The Technical Advisory Group for 2019-nCOV teleconference meeting

29 January 2020
12:30Pm – 1:35pm
133 Molesworth

A	**Present** Prof Michael Baker, Prof Stephen Chambers, Dr Anja Werno, Dr Erasmus Smit, Dr Nigel Raymond, Dr Virginia Hope, Dr Shanika Perera, Dr David Murdoch. Dr Caroline McElnay (Chair), **Ministry staff in attendance** Dr Harriette Carr, Dr Tomasz Kiedrzynski, Dr Juliet RumballL-Smith, Dr Niki Stefanoginnis, Dr Richard Jaine and Asad Abdullahi (MoH staff),	
B	**Apologies**: Dr Sally Roberts.	
C.	**Welcome to new attendees** - Caroline welcomed everyone and acknowledged Dr David Murdoch as a new member. She noted this is the second meeting for the group.	
	1.	**Agreed and Actioned**
1.	**TAG Structure combined with item 5** **Rationale**: The meeting noted the magnitude and seriousness the 2019-nCoV situation in China. It is clear this is a highly dynamic situation. There is a lot of requests for technical details and a single TAG cannot adequately meet the demand. Caroline has been talking to members of this group about creating sub-groups that report to the existing TAG structure. ***Recommendation one:*** *The setting up of the following subgroups were agreed on:* • ***Infection Prevention and Control Sub-group*** *– Dr Sally Robert (Lead) – Dr Niki Stefanoginnis (MoH contact)* • ***Epidemiology Sub-group*** *– Dr Michael Baker (Lead), Dr David Hayman, Nick Wilson, Jodie McVernon (in Melbourne) and potentially others, ESR representative, Dr Richard Jaine (MoH Contact).* • ***Laboratory Sub-group*** *- Dr Anja Werno (Lead), New Zealand Microbiology Network (NZMN) as the core of the group* • ***Public Health Sub-group*** *- Dr Shanika Perera (Lead) – Dr Harriette Carr (MoH Contact).* ***Action:*** *Shanika and Harriette to discuss public health aspects* *Richard and Michael to discuss Epidemiology aspects.* **Additional comments:** • Is a clinical management subgroup needed? . • Is a primary care subgroup needed or any other subgroup? • Potentially could combine the public health and epi subgroups • It was noted that primary care is not represented on the TAG • Subgroups need to first focus on specific technical guidance/advice and then discuss the system impacts for example if the public health subgroup has a recommendation then the implications of their recommendation on the work of the Laboratory subgroup or any other subgroup should be discussed at TAG.	**Recommendation one** *Create TAG subgroups to do work on -Infection prevention and control, laboratory testing, public health and epidemiology* **Action (1):** *Subgroups Leads and MoH Contacts to discuss how the subgroups can better be joined-up.* *Harriette and Shanika – public health* *Michael and Richard – Epi.*

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	• The overall guidance and advice that TAG puts together has to be joined up and some thinking has to go into translating the technical advice into practical implementation and how that will affect different parts of the system.	
2.	**Case Definition Option B (as per the Case definition paper circulated).** **Additional comments:** • MoH has reviewed and assessed all the feedback received from TAG • CDC has a more sensitive case definition than CDNA. • Casting wider at this stage is better than narrow case definition as there will be a range in clinical presentation and also in risk of transmission • Option B is easier to understand • Option A is quite complicated based on the epidemiology which does not seem manageable at practical level and option B is consistent with Australia. • The suspect case definition needs clarification as we are beginning to see testing happening where the case does not meet the suspect case definition and there is risk of over-testing. • Over-testing at the very early stages is a good idea as that's when containment of the disease might work • It's difficult for GPs to distinguish between upper and lower respiratory viral infections based on the clinical symptoms. • Careful thinking must go into the resourcing implications of option B as this may lead to higher number of cases identified, more testing, what public monitoring will look like, whether they require hospitalisation, do all contacts need monitoring or wait until they are confirmed. • If we adopt option B – we are not going to automatically adopt the Australian contact management - this has to be adopted to our context. Further work is needed on what it means for public health follow up and primary care. • Every term in the definition need to be defined e.g. 'sudden', 'sustained outbreak' and actual clinical symptoms.	**Recommendation two** *Option B as presented (refer to agenda item 2 paper) was endorsed and adopted with the addition of sore throat as a symptom, along with cough and shortness of breath).* **Action (2):** *Every term in the case definition need to be defined 'sudden', 'sustained outbreak'– MoH to action.*
4.	**Infectivity and transmissibility** A key factor that influences transmission is whether the virus can spread in the absence of symptoms – either during the incubation period or in people who never get sick. Richard tabled a summary paper- infectious period for 2019-nCoV which was discussed. **Background:** Media reports on the virus being infectious in those asymptomatic seems to have stemmed from a single Lancet paper that looked at a family cluster and one child in the infected family had no symptoms, but a chest CT scan revealed he had pneumonia and his test for the virus came back positive. **Additional comments:** Provide advice to the public and ask people to take particular care about hand hygiene and social distancing Need to be aware of the risk setting such as child care/schools, hostels, prisons, etc where transmission can occur.	**Recommendation three** *There is currently not enough evidence to assume asymptomatic person can transmit the virus and in the absence of further data evidence confirming that this is the case – no policy or procedures is going to change based on this single case.* *After Further information was received (via email) after the meetin, a consensus was reached that a precautionary approach be adopted.* *TAG **recommends** that:* • *Returned travellers from Hubei province of China*

