 weeks - can occur with or without antiviral use	Variable by symptoms and viral load, but observed in up to 10% of people until about 30 days	All – more common in women, unimmunised and those with severe acute infection	Suggested definition is positive test within 2 weeks of testing negative or finishing antiviral, recognising there is no requirement for a negative test at end of isolation	Further testing not recommended unless clinically indicated, specialist guidance may be required for immunocompromised patients	Recommend isolation for patient until 24 hours of symptoms resolution and encourage standard protective measures for household contacts	If severe or worrying symptoms, not improving or if severely immunocompromised
Persistent infection (PSI)	Ongoing viral replication indicated by persistently positive RAT or PCR result, usually but not always with symptoms, without a robust serological response, beyond 20 days from onset, in an immunosuppressed person	Very rare	Those who are severely immunocompromised	>20 days from onset of previous infection	Either RAT or low-Ct PCR that is persistently positive. Severely immunocompromised as per specialist guidance: • Regular monitoring by PCR/RAT • Serology baseline and follow-up monitoring in consultation with specialist	Recommend ongoing personal IPC measures for the patient's protection and others they come into contact with (especially in healthcare settings), and encourage standard protective measures for household contacts	If severe or worrying symptoms not improving or if severely immunocompromised - discuss with specialist re monitoring, ongoing support and serological testing and result interpretation
Long COVID (Post-COVID-19 condition)	Symptoms which develop during or after acute COVID-19 infection and persist	Variable across studies - up to 20% have >/= 1 persistent symptom, more New Zealand data awaited	All - more common in older, female, co-morbid, unimmunised, severe acute infection	>12 weeks from onset of previous infection	Exclude other causes of symptoms – no diagnostic test available for long COVID at the current time	No	If severe or worrying symptoms, not improving or if severely immunocompromised

Appendix 3: Laboratory and Testing Operational Considerations

The following section provides key considerations in relation to laboratory testing services for COVID-19 testing. This is to ensure laboratory testing capacity and supply of consumables are used optimally to support objectives of the Plan.

Key enablers and barriers to COVID-19 testing response

The National Public Health Service (NPHS) will continue to work with all providers to ensure continuous improvement in providing all testing services to meet the objectives of the Plan. This will include working with sample collection providers, RAT supply and community testing providers, pathology and laboratory providers, and lead agencies (Public Health Agency, Te Aka Whai Ora, Whaikaha, Pacific Health, Te Whatu Ora) to ensure that as the Plan evolves, the services available are fit for purpose.

Important testing considerations include:

- availability of a range of technologies and methodologies
- laboratory testing capacity (NAAT)
- supplies (PPE, RAT, and NAAT)
- sustainability of collection and testing services
- quality of testing
- access and service delivery mode and models; and
- fiscal environment.

Access to testing

Testing (and in some cases masks) can be accessed via various providers:

- RATs (and masks) can be collected at District-funded RAT collection sites
- RATs (and masks) can be collected at most Community Testing Centres (CTCs)
- some pharmacies distribute RATs (and masks)
- CTCs can perform NAATs when indicated; and
- GPs perform RATs and NAATs to inform clinical management.

These services are all listed on **healthpoint**.

Laboratory capacity and throughput

Laboratory-based PCR testing capacity and capability are retained in all diagnostic COVID-19 testing laboratories to meet testing demands during **low-to-medium transmission** scenarios.

In **high-transmission** settings, RATs are used more actively for symptomatic and asymptomatic testing, reserving PCR for priority and vulnerable population groups in high-risk settings.

In the instance of a significant VOC, a range of testing considerations will need to be assessed (for example, detectability of technologies and methods in use for a new variant).

Supply of testing consumables

Supply of testing consumables for RAT, collection devices and PCR test consumables (extraction and amplification), kits and reagents, and plasticware can all experience global supply pressures.

NPHS continues to monitor supply chains across New Zealand testing network for these consumables in partnership with service providers. If required, NPHS, in partnership and consultation with key partners, NPHS will instigate rational guidance for prioritised use and allocation of constrained supplies (for example, PCR POCT[15] test kits).

