NRHCC Interim Testing Position for Phase 2 of the Omicron Response

Background

- There are two initial dimensions to consider when thinking about testing for COVID-19:
    - **Who** is to be tested; and
    - **Why** (purpose)
- We have developed a four-level testing hierarchy to identify '**Who'** should be tested, and three broad purposes that cover most potential uses ('**Why'**).

Fig 1. Testing Hierarchy (Regional Testing Position)

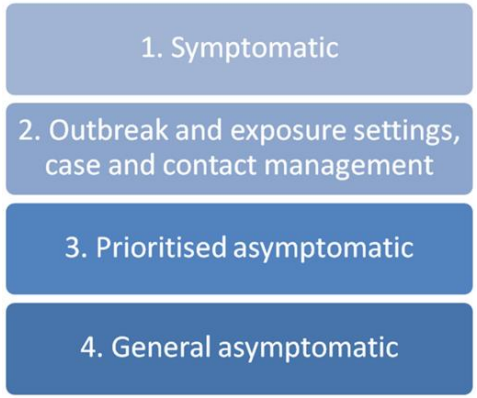
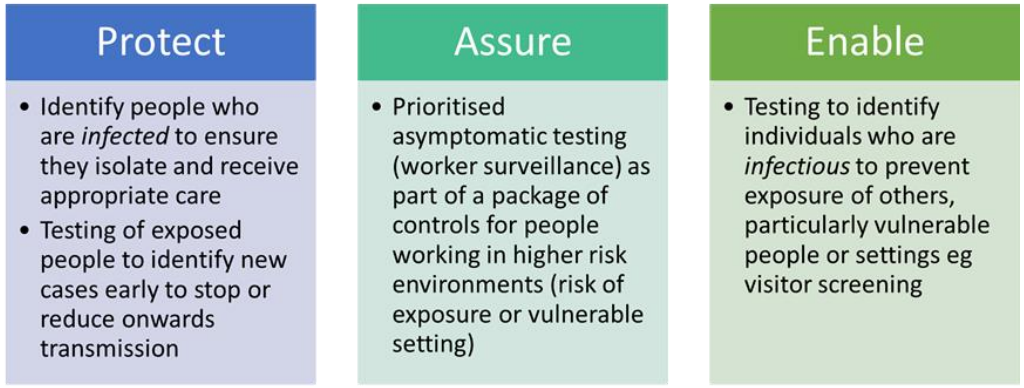


Fig 2. Test purposes (Regional Testing Position)



Testing Principles

1. Protect those most at risk, with a focus on equity (protect & assure)
2. Maintain critical workforces (enable)
3. Ensure equitable access to services (enable)
4. Minimise transmission in high-risk settings
5. Testing should result in an action or otherwise alter management

Introduction

- The type of test and protocol recommended for each purpose depends on several factors including: community prevalence, the timeliness of action required based on the result; equity considerations (especially related to access to testing); and the predictive value of positive and negative tests.
- **Nasopharyngeal swab (NPS) PCR** continues to be the gold standard diagnostic test. Saliva PCR testing is also approved as a diagnostic test, and an oropharyngeal plus anterior nares swab sent for PCR is also accepted as a satisfactory diagnostic test.
- **Rapid Antigen Tests (RATs)** are currently not considered diagnostic, and positive RATs need confirmation with a PCR test. This is set to change at Phase 3 of the Omicron Response Plan[1] when positive RATs will be considered diagnostic without PCR confirmation.
- Frequency and timing are critical factors when considering use of RATs
    - If one off / low frequency testing in low/medium community prevalence, RATs as a screening test have low positive predictive value ('enable' purpose). This means most positive tests will be false positives, and some people with COVID may be missed.
    - For 'assure' purposes, frequent RAT testing can have similar sensitivity to PCR. Current advice for protocol sensitivity is that use needs to be at least every 3 days. More frequent testing, e.g. daily, increases sensitivity where this is needed (e.g. in exposure event management of contacts). It's noted that for shift workers, pre-shift testing ('enable' purpose) may be more appropriate than regular testing (e.g. every 3 days).
    - For 'enable' purposes, RATs can be useful at detecting people who are *infectious* on the day (as distinct from people who are *infected*) as RATs are more likely to be positive with higher viral loads
    - The utility of RATs improves when there is higher prevalence, or higher pre-test probability of being positive (e.g. in close or household contacts of a case).
    - To date RATs have been used for exposure event management (e.g. in ARC); return to work testing for Healthcare Workers (HCW) post-exposure; and as part of patient screening in some settings (e.g. testing pre planned care)