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		should self-isolate for 14 days after leaving Hubei province • *contacts of confirmed case should self-isolate at home for 14 days following exposure* • *the individuals in these categories should avoid high risk settings for 14 days including child/care, schools, age care and healthcare facilities.*
3.	**Risk Assessment –** **Niki summarised the risk assessment level as follows:** *The likelihood of one or more imported cases of 2019-nCoV infection in New Zealand* is **moderate to high**. This assessment considers that the reported numbers are rapidly increasing overseas, New Zealand has close transport links to China, and Chinese New Year celebrations are underway. *The likelihood of limited person-to-person transmission is* **low to moderate** and *the likelihood of sustained transmission, and widespread outbreaks, is* **low**. This assessment considers the evidence to date which suggests limited human-to-human transmission and assumes that symptomatic cases transmit the virus and that the timely and robust management of both cases and their contacts will limit the spread of disease. There was discussion based on the latest epidemiology and amended the risk assessment as high likelihood of a case in New Zealand; moderate likelihood of limited human to human transmission. There is an low overall likelihood of a sustained outbreak but this likelihood **may be high** in some settings (e.g. hostels, institutions, aged care facilities, childcare and schools)	**Recommendation four** *That the risk assessment be adapted as follows: The likelihood of one or more imported cases of 2019-nCoV infection in New Zealand* is **high** *The likelihood of limited person-to-person transmission is* **moderate** and *the likelihood of sustained transmission, and widespread outbreaks, is* **low,** *notwithstanding, it* **may be high** *in some settings (e.g. hostels, institutions, aged care facilities, childcare and schools)*
5.	**New Zealand Microbiology Network (NZMN)** to lead technical guidance item combined with Item 1 above.	
6.	**Primary Health Guidance Document** MoH has received feedback on the current document. TAG to send any further comments/feedback they may have to Dr Tomasz Kiedrzynski,	
7	**No other business item discussed**	
8.	**Next meeting:** Monday 3 February @3:00 – 4:30pm TBC	

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Minutes: Technical Advisory Group (TAG) for COVID-19

Date:	Friday 04 September 2020
Time:	10.30am – 11:30am
Location:	Meeting URL: 9(2)(k) [redacted]
Chair:	Dr Ian Town
Members:	Dr Anja Werno, Dr Bryan Betty, Dr Erasmus Smit, Dr Matire Harwood, Professor Michael Baker, Dr Nigel Raymond, Dr Shanika Perera
Ministry of Health Attendees:	Andi Shirtcliffe, Asad Abdullahi, Louise Chamberlain, Dr Tomasz Kiedrzynski, Dr Juliet Rumball-Smith, Dr Richard Jaine, Dr Caroline McElnay, Dr Harriette Carr, Margareth Broodkoorn, Dr Niki Stefanogiannis
Guests:	
Apologies:	Assoc Prof Patricia Priest, Dr Collin Tukuitonga, Dr Virginia Hope, Dr Sally Roberts, Sarah Mitchell, Jeremy Tuohy

1.0	**Welcome and Previous Minutes** Dr Ian Town welcomed all Members and Attendees in his capacity as Chair of the Technical Advisory Group for COVID 19. Minutes of the last meeting (21 August 2020) were accepted.
2.0	**Update on open actions** Open Actions updated. Action 57 closed.
3.0	**Ministry of Health update on COVID-19 response** • Small number of cases indicates that the recent outbreak seems to be tailing off, but as per New Zealand's previous experience this can still last a long time. • Genome sequencing has added an important dimension in understanding the connection between cases. Resurgence Planning • Lessons learned from the first wave have been put into practice providing a rapid and proactive response to the first case. • The National Contact Tracing Centre has been working to support Auckland with the assistance of several Public Health Units across the country. Success is partly attributed to the centralised database system.

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	• Formal adoption of the MOH Emergency Operations Centre has also contributed to better communication and coordination within the Ministry and across the sector.
	
	TAG feedback:
	
	• Query to how effective is the removal of positive cases to quarantine facilities in preventing secondary cases.
	  ○ This outbreak has involved a number of cases of family with children, who were sent to MIQs with their parents.
	
	• Clarification was asked on the use of N95 masks by Health Care Workers in contact with Higher Index of Suspicion (HIS) patients in the community since the positive case of a health care worker in Tokoroa.
	  ○ An adverse event review is being undertaken to determine the cause of the Tokoroa HCW incident, before it can be considered due to the use of improper PPE and any other actions to be taken.
	
	• Suggestion of the use of more nuanced Alert Level System (i.e. AL1.5, AL 2.5) considering minimal cost and disruption measures of risk management. Suggestion that an Alert Level 2.5 would include mandatory mass masking in indoor environments and seal of the borders between city states with an outbreak in the community.
	  ○ A more nuanced approach is needed, and work has commenced at the Ministry to refine the levels and control measures
	
	• A reminder that the term Community Transmission is being used liberally and it is important to make the distinction between Community Clusters and Sustained Community Transmission, the latter being of greater concern.
	
	• Query to the importance of having serology testing on HIS patients' whānau in the control of the outbreak.
	  ○ Serological testing would be important in identifying outbreak dynamics before symptomatic onset.
	  ○ The understanding is that it will be used in particular sub clusters to identify how they are linked to the outbreak.

4.0	**COVID-19 Health System Response Directorate** • The COVID-19 Health System Response directorate has been established. The Science and Technical Advisory (STA), which TAG is a part of, has been paired up with Intelligence & Surveillance Workstream, Epidemiology, and Behavioural Insights under the new Science & Insights Group. • The STA Work Programme has 250 line-items of research areas that are either being commissioned, undertaken internally across the Ministry or being monitored by ESR and HRC projects. There are also 110 active research projects active at the moment. • Key, amongst the new pieces of work is a review of testing and surveillance done by the COVID-19 Testing oversight group, co-chaired by Sir Brian Roche and Heather Simpson. • STA is also developing an internal repository of latest evidence about the virus, treatments and the prospect of the vaccines to assist the staff across the Ministry in their work. • Discussions are being held on how to make this information available to members of TAG and key advisors along with staff in other government agencies.

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5.0	**TAG Workstream Update** See above
6.0	**Testing** • There is an intense political interest in the Surveillance and Testing planning. • An Expert Working group is reflecting on the Testing Strategy and analysing data from the previous week. Its been suggested the use of a risk-based approach rather than a blanket approach to the Testing Strategy. • A strong statistical and modelling framework to the testing plan will help the Ministry understand the degree of certainty a testing plan can provide. **Implementation of the Saliva Testing** • Many laboratories are experimenting with saliva testing, mainly spiked samples. • Paired nasopharyngeal & saliva samples are starting to be gathered from Jet Park MIQ. • LabPLUS will run the samples through their normal system. ESR will run the samples through one of their automated extraction machines • ESR is also using the saliva-direct method. • Full validation of the method will take some time as for the need of pairing saliva and swab samples. TAG Feedback: • Question about testing data capture and if coding test requests have been implemented ○ Reason for testing is now being captured in the Éclair electronic referral system. Information on how data is being used analytically will be gathered and brought back to TAG.

