

REPORT OF  
ADVISORY COMMITTEE  
TO OVERSEE THE  
IMPLEMENTATION  
OF THE

# New Zealand COVID-19 Surveillance Plan and Testing Strategy

28 SEPTEMBER 2020

Attached: an additional report by Professor Philip Hill and Sir Brian Roche

## Acknowledgements

Haruru ana te rangi

Rū ana te whenua

Āue e kōrua i ahau, haere rā

He toki kua whakatakoto ki te papa

Kua kore he kupu hou i whakairo i te waka ora

Hāunga ia, kua iro ngā kōrero i ngā waka i te wā o te ora

Hei kawe atu i ngā whakaaro ōu mō tātou ngā mahuetanga iho

He iti nā Mōtai-tangata-rau me ōu pūkenga kua whakatō ki te ngākau o te nui me te rahi

He aroha tē motu

He mahara tē wareware

Kia au te moe i ngā ringa manaaki o Hine-nui-i-te-Pō

Te manakonako nei matou ite tukeke ite au atinga taau i akaruke mai

Meite tiare taau i tanu tei tupu ruperupe ite akamaara kia matou ite akaieie ote oraanga

Te ketaketa ote taura tei tapeka ia tatou, te ua manga ei akamaroiroi ite kopapa

Toou rima akaora kia toro na roto ite ititangata ite au tuatau ki mua

Te vaerua maru, inangaro, oronga, aroa ete akamaroiroi ite tauturu, ka vai teia au taonga e tuatau uaatu

Te mamae nei te pukuatu e te tae nei te roimata ite akaoki atuanga i teia tamaiti Aitutaki kite enua anau

Kia akatere atu ite kauinga o toou vaka kite pae motu ite rangiteitei, kia akameitakiia taau i oronga e i akaruke mai kia matou katoatoa

E noo mate maru ete Metua tane Papa Joe Williams ki roto ie rima o to tatou Atua a Iehova i roto ite rangiteitei

28 September 2020

Hon. Chris Hipkins  
Minister of Health  
Parliament Buildings  
Wellington

Dear Minister

**Implementation of the New Zealand COVID-19 Surveillance Plan and Testing Strategy**

Attached is the completed report in response to the terms of reference re the above subject.

At the outset the Committee acknowledges the extraordinary position that New Zealand as a country finds itself in with respect its response to the pandemic. That is a testament to an extremely wide range of people who have gone above and beyond to achieve the outcomes. Those achievements have created a very solid base upon which to build and move forward.

Having now experienced both the March and August episodes it is timely to reflect on lessons learnt and to identify what could be improved to further mitigate the incursion of the virus. As noted by many, there are no guarantees in that regard but, there are systems and processes that if adopted can very effectively mitigate any outbreak.

In undertaking this work we have talked to many individuals who have been through the events of recent months. They have been very open in their feedback and perspectives.

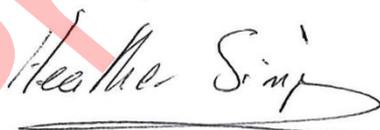
Two key conclusions are clear. Firstly we don't have a status quo model which is well understood and could serve effectively for the next 24 to 36 months – while the model is improving it is not yet fit for purpose over a longer time period. Secondly while there is no debate as to the rationale for wanting a very strong, dynamic and focussed approach to safeguarding our borders – the issue is how. In fact, if anything, there is a desire by many for a more effective, coordinated and aligned approach to that which they have experienced over recent months.

Given that background we have approached the task with a focus of building on what has been established to date, amended and refined as we consider appropriate to best safeguard New Zealand against a situation that is constantly evolving.

The attached report sets out a number of recommendations that we consider would enhance our surveillance and testing strategy at the border and across the wider community.

We are available to discuss and/or elaborate on any issues you may have.