Principles relating to the use of RATs

1. **To promote equitable access to testing**
2. **To increase the likelihood of a test being completed where indicated**
    a. Acceptability of the modality for those who may be reluctant
    b. Distance to testing (an important consideration for rural communities)
3. **To allow rapid decision making for patients, cases, and contacts**
    a. Access to a treatment that has a window of opportunity – i.e. antivirals,

[1] https://www.health.govt.nz/our-work/diseases-and-conditions/covid-19-novel-coronavirus/covid-19-response-planning/omicron-community-what-means-you

b. In hospital as a “ultra-green streaming” protocol: Neonatal intensive care (NICU), Bone Marrow Transplant unit, Maternity Services, Dialysis,
c. In the community e.g. mobile testing: to aid Public Health decisions in exposure event management, cohorting of residents early in ARC, change an individuals’ behaviour etc,
d. Where testing has not been performed prior to attendance at hospital for planned care but need certain procedures – FNE at ENT clinic (protect equity).

4. **To allow us to preserve PCR capacity for where and when it is critical**
    a. Transfer to RATs for approved Healthcare worker surveillance – has sufficiently high protocol sensitivity with frequent use (2-3x per week) and is a reasonable volume to remove from PCR capacity (e.g. approx. 1-2000/week).
5. **To protect vulnerable settings and enable people to visit vulnerable settings**
    a. E.g. as part of visitor screening in high risk areas in hospital (such as NICU, BMT, and oncology day stays); or screening for visits onto Marae

Other Notes & Assumptions

- RAT self-testing has been shown to have lower sensitivity than observed/tester (supervised) samples.
- All the recommendations below need to be contextualised to what is available and preferable – supervised RAT or self testing RAT kits
- Legislation requiring border worker surveillance testing requires PCR currently, so this setting is not an option for RATs use initially.
- Pathways are in place at CTCs and laboratories to enable prioritised PCR testing.
- Aged Residential Care, Primary Care and Māori and Pacific providers have access to order RATs directly from central supplies. Current advice is to hold them for future use but there has been some use in aged care and community pilots, but it is unclear how widespread or consistent these examples are.
- Supply, distribution and training will likely limit our ability to simultaneously enable all of the RATs scenarios in the attached table immediately.
- In principle the recommendation would be to implement “All Prevalence” scenarios first, adding the “medium-high” prevalence scenarios if supply allows. If prioritisation is required then the hierarchy is:
    1. Critical Workers (Enable purpose); 2. Priority populations (prevent severe outcomes); 3. Prioritised asymptomatic (Enable purpose) - limited
- There is likely to be a short period between phases with signals that a shift to Phase 2 is imminent
- At high community prevalence (synonymous with Phase 3) it is assumed that increasingly people will not need tests for diagnosis and will be managed as assumed COVID (probable cases), with testing conserved to enable clinical care or workforce management
- Key to the decisions about the use of PCR and RAT testing in the coming weeks is the pivot from the elimination strategy and disease profile of the Delta outbreak, to the situation anticipated with the Omicron outbreak. This requires an urgent shift in narrative and communication.
- It is important that we don’t switch on testing for a short time in areas where it may need to be subsequently discontinued

Testing Framework

Testing hierarchy	Use case	Primary Purpose	Prevalence Threshold[2]	Testing Modalities	Transition switch advice
1. Symptomatic	People who are symptomatic	Protect Assure	All	Diagnostic PCR (preferred) Dual testing (PCR + RAT) (in some settings) One-off RAT (exceptional circumstances)	Case-by-case symptomatic use of RATs should be enabled. Train and supply mobile teams to action this case-by-case, particularly for institutional settings including ARC and papakāinga Train and supply providers in rural areas to undertake case-by-case use of RATs, particularly where it alters disposition of patients/patient journey. At present this will likely be ARPHS/MRHC/PRCH directed while protocols are established nationally
2. Outbreak and exposure settings, case and contact management	Healthcare exposure event (EE) management of staff contacts For critical HCWs, management of HCW community exposures as well as health care exposures, and HCW case clearance	Protect	All	Protocolised[3] daily RATs for higher risk exposures	RATs an important part of return-to-work pathways for those critical HCW who are close contacts or cases but are asymptomatic[4] In place now for critical HCWs. Ensure consistent protocols applied and supply for both hospital and community settings. Criticality will be an operational decision; community services may need ARPHS support while protocols are socialised and embedded nationally
	Contact testing in institutional settings e.g. inpatient mental health units	Protect	All	Case by case decision: Protocolised daily RATs +/- PCR in	Continue via mobile testing teams, ensure training and supply, consistent protocols applied – agreed and supported, may still need paired PCR testing in some scenarios At present this will likely be ARPHS directed while protocols are