7.0	Re-shaping of the Elimination Strategy
	• The Elimination Strategy has not changed, but there is a strengthening of the pillars of the existing Elimination Strategy.
	• The four pillars are:
	  ○ Border controls
	  ○ Robust case detection and surveillance
	  ○ Effective contact tracing and quarantine
	  ○ Strong community support of control measures
	• Some pillars fall more of under the Ministry of Health and some more the All of Government group, but all have been active looked at in ways they can be strengthened
	• For the contact tracing and quarantine pillar, one of the differences this time around is the use of Managed Isolations and Quarantine facilities.
	• The Ministry is also current working on and seeking further advice on contact tracing and the concept of recursive contact tracing – proactively contacting contacts of contacts.

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	• The Ministry has identified the need to get a wider understanding of the behavioural drivers that will support the behaviour expected from the population and shake people out of the complacency experienced on Alert Level 1. • TAG will, as usual, be used to provide guidance and feedback. TAG Feedback: • Suggestion of information being developed for people before they arrive in New Zealand; providing information on ways to minimize the risk of acquiring an infection a week before they leave.
8.0	**Māori Health Perspectives** • The Chair mentioned a publication of NZ Medical Journal about the risks of uncontrolled spread within Māori communities given other access inequalities and acknowledged that due to the work done by Māori Pandemic Coordination Group fortunately some of the dire predictions have not happened. ○ A collective approach is required to keep Equity and Māori Health in mind. Leadership has been shown and Māori communities have come together to keep all safe. • Māori communities still struggle with lack of work, loss of employment and access to kai.
9.0	**Pacific Health Perspectives** • No updates given.
10.0	**Any other business** • No items discussed.
11.0	**Agenda items for next meeting** • Recursive contact tracing and digital tools to assist on identification of contacts.
	New Action Items raised during meeting • No actions raised.
Meeting closed at **11:40am** Next meeting **Friday 18 September 2020 – 10:30am – 12:00pm**	

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Action #	Agenda item	Actions	Action Owner	Updates	Status
57	Subgroup Activity Updates	TAG Chair to be in contact with the Ministry's workforce team regarding the concern around lab workforce	Chair	04/09 - The Ministry is very aware of the issue. Labs are proactively preparing for a surge and are managing with their staff and new teams. 21/08 - Ongoing 06/08 - Ongoing 24/07 - Action raised	Closed

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Minutes: Technical Advisory Group (TAG) for COVID-19

Date:	Friday 18 September 2020
Time:	10.30am – 11:30am
Location:	Meeting URL: 9(2)(k) [redacted]
Chair:	Dr Ian Town
Members:	Dr Anja Werno, Dr Bryan Betty, Dr Collin Tukuitonga, Dr Erasmus Smit, Dr Matire Harwood, Professor Michael Baker, Assoc Prof Patricia Priest, Dr Sally Roberts, Dr Shanika Perera, Dr Virginia Hope
Ministry of Health Attendees:	Andi Shirtcliffe, Dr Caroline McElnay, Dr Juliet Rumball-Smith, Margareth Broodkoorn, Dr Niki Stefanogiannis, Asad Abdullahi
Guests:	Matthew Reid, Jeremy Tuohy, Rebecca Drew, Catherine Marshall
Apologies:	Dr Nigel Raymond, Louise Chamberlain, George Whitworth

1.0	**Welcome and Previous Minutes** Dr Ian Town welcomed all Members and Attendees in his capacity as Chair of the Technical Advisory Group for COVID-19. Minutes of the last meeting (04 September 2020) were accepted.
	Update on open actions There are no open actions.
2.0	**Ministry of Health update on COVID-19 response** • The Chair started by acknowledging the efforts of colleagues in Auckland for their leadership across the system to bring the current outbreak under control. • The Chair also commented on his observations around the speed and effectiveness of contact tracing and testing plus the important role genomic sequencing has played in disease and outbreak management. • One of the key agenda items for agencies is Strategic Planning (see below) • Lack of public commentary by the Director General of Health may be due to the sensitive time for officials as per requirements of the Electoral Commission/State Service Commission. • There is a large amount of work happening at the Ministry to identify a Strategic Planning team which will engage with the wider DPMC group.

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	TAG feedback: • Query to how the COVID-19 Testing Oversight Group relates to AoG, the Ministry of Health and DPMC group. ○ The group was formed at the request of the Minister to provide an assurance review of testing. They will provide a report to the Minister including a range of recommendations to further the implementation of the Testing Strategy.

3.0	**Surveillance Plan Refresh**
	An update about the Surveillance Plan and Testing Strategy was provided by the group manager of Science & Insights. The key points include:
	• It's time to refresh the original plan due to the resurgence in addition to a better understanding of the disease since the plan's original release.
	• An initial scoping meeting has been held with members of the Ministry and ESR.
	• The goals are:
	  ○ To revise the Surveillance Plan and Testing Strategy with focus on implementation.
	  ○ To review the questions from the original plan to assess if they are still the right questions.
	  ○ To include more advice from Statistical Advisory Group.
	• A risk framework has been developed with the help of ESR and Ministry's Expert Working Group. Once completed it will be shared with TAG for peer-review. The 3 key aspects of framework are: risk of exposure, risk of transmission and risk of adverse health outcomes.
	• The approach taken is to work more closely with PHUs early in the design phase.
	• The timeframe for implementation is mid to late October/early November.
	• Until the plan is ready for release, testing data by DHB, ethnicity and age group are being reviewed fortnightly, overlaid with the syndromic surveillance.
	TAG Feedback:
	• Include the rationale for the surveillance plan and strategy and focus on clear communications to those doing the testing in the front line for consistency across the system (especially primary care).
	• Acknowledgment that the current 2-weekly cycle has increased the clarity of testing guidance
	• Query whether the plan refresh will concentrate on items that can be operationalised or will the plan will be kept strategically broad with focus on implementation.
	  ○ The current plan is comprehensive and permissive, but it lacked the operational detail.
	• Regarding the testing data, query if breaking down the reason for testing is part of the scope of the plan refresh in order to guide the financial investment on testing.
	  ○ The electronic laboratory ordering system will be able to provide more information on reason for being tested.