Yours faithfully



Heather Simpson

Co-chair



Sir Brian Roche

Co-Chair

# Introduction

He waka tuku ki tai,  
tūruru ana ngā  
tāngata o runga

He waka toko, tau  
ana te kohakoha

1. In response to a range of issues associated with the delivery and operation of the New Zealand border response the Minister of Health appointed an Advisory Committee to oversee the implementation of the New Zealand COVID-19 Surveillance Plan and Testing Strategy with a view to:

- Determining the extent to which all elements of the strategy are being implemented including testing at the border;
- Identifying any issues or barriers that are preventing the strategy from being implemented, including resourcing, capacity, and legal matters;
- Identifying any improvements that can be made in the implementation;
- Identifying any other matters relevant to the Surveillance Plan and Testing Strategy and the pandemic response; and
- Recommending options and or interventions required to successfully deliver the Surveillance Plan and Testing Strategy.

The Committee comprised Heather Simpson and Brian Roche as Joint Chairs, together with Professor Philip Hill, Dr Apisalome Talemaitoga and Dr Rawiri McKree Jansen.

The full terms of reference is attached as Appendix A.

2. Overall, the Committee found that by the time this report was being written all elements of the strategy, including border testing were under way. However, the Committee also notes that, a full and cohesive implementation has been impeded by:

- poor communications both between and within, the Ministry of Health, various parts of the public service and different parts of the health sector;
- a lack of appreciation of operational implications of directives; and
- poorly designed risk targeting of testing regimes, particularly at the border.

3. With respect to barriers to implementation the Committee found that there are no obvious technical barriers to implementation but it is clear that improvements could be made in a range of areas including:

- forward planning;
- workforce management;
- financial control; and
- the processes for promulgating legal instruments.

Details of issues arising, and improvements which could be made to the planning and implementation of testing, are discussed later within the report. From a structural perspective, the key recommendation relates to the need to clarify mandates and scope and lines of accountability between the currently described COVID-19 All of Government Group (AoG) and the Ministry of Health. This will also require the adoption of a modified style of leadership and operating culture across the response.

## Background

4. While this review will, of necessity, examine a number of issues which have in our view hindered the most effective implementation of the Surveillance Plan and Testing Strategy, it is also important to acknowledge at the outset that by international standards the performance of the New Zealand system in response to the COVID-19 pandemic has been first class. These achievements provide an excellent base upon which to further strengthen and simplify the operations at the border and the response to the pandemic more generally.
5. New Zealand managed to have a period of over 100 days without any detected community transmission within the country and has established border control measures which have ensured that only 2 or 3 staff operating within border facilities have tested positive.
6. When an outbreak did occur in August, and despite the fact that it was not detected at the earliest opportunity, it has been brought under control relatively quickly and while that has required restrictions to be applied particularly in the Auckland region, the severity of these has been generally seen as reasonable in the circumstances.
7. This is a major achievement and while there will always be room for improvement, recommendations in this regard should not be seen as minimizing the success which has been achieved. There have been some very valuable learnings from the initial response in March and the most recent outbreak in August. Those learnings have been an important part of the recommendations set out below and will need to continually feed into the evolution and ongoing refinement of the system.
8. It is becoming increasingly clear that COVID-19 will continue to be present in New Zealand for the foreseeable future. While difficult to be exact, the planning horizon for the recommendations in this report is an assumption that the virus can in one form or another, potentially impact upon the country detrimentally for the next 24–36 months.

## Approach

9. Given the above background the Committee has focused on changes in administrative and delivery arrangements of the surveillance and testing regime, which:
  - de-risks the process;
  - could be sustainable over a significant period of time; and
  - which will give the public and the business community confidence that they understand what is likely to happen in the future and can therefore factor that reality into their own operations and planning.
10. In undertaking the review, the Committee conducted a wide range of interviews and engagement with key participants and stakeholders. In addition, a wide array of Cabinet papers and written advice to Ministers were reviewed, and some Committee members visited a quarantine hotel and the international airport operation to observe the processes first-hand.
 

A full list of stakeholders is attached in Appendix B.
11. In undertaking its tasks, the Committee was also mindful of the need to identify what is required for the future as opposed to a fully forensic fault-based review of the immediate past. Suffice to say there have been issues and factors to learn from – no system is faultless, especially given the nature of the timelines and response required to contain and eliminate the virus from our community.