If there are collection/laboratory service constraints for NAATs and/or supply chain shortages for RAT kits, consideration should be given to suspending all screening (both laboratory NAATs and RATs). Low-priority testing may increase wait times for priority population groups testing.

[15] Some hospital and/or laboratory providers may interchange LAMP with PCR POCT methods as part of their testing regime.

Laboratory and sample collection workforce

In partnership with providers, NPHS will continue to monitor workforce availability within these services.

Logistics – sample distribution networks

Transport networks in Aotearoa New Zealand can experience pressures affecting testing services.

NPHS will continue to monitor transport logistics and sample movements between collection sites and laboratories, and between laboratories to ensure optimal TATs for results to support clinical and public health decisions and actions.

Data collection requirements

All laboratory data information and collection requirements should be in line with data privacy impact statements and Māori data sovereignty guidelines.

To understand the amount and settings of testing being conducted for SARS-CoV-2, across Aotearoa New Zealand it is crucial to understand:

- demographics (who is being tested)
- basis for testing, symptomology, and/or absence of symptoms
- geographic region or by facility (where testing is occurring) distribution of testing
- type of test being performed
- site the sample was collected from
- age group
- sex /gender
- ethnicity; and
- referrer type.

NOTE: not all self-test RATs are being captured.

Central national collation and reporting provide a common denominator for calculating test positivity rates, and informs understanding of implementing equity and accessibility of testing at national, regional, and local levels.

This information also identifies key demographic groups or geographic regions where increased public health, and testing efforts may be required. They will be guided by the **Surveillance Strategy and Plan for COVID-19**.

In addition, it is important to understand national and provider testing activity to assess capacity and throughput, and monitor service risks. The following information from NAATs should continue to be assessed to support improvements in quality and service delivery (excluding self-test RATs):

- age group
- sex /gender
- geographic region and referrer type
- laboratory/testing device
- referrer and/or provider
- type of test being performed; and
- TATs with KPIs.

Changes in local testing regimes

For interpreting laboratory information for surveillance programmes, it is essential for providers to notify of changing testing regimes where it might affect data interpretation and comparability and cumulative reporting (including targeted testing groups and test modality).

As guided by the **Surveillance Plan**, any screening (asymptomatic) testing approach is recommended to include data collection, reporting and evaluation.

Sharing findings informs the ongoing response by identifying asymptomatic testing

Regional and local health providers, private sector organisations, and researchers who undertake screening testing are encouraged to report their activities and their outcomes.

Table A4: Surveillance in Aotearoa New Zealand (as at date of publication)

Active SARS-CoV-2 testing surveillance	
Sentinel site and syndromic surveillance; sampling and laboratory respiratory multiplex PCR testing	Influenza-like illness (ILI) syndromic screening includes COVID-19 testing within respiratory panels. Severe Acute Respiratory (SARI) Syndromic Surveillance includes COVID-19 testing within respiratory panels. *Ad hoc* targeted sampling and testing as directed by public health services.
COVID-19 specific testing surveillance	Whole Genome Screening for variants from border, community, and hospital NAAT[16] positive cases to enable early detection of variants of concern and changes in virus. ***Note*** the PCR testing is passive testing – collected during the course of clinical care - but the subsequent WGS is generally active surveillance. Environmental - wastewater testing: targeted genotype testing to monitor rates and distribution of variants within a region(s) or targeted setting; estimate levels of infection via quantitation; presence/absence testing where appropriate.
Passive SARS-CoV-2 testing surveillance	
Captured as part of testing priority groups.	Community/Primary care: Laboratory based NAAT/RAT[17] results - monitoring of NAAT testing and case rates. Hospital: Laboratory/hospital based NAAT/RAT - monitoring of NAAT testing rates and results reporting. Self-reported RATs - capture of all reported community performed positive RAT results.

[16] A Nucleic Acid Amplification Test, or NAAT, is a type of viral diagnostic test for SARS-CoV-2 that detects genetic material (specifically the ribonucleic acid (RNA) sequences).

[17] Rapid Antigen Test, or RAT, is a is a rapid diagnostic test suitable for point-of-care testing that directly detects the presence or absence of an antigen.