4.0	**AoG Response Group Scenarios (sensitive not to be shared or discussed externally)** The Chair noted the early draft of the AoG Scenarios document created by DPMC. • The Ministry of Health has not formally commented on this document as of yet. • The subject of precision of health terminology in the document has been brought to DPMC attention. • Engament with wider society has been suggested. • TAG comments and feedback will be collated and provided by the end of the day. • Further iteration of the document will be brought to TAG

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	TAG feedback:
	• Lack of mentions of Equity, especially in sections A and C.
	  ○ The Chair offer to connect a member of wider Urutā group directly with DPMC.
	• The importance of the use correct terminology and precision of health terms have been reiterated.
	• Query to the process going forward.
	  ○ The next step is for the Ministry to provide detailed feedback and engagement.

5.0	**Nasopharyngeal Swab (NPS) alternatives for Surveillance**
	Due to increasing consumer resistance to repeated nasopharyngeal swabbing, TAG has been asked for a recommendation on alternatives for surveillance, especially for those frequently tested.
	A paper summarizing of the current alternatives has been prepared by the Science & Technical Advisory and included in the agenda for discussion.
	• No single test will detect all individuals with SARS-CoV-2.
	• At present the only non-NPS testing options are Oropharyngeal swab (OPS), Anterior Nares swab (ANS) or combination OPS-ANS.
	• Testing Saliva is not yet an option in NZ.
	• Combination of OPS-ANS has a higher detection rate and is no more difficult than OPS or ANS alone.
	• Combined OPS-ANS testing has been adopted and considered acceptable by a wide range of organisations.
	• Testing saliva is a useful alternative to NPS but requires validation.
	
	TAG feedback:
	• Different swab types needed for combined OPS-ANS may pose a logistical challenge, however the process of sending sample to laboratories is the same.
	• Sensitivity only makes a difference if the individual is swabbed beyond 7 days post symptom onset.
	• Logistically, for labs to receive NPS and saliva samples, is anticipated as the biggest difficulty.
	• Training needed for workers in testing centres to ensure good specimens.
	• If a there is an agreement to changing the recommendation for the type of swab used, a rollover timeline is important from labs and high-volume processing perspective.
	• Suggestion of offering both types of swabbing to the wider community, not only to border workers.
	• Serology testing in border workers highly recommended.
	• Query about the role of rapid antigen testing, since it is an emerging topic in the literature.
	  ○ There is not enough data to consider rapid antigen testing to be used in isolation, and more validation still required.
	  ○ Sensitivity is the main issue in rapid antigen testing and other new molecular quicker test options arising. Sensitivity of those is around 80% to 90%.
	  ○ Another caveat is the need for frequent testing.
	  ○ Under the current scenario the antigen tests are not suitable for NZ.
	
	Recommendation: TAG broadly accepts the recommendation for a combined OPS-ANS swab for those being tested frequently. The Science & Technical Advisory Principal Advisor will work with the Chief of Pathology and Laboratories, Canterbury Health Laboratories and ESR Clinical Virologist to make the recommendation as precise as it can be.

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6.0	**Close contact of probable or confirmed case: Consistent approach to Testing and Release from Isolation and Decision Tree** **Context:** During the current outbreak in Auckland, some work has been delegated to be managed by other PHUs, in order to speed the follow-up of symptomatic close contacts. One potentially contentious area was the testing protocol to determine if a contact is becoming a case and how to release them at the end of quarantine. TAG was presented with a paper written by Medical Officers of Health with a suggested approach and asked for feedback. TAG Feedback: • Clarification that the 3-test protocol is a national protocol to classify symptomatic close contacts who initially test negative. • Clarification is needed on what is expected with asymptomatic testing. • Consideration for keeping people in quarantine for 14 days with follow-up with a serological test a week after release. • Serology testing needs to be included in the diagram as PCR testing plus serology increases sensitivity from 92% to 96%. • Testing people 4 times seems excessive. • The Office of the Director of Public Health is currently working on serology testing in order to advise its use in Public Health. • Asymptomatic testing was implemented in this current outbreak and its value needs to be assessed as an approach going forward. **Agreed** that the Contact Tracing team would convene a small group to finalise the advice.
7.0	**Māori Health Perspectives** The use of remote consultation for those with English as a second language was raised as an issue by Urutā at an informal meeting of the former Primary Care subgroup.
8.0	**Pacific Health Perspectives** No update given
9.0	**Any other business** Other issues raised at informal meetings of the former Primary Care subgroup are: • The general stress among GPs in South Auckland. • The aerosol vs droplets spread issue in home visits for HIS patients.
10.0	**Agenda items for next meeting** No specific agenda items discussed.
	New Action Items raised during meeting No new action items raised.
Meeting closed at **11:45am** Next meeting **Friday 02 October 2020 – 10:30am – 12:00pm**	

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Minutes: Technical Advisory Group (TAG) for COVID-19

Date:	Friday 02 October 2020
Time:	10.30 am – 12:00 pm
Location:	**Meeting URL:** 9(2)(k) [redacted]
Chair:	Dr Ian Town
Members:	Dr Bryan Betty, Dr Erasmus Smit, Dr Matire Harwood, Professor Michael Baker, Dr Nigel Raymond, Assoc Prof Patricia Priest, Dr Sally Roberts, Dr Shanika Perera, Dr Virginia Hope
Ministry of Health Attendees:	Andi Shirtcliffe, Dr Caroline McElnay, Margareth Broodkoorn,
Guests:	Catherine Marshall, Aoife Kenny, Tara Swadi, Naomi Gough
Apologies:	Dr Anja Werno, Dr Collin Tukuitonga, Dr Juliet Rumball-Smith, Louise Chamberlain, Dr Niki Stefanogiannis

1.0	**Welcome and Previous Minutes** Dr Ian Town welcomed all Members and Attendees in his capacity as Chair of the Technical Advisory Group for COVID-19. Minutes of the last meeting (18 September 2020) were accepted subject to the following correction being made to item 5.0 Nasopharyngeal Swab (NPS) alternatives for Surveillance • ~~Sensitivity only makes a difference if the individual is swabbed beyond 7 days post symptom onset~~. • Since addressing screening asymptomatic people, sensitivity is adequate under the circumstances.
	Update on open actions • There are no open actions.
2.0	**Ministry of Health update on COVID-19 response** • Work is focused on Ministry's long-term strategy including the update to the Surveillance Plan, Testing Strategy, Alert levels and Resurgence Planning.
3.0	**Advice for higher-risk international arrivals** TAG members were asked to provide advice on higher-risk international arrivals and high-risk environments including MIF-MIQ.