## Context

12. The COVID-19 pandemic is unprecedented in modern times – it has placed demands on systems and people that were not anticipated and or realistically planned for. The response required a whole of Government approach and this was quickly adopted with the AoG being established within the Department of the Prime Minister and Cabinet (DPMC) recognising that the existing Officials Committee for Domestic and External Security (ODESC) structure was not suited to the scope, depth and duration of the response required.
13. To ensure the approach adopted was driven by public health science, the Ministry of Health was recognised as the lead agency. Similarly, the need for collective actions across the Public Sector was also identified and a whole of government process, involving 20 different workstreams was put in place to support the Ministry.
14. These arrangements managed the initial response and enabled New Zealand to get to the stage where the entire country was able to operate under Alert Level 1. The successful management of that part of our COVID-19 response has not been the primary focus of this Committee's work, except in as much as to whether the relationships and experiences established through that time have helped or hindered the success of the operation going forward.

## Surveillance plan

15. This Committee's terms of reference relate to the Surveillance Plan and Testing strategies. The Surveillance Plan was published on the Ministry of Health's in May and states that it "sets out the overall approach to surveillance of COVID-19 in New Zealand, as one of the core pillars of the overall strategy of disease elimination."
16. The document also states that: "This plan is a living document.....As we learn more about the nature of COVID-19 .. then aspects of the surveillance system will adapt in order to address emerging questions and priorities." The Surveillance Plan has not since been updated.
17. The aims and objectives of the Surveillance Plan (the Plan) are to:
  - Understand the disease;
  - Check the effectiveness and equity of public health strategies; and
  - To understand the indirect impacts of COVID-19.

Although it is noted that the third of these stated aims is not elaborated on in the document.
18. The Plan refers to the need for testing to be ongoing "... to ensure rapid detection of emerging disease transmission in the population. This will still include testing of undetected disease in some groups, particularly those at higher risk and with lower health care access for symptomatic testing. "
19. It further states that: "COVID-19 testing strategy is a key underpinning for future surveillance. ....the testing approach ... will be risk based rather than random, with a focus on escalating levels of testing in high risk populations ... Risk factors considered in targeting such testing will consider:
  - populations with increased risk of infection;
  - populations with more severe consequences of infection; and
  - populations with poorer access to health care where the risk of under surveillance from symptomatic testing.

While the Plan was submitted to the Minister of Health for comment, it was not presented to Cabinet for approval.

## Testing strategies

20. Cabinet considered testing strategies and plan documents at various times, including:
- On 4 May Cabinet considered a paper entitled “Covid-19 testing approach to support the governments elimination strategy”
  - On 22 June, after the country had moved to Alert Level 1, Cabinet considered a paper entitled “COVID-19 Surveillance Plan and Testing Strategy”. This paper set out what was referred to as the Mid-term National Testing Strategy and sought agreement to additional funding to cover testing from 1 July to 1 September. This paper included reference to “regular health checks of all border facing workers ..... and managed facilities staff... and regular asymptomatic surveillance testing of these people will continue.”
  - On 6 July Cabinet considered a paper entitled “Responding to new cases of COVID-19 in the Community” and
  - On 20 July, in considering the report back on the Surveillance Plan and Testing Strategy, Cabinet was asked to “Note the Testing Strategy, Implementation plan and supporting data”, which were attached.
21. Since then further testing documents have been produced including:
- COVID-19 Testing strategy 24 August to 13 September and
  - COVID-19 Testing strategy 21 September to 4 October
22. Along with these documents Ministers have received numerous reports on various aspects of testing and surveillance and regular public reporting has happened via press statement or media stand ups. Despite the Ministry of Health providing numerous written reports it is clear to the Committee that reports of progress on issues did not always reflect concrete action on the ground.

## Themes

23. As noted above, alongside reviewing the relevant documentation, the Committee met with a range of stakeholders with a view to understanding what had worked well and what hadn't in implementing the Plan and testing strategies up until now. In particular the focus was on, lessons learnt so that recommendations could ensure rigour, stability and sustainability in surveillance over the next couple of years.
24. There were a number of key themes that emerged:
- Consistency and quality of communication, and consultation with relevant stakeholders was sub-optimal;
  - Inappropriate accountability for various aspects of the strategies and their implementation;
  - Border control directives have been difficult to understand and implement,
  - Lack of clarity in the testing framework;
  - Lack of good forward planning from the perspective of an end to end system;
  - Underutilisation of health expertise outside the Ministry of Health leading to sub optimal analysis and planning documents; and
  - Lack of confidence in data being reported to key decision makers.