[2] The community prevalence threshold at which testing becomes **recommended** in each tier. Local risk assessments may determine testing is required outside of these settings. Note that for the purposes of comparison with the Governments Omicron Plan, Low and Medium-Low can be considered Phase 1, Medium as Phase 2 and High as Phase 3.

[3] Protocolised refers to more frequent testing to improve sensitivity. Protocols may be set (e.g. contact management), or recommended by a service/organisation. Current advice for protocol sensitivity is that RATs need to be used at least every 3 days. Recommended protocols here are a minimum. Individual services/settings will be able to set their own protocols based on local need (e.g. shift patterns).

[4] https://www.health.govt.nz/system/files/documents/pages/guidance_for_situations_where_healthcare_workers_are_covid-19_cases_or_contacts_during_an_omicron_outbreak_0.pdf

Testing hierarchy	Use case	Primary Purpose	Prevalence Threshold[2]	Testing Modalities	Transition switch advice
				combination for higher risk exposures	established nationally
	Mobile/outreach testing including household contacts, residential facilities, specific settings (e.g. rural, papakāinga)	Protect	All	Case by case	Case-by-case symptomatic use should be enabled, train and supply mobile teams to action this case-by-case – agreed and supported for early intervention in these settings. At present this will likely be ARPHS/MRHC/PRCH directed while protocols are established nationally
3. Prioritised Asymptomatic: ***Worker surveillance***	HCW providing direct care to patients who are confirmed COVID positive in hospitals	Assure	All	Protocolised RATs, at least every 3 days	As we progress into the Omicron surge, this should be shifted to 'ultra-green areas'. Where people are using PCR currently, RATs are a preferable alternative where it is felt inappropriate to stop surveillance testing in this stream.
	People providing direct or indirect care to COVID positive people, or households e.g. CIQ HCW, Community 'hot hubs', or social care providers	Assure	All	Protocolised RATs, at least every 3 days	Switched on in some settings already. Where it was thought to be of benefit to continue this, switching to RATs will aid in reducing PCR load. RATs could be used as an alternative where it was felt inappropriate to stop surveillance testing.
	People providing care to "high consequence patients" or units with a vulnerable workforce but not in COVID stream, in hospital settings.	Assure	All	Protocolised RATs Localised risk assessment at lower prevalence	Localised risk assessments important to assess use on a case-by-case basis. In higher risk settings, such as NICU, Transplant units and HOP we would plan to conduct worker surveillance throughout the pandemic regardless of community prevalence.
	People providing care to people in vulnerable community settings (e.g. ARC, hospice, corrections, residential health/disability settings Kaumātua specific housing, papakāinga, large	Assure, Protect	High Med	Protocolised RATs	Already underway in some facilities/settings but need to ensure that the testing protocols are sufficient to give assurance (e.g. at great enough test frequency). Will be a high priority for these settings. Specific advice re policy and supply expected from MoH week of 14 February.

Testing hierarchy	Use case	Primary Purpose	Prevalence Threshold[2]	Testing Modalities	Transition switch advice
	whānau households)				
3. Prioritised Asymptomatic: ***Patient screening***	Pre-planned care[5]	Enable	High Med	PCR [If PCR not available on admission, RAT acceptable to avoid deferral.]	Already in practice – we need to consider if testing should continue to be used in this way but as mentioned to prevent deferral of care or to offset PCR use this could be started now to get pathways agreed and operational. Need to consider who is being protected. Some pre-planned care testing is for the patients benefit (risks to proceed if COVID +ve), some is to protect staff. With other measures in place (vaccination + PPE and other IPC), staff protection may become less of a focus. If using RAT as first test, need to include PCR confirmation to ensure care is not deferred for false positive RAT result.
	Patients with potential COVID exposure who are unlikely to access testing or presenting a challenge for follow up	Protect	All	One-off RAT	Agreed and supported, may still need paired PCR testing in some scenarios
	Emergency Department presentations	Protect	High Med	PCR One-off RAT	May be useful to inform disposition decisions. Unlikely to be feasible or desirable for all presentations. PCR remains test of choice initially, RATs an option.
	Patients via non-ED hospital entry points, particularly in vulnerable areas (Delivery suite, Dialysis units, Rehabilitation wards)	Protect Assure	High Med	Pre-entry RAT	We would need to consider if testing should be used in this way but as mentioned to prevent deferral of care or to offset PCR use this could be started now to get pathways agreed and operational. Important consideration would be where masking alone is felt insufficient control (e.g. Haematology or Oncology day stays) or where masking is unable to be maintained during the care pathway (e.g. ENT clinic where