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TAG feedback included:

Pre-departure Testing

- Pre-departure testing can filter out a few cases, but would need to consider factors such as timing, and accessibility/validity of tests in the countries of origin.
- To gain a true risk assessment about country of origin, knowledge of people's entire travel history for the previous 14 days is needed, not just the most recent departure country.
- Need to identify the range of policy options and make some assessment of their likely effectiveness, cost-effectiveness, and sustainability.
- When going for elimination the price of failure/breaches is high in terms of public health and economic set-backs.
- Consider what the epidemiological data says about risk as a combination of the prevalence in the source country and how many incoming travellers there are from that country.
- Importance of date of onset of symptoms and assessing when people were infected.
- Consider data about whether people are more likely to catch the virus during the week before travel or while in transit.
- Suggestion to maintain day 3 and day 12 nasopharyngeal swab (NPS) tests, plus adding one or two additional saliva tests to increase likelihood of recognising infection earlier and therefore reducing risk of transmission.
- Importance of collecting testing data on day 0 and day 7.
- Rapid antigen testing could be required by airlines, which may remove people who are infectious.
- People in MIF/MIQ with acute infection could be re-tested after day 12.
- Note 'long term excreters' are possible, with people being PCR positive for weeks or months after infection.
- Passenger and aircrew tiredness after a long journey and other human factors such as close conversations while in MIF/MIQ may result in IPC practices not being observed undermining any pre-departure testing.

Policy options will be drafted and circulated to TAG members for comment

Incubation Period

- Note background paper did not include information about the latent period vs the incubation period, as well as asymptomatic vs pre-symptomatic infection.
- Some specific guidance in terms of home isolation and testing would be advisable after the 14-day period.
- Incubation periods can be unhelpful and unhelpful metric as it is unsound from a virological point of view ie respiratory viruses tend to have a short incubation period.
- The long-incubation cases in literature were from the beginning of the pandemic when understanding the disease was limited and relied on people recalling having initial symptoms.
- PCR tests replaced the need to rely on clinical symptoms.

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	• Re-testing the particular case in question is most likely to the possibility of the infection being acquired while in transit or while in MIF/MIQ, not long incubation periods. • If MIF/MIQs are considered a high-risk environment, a review of post-release management should be undertaken. **Fomite Transmission** • Fomites are really important in health care, but there is little evidence of significant fomite transmission of SARS-CoV-2 in literature. • Important to strengthen the message around hand hygiene practices. • The danger around fomite transmission in MIF/MIQs environment can be reduced with proper cleaning. • Transmission via aerosolised particles should not be excluded eg in a lift. • Addressing transmission in planes. Air NZ is encouraging the use of facemasks on domestic flights, however since returning to serve drinks and snacks in these flights, there was an impact on the proper use of masks and challenges adherence to IPC practices. • Science & Technical Advisory is undertaking work around airborne and fomite transmission. **Virulence of Different Strains of SARS-CoV-2** • There is currently a debate around the D614G mutation having greater infectivity, possibly due to a more stable interaction between the S1 and S2 sub-units and increased uptake. • Apart from that there is no evidence that certain strains of SARS-CoV-2 are more virulent than others. **Impact on Sensitivity** • Timing and technique of swabbing can make an impact on sensitivity in 'long term excreters' but would make no difference to acute cases.
4.0	**Māori Health Perspectives** No update given
5.0	**Pacific Health Perspectives** No update given.
6.0	**Any other business** New Zealand definition of quarantine and isolation, changing and/or rectifying the terminology.
7.0	**Agenda items for next meeting** No specific agenda items discussed.
	New Action Items raised during meeting No new action items raised.
Meeting closed at **11:40am** Next meeting **Friday 16 October 2020 – 10:30am – 12:00pm**	

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Minutes: Technical Advisory Group (TAG) for COVID-19

Date:	Friday 16 October 2020
Time:	10.30 am – 12:00 pm
Location:	**Meeting URL:** 9(2)(k) [redacted]
Chair:	Dr Ian Town
Members:	Dr Anja Werno, Dr Bryan Betty, Dr Erasmus Smit, Dr Matire Harwood, Professor Michael Baker, Dr Nigel Raymond, Assoc Prof Patricia Priest, Dr Sally Roberts, Dr Shanika Perera, Dr Virginia Hope
Ministry of Health Attendees:	Andi Shirtcliffe, Dr Juliet Rumball-Smith, Louise Chamberlain, Dr Richard Jaine
Guests:	Prof Michael Bunce
Apologies:	Dr Caroline McElnay, Dr Collin Tukuitonga, Margareth Broodkoorn

1.0	**Welcome and Previous Minutes** Dr Ian Town welcomed all members and attendees in his capacity as Chair of the Technical Advisory Group for COVID-19. Minutes of the last meeting (02 October 2020) were accepted.
	Update on open actions There are no open actions.
2.0	**Ministry of Health update on COVID-19 response** The Chair gave an update on current issues being worked on in the Ministry: • Work continues on stablishing the Strategic Planning Framework, led by the Director-General advised by a steering group that includes several members of ELT. • Framework will inform the incoming Government on the COVID-19 response and indicate and proposed changes to the Elimination Strategy. • Work also includes the review and updates to the Surveillance Plan, Testing Strategy and Outbreak Response Management. Once the review is completed and finalised internally at the Ministry, it will be brought to TAG for advice and feedback. • An expert panel including members of TAG will be established to discuss and provide advice on establishing new policies related to testing technologies and techniques.