## Consistency and quality of communication

25. All stakeholders we spoke to had difficulties at times, with the level or quality of the engagement between government agencies, between the Ministry of Health and the private sector, and between different agencies within the health sector.
- 25.1. Without exception government agencies we spoke to expressed concern at their inability to be 'heard' by the Ministry of Health. There was a feeling that a lack of preparedness to understand the implications of some of the advice being offered put the government and key affected parties in a difficult position.
- 25.2. Economic agencies and private sector stakeholders consistently sought more input into operationalising implementation plans. Key decision makers within the system, and in particular the Ministry of Health were seen as operating without full regard for the impact of and or understanding of the operationalisation impacts of their decisions. There is no disagreement as to what is wanted to be achieved – in fact there is a very high buy in to the outcomes being sought. The approach by the Ministry of Health however, especially to implementation and operational aspects, was often seen as being at odds with the overall collective interest.
- 25.3. Health sector service providers expressed frustration at receiving last minute instructions for changes which they believed did not recognise much of what was already happening on the ground.
- 25.4. DHBs, Public Health Units (PHU) and service providers have been tasked with delivering the testing regimes. Which is appropriate as these are the agencies expected to understand their communities, and to have the ability to work with their local service providers and community leaders to deliver effective testing. Too often, however, significant changes to target numbers have been delivered with little warning and little flexibility to manage efficient resource deployment.
- 25.5. Similarly delays in making payments to service providers has increased dissatisfaction with the system and at times made for reluctance to increase testing rates, consequently reducing access. Providing easy access to testing must become business as usual and for this to happen funding regimes should be stabilised.
26. Written communications are also often confusing. Documentation changes often without clear identification of the significant changes included. Language is used inconsistently and with many publications it is very unclear as to who the target audience is. As a result, messages aimed at clinicians (for instance) are intermingled with messages for decision makers or for the general public. This makes it very difficult to easily understand the changes which are being made.
27. A case in point where this was particularly evident was in the area of testing where, for example, changes by the Ministry of Health to the case definition caused confusion both to the public and General Practice' teams.
28. While from a strict medical view the Ministry of Health advises us that when they distributed a new case definition in late June, there was no real change because the definition still advised practitioners to use clinical judgement to test broadly. To everyone else however, the message was that people with symptoms but who did not meet the HIS (Higher Index of Suspicion) criteria, did not need to be, and should not be, tested.
29. Given the high level of awareness and concern relating to COVID-19 in the community, and the economy, the need for clarity in all Ministry of Health technical communications and for ensuring they are appropriately tailored to their intended audience is essential.

## Mandate and accountability issues

30. There are two key dimensions to the mandate and accountability issues raised with the Committee in relation to surveillance and testing:
- The Ministry of Health and the wider public sector; and
  - The Ministry of Health and its relationships to other parts of the health sector, in particular DHBs and PHUs.
31. With respect to Central Government arrangements, there is a standing ODESC established which is a committee of Chief Executives to manage security issues.
32. Early on in the management of the pandemic this committee established the AoG within DPMC to ensure the whole of government was coordinated to:
- assist the Public Health response and
  - ensure all other relevant agencies were acting consistently within their accountabilities to maximise the effectiveness of the country's response.
33. The effectiveness of this Group has been variable, but it is clear that in an emergency of this magnitude and this foreseeable duration, close coordination of the relevant sections of the public sector is essential.
- 33.1. There is no doubt that in the initial outbreak management phase the Group was pivotal in strengthening the policy and logistical support needed to allow the health system nationwide to prepare and deploy the pandemic response.
- 33.2. The plan to collocate staff from multiple agencies to ease communication and understanding made sense but the decision by the Ministry of Health not to participate did not improve understanding in either direction.
- 33.3. Once the country moved to Alert Level 1 most staff from the AoG were transferred back to their home agencies. While this was understandable, this combined with the difficulties in communicating with the Ministry of Health, led to a longer hiatus in planning than was desirable, and the All-of-Government Group has effectively become a "Rest of Government Unit", being everything other than Health.
- 33.4. Issues have also arisen with respect to how the range of government agencies views are being incorporated into the advice and decision-making processes. The pandemic meant the lead agency was and remains the Ministry of Health, as it should be. The Ministry of Health is the principal advisor to the government as it is essential that decisions taken as part of the response are firmly grounded in the best public health science.
- 33.5. At times, however, this seems to have been interpreted as meaning that advice should not be influenced by information or legitimate concerns expressed by other sectors. This should clearly not be the case. It is imperative, with an emergency of this magnitude, that government decisionmakers are exposed to advice which considers all aspects of the issue. While it is true that the rapidly changing nature of this threat makes wide consultation difficult at times, that very urgency heightens the need for quality engagement and advice. Too often decision-making papers have gone to Cabinet with little or no real analysis of options and little evidence of input from outside health or even from different parts of the health Ministry or sector. While this may have been understandable in the first weeks of the response it should not be continuing eight months into an issue as we are currently facing.
- 33.6. One option for ensuring that engagement is happening would be to require that all COVID-19 response Cabinet papers are required to include an all of Government comment. This would at least alert Ministers to any issues.