[5] As per "Guidance for COVID screening and testing for identified procedures and surgery" V0.6 26 October 2021, 'planned care' includes: All procedures requiring general anaesthesia; All procedures under LA that are chest up; Women in labour; Services with specific requirements including Respiratory; Bronchoscopy, ETT, TOE, Stress tests, and Endoscopy

Testing hierarchy	Use case	Primary Purpose	Prevalence Threshold[2]	Testing Modalities	Transition switch advice
					FNE is undertaken)
	Screening of patients before admission to a vulnerable facility	Protect	High Med	PCR Dual testing (PCR + RAT) to expedite transfer in certain settings.	RATs maybe a valid option where expedited transfers are needed – admission to inpatient mental health units or ARC facilities.
3. Prioritised Asymptomatic: ***Visitor screening***	Vulnerable hospital and community settings	Enable	High Med	Pre-entry RAT	Visitors will not likely require testing in most cases. However, it may be considered for vulnerable settings e.g. NICU or BMTU as part of 'ultra-green' stream separation, or before visits to ARC.
3. Prioritised Asymptomatic: ***Targeted testing***	*Specific scenarios* community activities e.g. Tangihanga	Protect Enable Assure	All	Case by case	Enable Māori and Pacific providers to use flexibly to support access to testing

Note: Apart from the specific use cases above, wider asymptomatic healthcare worker surveillance is not supported. This guidance will be updated as new policy decisions re access and eligibility are announced.

Appendix: Clinical Technical Advisory Group (CTAG) Recommendations, 2 February 2022

CTAG recommends:

- the priority shift at this point is moving the focus for asymptomatic staff surveillance from the COVID stream to the 'high consequence' (rather than high risk) ultra-green stream. This needs careful communication – this is not a pull back on the safety measures in place for staff working in the COVID stream; it acknowledges the excellent safety record to date with the layers of IPC protection in place to reduce transmission (now also including triple vaccinated staff), and the shift to much greater likelihood of acquisition of infection in the community. It is refocusing the surveillance rather than removing it, and noting it was never the intention that every health care worker would end up doing asymptomatic surveillance.
- Not to implement testing for visitor screening except for the ultra-green stream. Wards are going to be short of staff and have to rely on whānau to help with care; to discourage them from coming would potentially be a greater patient safety risk than an asymptomatic whānau member coming in to assist. It would also be a resource and logistical nightmare to try to implement visitor screening for all groups. It should be clear that people who are unwell should not visit. It was noted that the regional visitor policy has tried to refocus attention to whānau as partners in care and kaitiaki, while trying to reduce the footprint of those 'just bringing in flowers'. Testing for visitor screening makes sense for the high consequence ultra-green stream, alongside asymptomatic staff surveillance in that situation, as part of the package of protection.
- Further engagement is needed to support a common understanding of the purpose of testing for discharge to ARC facilities, and to prevent policies which create 'system block'. When Omicron prevalence is high, PCR testing at the point of discharge won't guarantee that in three days' time the person won't become a case. However, discharge testing can support planning within an ARC in terms of being able to cohort and judicious use of RATs would be appropriate, especially when prevalence is higher and facilities already have multiple Omicron cases.
- It is less clear what the prevalence trigger is for when RAT testing becomes useful in ED streaming and inpatient flow decisions, but it's probably not useful to argue the detail – it will relate to being on the steep growth phase of cases. MoH has chosen 1000 cases / day. There will be a lag time and it may be helpful to start this testing before it is strictly needed so people can be trained and used to it operationally, but again being clear about purpose so unhelpful expectations aren't set up among staff.
- With the emphasis on symptomatic testing, it is important to remind people about the alternative diagnoses we need not to miss (e.g. strep throats in the groups at risk of Rheumatic Fever).
- The importance of good communication about all this is reiterated, including for primary and community services, and our whānau and wider communities.