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3.0	**COVID-19 in Health Care and Support Workers Report** The Chair noted the COVID-19 in Health Care and Support Workers in Aotearoa New Zealand report, taken as read, and TAG members were invited to comment. TAG feedback: • Query to whether the PHUs have collated their experience with clusters and the chain of transmission. • More qualitative research around Health Care and Support workers' experience and impact in areas not covered in previous reviews. • Report lacked information around MIF and MIQ workers, but expectation is that recommendations and actions derived from this report to also cover these settings. • Standardisation of template to promote understanding across different reports.
4.0	**Auckland August Outbreak (sensitive not to be shared or discussed externally)** The Chair acknowledged the openness of the Director-General in allowing a set of ELT documents about the lessons learned from the Auckland August Outbreak to be shared with TAG. TAG feedback: • Concern around dissemination of information to the point confirmed cases could potentially be identified. • Highlight the need for Māori and Pacific specific responses to address the diversity of the communities and religious, language and other access barriers. • The Ministry needs to proactively build relationship with leaders of other communities. • Need to strengthen and clarify communications with the sector. • Clarification about the age distribution of cases reported in the second outbreak being younger than the age distribution of cases reported in the first half of the year. • Query whether the report includes the Christchurch cluster and other sub-clusters. o A second report about the Christchurch cluster is being prepared in conjunction with MBIE. Age distribution will be extracted from the ESR report for clarification.
5.0	**COVID-19 Resurgence Plan V.2** The Chair noted the second version of the COVID-19 Resurgence Plan and spoke about the ability of using a wider framework in developing Regional plans and SOPs as well as the implementation of new technologies for contact tracing. The response this time around has been reported as more robust and pushed staff to operate at speed. The progress towards a more structured national public health network will provide support for smaller centres. Ongoing professional support and adequate time off are important considerations. The next planning priority is immunisation, with three or four vaccine types anticipated in the first half of 2021.

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6.0	s 9(2)(ba)(i) [redacted]
7.0	**Māori Health Perspectives** Update included on discussion of item 4.0
8.0	**Pacific Health Perspectives** No update given.
9.0	**Any other business** The Chair noted the two Lancet Public Health articles include in the agenda for information.
10.0	**Agenda items for next meeting** No specific agenda items discussed.
	New Action Items raised during meeting No new action items raised.
Meeting closed at **11:40am** Next meeting **Friday 30 October 2020 – 10:30am – 12:00pm**	

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Minutes: Technical Advisory Group (TAG) for COVID-19

Date:	Friday 30 October 2020
Time:	10.30 am – 12:00 pm
Location:	**Meeting URL:** 9(2)(k) [redacted]
Chair:	Dr Ian Town
Members:	Dr Collin Tukuitonga, Dr Nigel Raymond, Assoc Prof Patricia Priest, Dr Sally Roberts, Dr Virginia Hope
Ministry of Health Attendees:	Andi Shirtcliffe, Louise Chamberlain, Niki Stefanogiannis, Aoife Kenny, Anna Cook, Bronwyn Croxson, Michael Bunce
Guests:	Samantha Fitch, Nic Blakeley, Philippa Yasbek, Bevan Lye, Simon Everitt
Apologies:	Dr Anja Werno, Dr Bryan Betty, Dr Erasmus Smit, Dr Caroline McElnay, Margareth Broodkoorn, Professor Michael Baker, Dr Shanika Perera, Dr Matire Harwood, Dr Juliet Rumball-Smith

1.0	**Welcome and Previous Minutes** Dr Ian Town welcomed all Members, Attendees and Guests in his capacity as Chair of the Technical Advisory Group for COVID-19. Minutes of the last meeting (16 October 2020) were accepted.
	Update on open actions **Therapeutics** • Feedback and questions from TAG members were collated and sent to the COVID-19 Innovation Acceleration Fund (CIAF) team. • The Ministry is keeping a watching brief on therapeutics.
2.0	**Ministry of Health update on COVID-19 response** The Chair gave an update on current issues being worked on in the Ministry: • Briefings have been prepared and are ready for the incoming Government. • Resurgence planning work has been completed. • The final Surveillance Strategy will be back on the agenda for a future TAG meeting. • COVID-19 card trial to start in Rotorua and final refinement plans contact tracing system and the Ministry contact tracing app.

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	• The Ministry is working on improving its data and analytics function, with an imminent upgrade to the website, with better and more organized data, along with sophisticated access to real-time data viz dashboards. • MBIE and MoH are running workshops on the research agenda for COVID-19 and future requirements for wider and long-term research in preparedness and capacity building in infectious diseases.
3.0	**Reviewing the Elimination Strategy: Border Settings** As part of the first stage of the work underway to review New Zealand's COVID-19 Elimination Strategy, TAG members were asked to provide advice on changes that should or could be made to border settings and MIF-MIQ based on the latest public health evidence. TAG Feedback included: • While a review of the current the set of measures to ensure it is kept proportionate to risk has been underway, there is a need to exercise caution of opening the borders. • One area of concern is the fatigue amongst primary care, laboratory MIF-MIQ staff. • Reducing the isolation time for people travelling from low-risk countries could impact the risk of people entering the health system. • Importance of balancing the costs of maintenance M F-MIQ versus outbreaks of disease, in order to know where to invest time and resources. • From an IPC perspective MIF-MIQ are not really fit for purpose facilities. • Public perception and which measures the NZ public considers acceptable • Slow progress has been made in collecting and storing saliva samples due to the technical difficulties as well as public adherence. • Considering a person with a negative PCR on day 3, it will not be appropriate to support an early release from isolation into full households. That brings up the inequity issue of low to middle income families, who will not have an empty home to self-isolate. • Early release of isolation could also present a problem in releasing some but not all members of the same bubble. • Importance of allowing Recognised Seasonal Employer (RSE) workers into the country with an option of isolating at working facilities rather than MIF-MIQ. • Experimenting with different isolation requirements for cohorts and monitor the level of compliance and whether risk-factors for non-compliance might be. • Acceptance that any loosening up could increase cases in the community. • Trying out different testing modalities and testing frequencies. • Clear communication that once vaccines become available and while it may be possible for some to be vaccinated prior to departure, it will not indicate opening of the borders. • Have isolation facilities located away from major centres of economic activity. • RSE workers from the Pacific will be from low-risk countries and traditionally NZ partners. • Ensure the use of the best testing technology with high sensitivity tests prior to release. • Reminder that isolating people from the rest of the population is different from isolating them from each other and being careful to not allow transmission chains to set up within the former.

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4.0	**Māori Health Perspectives** No update given.
5.0	**Pacific Health Perspectives** Update included on discussion of item 3.0
6.0	**Any other business**
7.0	**Agenda items for next meeting** No specific agenda items discussed.
	New Action Items raised during meeting No new action items raised.
Meeting closed at **11:40 am** Next meeting **Friday 13 November 2020 – 10:30am – 12:00pm**	

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Minutes: Technical Advisory Group (TAG) for COVID-19

Date:	Friday 13 November 2020
Time:	10.30 am – 12:00 pm
Location:	**Meeting URL:** 9(2)(k) [redacted]
Chair:	Michael Bunce (Acting)
Members:	Dr Erasmus Smit, Dr Nigel Raymond, Dr Sally Roberts, Dr Shanika Perera
Ministry of Health Attendees:	Andi Shirtcliffe, Louise Chamberlain, Samantha Fitch, Aoife Kenny, Kate Rose, Richard Jaine, Mary van Andel
Guests:	Nic Blakeley, Bevan Lye, Simon Everitt
Apologies:	Dr Anja Werno, Dr Bryan Betty, Dr Collin Tukuitonga, Professor Michael Baker, Dr Virginia Hope, Dr Caroline McElnay, Dr Ian Town, Dr Juliet Rumball-Smith, Dr Matire Harwood, Margareth Broodkoorn, Assoc Prof Patricia Priest

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1.0	**Welcome and Previous Minutes** Michael Bunce welcomed all Members and Attendees in his capacity as Acting Chair of the Technical Advisory Group for COVID-19. Minutes of the last meeting (30 October 2020) were accepted subject to the following correction being made to item 3.0 Reviewing the Elimination Strategy: Border Settings • ~~Reducing the isolation time for people travelling from low risk countries could impact the risk of people entering the health system.~~ • Reducing the isolation time for people travelling from low-risk countries, to allow more people from high-risk countries to occupy the vacated MIQ room-days, would result in greater risk overall.
2.0	**Ministry of Health update on COVID-19 response** The Acting Chair gave a brief update on some of the topical science that Ministry's Science & Technical Advisory (STA) team were watching and reviewing: • The STA has launched the COVID-19 Pātaka Knowledge Hub • Pfizer vaccine data has been reported 90% efficacy and protection in the vaccine group relative to the control group. New Zealand has secured 750k double doses • As part of the community surveillance strategy ESR has been working on wastewater testing – the Ministry is reviewing this together with swab-based environmental testing. • The Ministry along with ESR and Universities across New Zealand have worked together and will soon publish a paper about COVID-19 transmission in airplanes

	• Rapid testing technology still constantly appearing in the news with mixed results around efficacy and sensitivity • Large paper in Lancet Psychiatry shows that among 60K people in the USA 1 in 5 show symptoms of mental health problems • A paper published in Nature on 11 November 2020 on mobile phone tracking data show that fully occupied restaurants, gymnasiums and rubbish bins represent some of the major points of transmission.
3.0	**Advanced Review of the Surveillance Strategy** TAG members were asked to provide feedback on the new Surveillance Strategy which will shortly replace the Surveillance plan. TAG feedback included: • Include wastewater testing and environmental testing in the sentinel surveillance • Environmental sampling in the absent of known community transmission could be used to understand sensitivity for detecting infectious people and use it as a tool in a community outbreak • Importance of having data on the reasons tests have been taken • Early detection of symptomatic people should still be a priority • Incorporate a note on how surveillance might change if a vaccine is available. After borders are opened, the focus on elimination could possibly transition to a flatten the curve strategy • Incorporate in the document reference to the parameters of vaccination and strategy of post-vaccine time • Clarify the use of 'monitor' in relation to IPC measures • Include 'community pharmacies' when writing about other community settings in future proofs of the document Consider including Situation Reports in the material sent to TAG members. The acting chair asked for any final comments to be sent to the Intelligence and Surveillance team asap for consideration prior to finalising the document.
4.0	**Reviewing the Elimination Strategy: Findings of Keep it Out Pillar** • In the interest of time, comments and feedback about this document will be submitted via email to the policy team.
5.0	**Reviewing the Elimination Strategy: Prepare for It and Stamp it Out** Continuing our work to review the Elimination Strategy for COVID-19, TAG members were asked to provide feedback on the second pillar 'Prepare for It and Stamp it Out', focusing on detection and surveillance, contact tracing, case management, and public health measures. Its was noted that some of the conversations regarding the Surveillance Strategy apply equally to this discussion. TAG feedback included: • Increasing test frequency (using faster or non-invasive tests) might help, but it would not make-up for loss of sensitivity in New Zealand's COVID-19 context • In terms of Resurgence, increasing the frequency to review the Case Definition should not be necessary, only if there are changes that would affect Probable or Confirmed case definitions.

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	• Preference for remaining with PCR testing instead of opting to use lower sensitivity antigen tests. Such tests may play a role in detecting people that are actively shedding virus. • Additional public health measures could be considered in high-risk regions, such as regions that have MIQ facilities, in order to make Alert Level 1 stronger • Strengthening the public messaging to promote change in mindset for the realisation that NZ will have more cases coming through the border and trade-offs will be required regarding public health measures in the community • Technology can be very helpful in identifying casual contacts, but it would not replace the case investigation/interview process • Some concerns were raised about the amount of information being shared on case details and how much it can impact the trust in the system, discouraging people to disclose symptoms. • Adjusting Alert Levels needs consideration on how dangerous the scenario is but introducing some flexibility might be considered as long as the message remains clear and concise. For example, closing regional borders could be introduced in Alert Level 2 and 3 settings. • Full occupancy restaurants and gymnasiums were hot spots according to American data[1], so caution in proposed changes on Hospitality settings for Alert Levels is advised. Risk-based frameworks are starting to provide empirical data on relative risks of transmission.
6.0	**Māori Health Perspectives** No update given.
7.0	**Pacific Health Perspectives** No update given.
8.0	**Any other business** The Acting Chair asked TAG if there were any items outside of the agenda that could be discussed.
9.0	**Agenda items for next meeting** The Acting Chair asked for any item for the next meeting. No specific agenda items discussed – TAG was asked the send any item to TAG Secretariat.
	New Action Items raised during meeting No new action items raised.
Meeting closed at **11:55am** Next meeting **Friday 27 November 2020 – 10:30am – 12:00pm**	

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[1] Mobility network models of COVID-19 explain inequities and inform reopening - https://www.nature.com/articles/s41586-020-2923-3

Minutes: Technical Advisory Group (TAG) for COVID-19

Date:	Friday 27 November 2020
Time:	10.30 am – 12:00 pm
Location:	**Meeting URL:** 9(2)(k) [redacted]
Chair:	Dr Ian Town (till 11am) then Professor Michael Bunce (Acting)
Members:	Dr Anja Werno, Dr Bryan Betty, Professor Michael Baker, Dr Sally Roberts, Dr Virginia Hope
Ministry of Health Attendees:	Dr Caroline McElnay, Louise Chamberlain, Assoc Prof Patricia Priest
Guests:	Anna Cook, Nic Blakeley, Samantha Fitch, Tara Swadi
Apologies:	Dr Collin Tukuitonga, Dr Erasmus Smit, Dr Matire Harwood, Dr Nigel Raymond, Dr Shanika Perera, Andi Shirtcliffe, Dr Juliet Rumball-Smith, Margareth Broodkoorn

1.0	**Welcome and Previous Minutes** Dr Ian Town welcomed all Members and Attendees in his capacity as Chair of the Technical Advisory Group for COVID-19. Dr Town also informed the Members and Attendee that he would leave the meeting at 11am to provide a briefing on the Vaccine Strategy to Ministers. Professor Michael Bunce wold then take on the duties as Acting Chair. Minutes of the last meeting (13 November 2020) were accepted.
	Update on open actions There are no open actions.
2.0	**Ministry of Health update on COVID-19 response** The Chair gave an update on current issues being worked on in the Ministry: • The Prime Minister, Ministers and senior ministerial colleagues have been actively engaged in discussions on the future settings of the Elimination Strategy • There are also important Resurgence Planning activities underway and a Risk Framework being developed with DHBs anticipating any COVID-19 outbreaks that could occur across the holiday period. The Acting Chair gave a brief update on some of the topical science that Ministry's Science & Technical Advisory (STA) team were watching and reviewing:

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	• Cochrane update on mask use was released • CDC modelling paper on multi-layered testing exploring border options • Pre-print study about a deadly virus strain posted online attracts criticism and may raise anxiety about viral mutations • Early trial data shows that the rheumatoid arthritis drugs tocilizumab appears to treat people who are critically ill with Covid-19 • One month out from Christmas, Dr Anthony Fauci just confirmed Santa Claus is immune to SARS-CoV-2
3.0	**Reviewing the Elimination Strategy** Continuing with the review of the Elimination Strategy for COVID-19, TAG members were asked to provide feedback on refining and improving the strategy. TAG feedback included: • Effort into reducing the number of infected people boarding planes coming to NZ from high-incidence countries • Evaluation of the impact of a COVID-19 vaccine becoming available in NZ on other strategy pillars • Support for maintaining a multi-barrier approach • Incorporation of action research approach into the pandemic response – so that any changes to procedures are carefully evaluated • Saliva testing might not be the solution as being suggested considering the difficulty of finding the right collection device, the difficulty of properly assessing the sensitivity of the test and the additional upfront work for labs in handling specimens • Rapid antigen tests have a potential role for triaging but still require a nasopharyngeal swab (NPS) • Increased frequency of testing might counterbalance the need for high-sensitivity tests, considering the compliance of those who need to be tested frequently • Ensure standardised process for taking NPS - anecdotal experience was shared from a Marine Pilot who had 10-20 NPS taken and commented that all have been very different • Suggested wording around 2A pillar 'Careful integration of more rapid tests' • Under 3B pillar, to incorporate communication that address risk and hazard to communities as Alert Level rises
4.0	**Māori Health Perspectives** No update given.
5.0	**Pacific Health Perspectives** No update given.
6.0	**Any other business** • Feedback from the Community Medical Sector was relayed to TAG of concerns in terms of PPE supplies planning and advice in case of significant resurgence in the community. • Disagreement with the latest released MIQF IPC guidance and request to feed back the concerns of unintended consequences for the rest of the Health Sector. • The Chair would explore options to distribute the Ministry's COVID-19 Science Briefing (CSB) with the TAG papers.

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7.0	**Agenda items for next meeting** No specific agenda items were discussed, and TAG members were asked the send any items to TAG Secretariat.
	An announced was made that Louise Chamberlain is leaving the Science & Technical Advisory. The Ministry of Health and TAG members would like to formally acknowledged and express gratitude for Louise's valuable contribution to the COVID-19 Pandemic Response, to wider Ministry and to Aotearoa NZ.
	New Action Items raised during meeting

Action #	Agenda item	Actions	Action Owner
58	Māori and Pacific Health Perspectives	Coordinate with Dr Matire Harwood and invite members of the Te Rōpū Whakakaupapa Urutā for an update on their work.	Louise Chamberlain

Meeting closed at **11:50am**
Next meeting **Friday 11 December 2020 – 10:30am – 12:00pm**

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Action #	Agenda item	Actions	Action Owner	Updates	Status
58	Māori and Pacific Health Perspectives	Coordinate with Dr Matire Harwood and invite members of the Te Rōpū Whakakaupapa Urutā for an update on their work.	Louise Chamberlain	27/11 - Action raised	Open

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