- 33.7. The standing up of the AoG has at times confused accountability lines. Going forward it needs to be clarified that all accountabilities for agencies remain clearly with the individual Chief Executives. Recently DPMC has instigated a regular meeting of the Chief Executives most relevant to the COVID-19 response which may help improve buy in from agencies. This Committee should continue to operate with the AoG being the obvious secretariat for the Committee.
- 33.8. DPMC seems the logical place to hold the end-to-end system view as it is clear that the collective interest needs to be paramount over the individual views and preferences of individual departments. As COVID-19 is a health emergency, the expertise of the Ministry of Health must stay foundational, and it is therefore the logical lead agency, with responsibility for driving the health policy positioning and setting the standards which need to be met for surveillance and testing strategies. However, the system needs to be able to formulate advice, including in exercising statutory functions, which properly takes account of competing interests. The processes and decision rights should reflect that and operate as a model which recognises that no one agency including the Ministry of Health has exclusive decision rights or can act unilaterally without the active consideration of and engagement with others.
- 33.9. To this end the AoG should be renamed the COVID Planning and Coordination Directorate (CPCD). It should be headed by a Director who formally reports to the Chief Executive of DPMC, but also has a direct reporting line to a designated Minister. Its mandate should be to ensure amongst other things, that:
- there is a cohesive forward response and recovery plan developed and operational at all times by coordinating the actions and advice of relevant government agencies;
  - all systems and tools across government agencies are aligned and ready to be deployed in the event of any change in Alert levels or outbreak status;
  - stakeholder engagement is coordinated; and
- operational tasks assigned to it, such as communications and data management are conducted effectively and appropriately reflect whole of government concerns.
- 33.10. In practice this alignment of responsibilities and operating model, appropriately led, will, in the view of the Committee address, many of the issues and concerns raised by those we interviewed. This will require the Ministry of Health, as the lead agency, to operate within the plans and operating framework/context established by Cabinet and coordinated by the CPCD.
34. Leadership at an administrative level within the health sector is unclear and badly distributed. The issues around the health sector its fragmented nature and lack of clear strategy and planning, and difficulties in implementing at an operational level are well identified in previous reports. Those issues have been further crystallised by the pandemic, and this Committee would refer back to the Health and Disability System Review Report for recommendations which would address these broader systemic issues.
35. Within the Ministry of Health itself it has been difficult to ascertain the accountabilities under the Director-General. Recently a new COVID-19 Directorate in the Ministry of Health has been established which may assist in transparency. However, there are major concerns over the siloing of this directorate given that areas such as Public Health seem to be separate. There is a danger that the Ministry of Health by creating a separate directorate is attempting to try to do everything itself rather than sharing accountabilities throughout the system.
36. The Committee is of the view that the Group established under the auspices of the DPMC should be renamed and be given a fresh and clearer mandate.

## Legislative provisions

37. The COVID-19 Public Health Response Act 2020 was developed as a stand-alone piece of legislation, partly in recognition that the more generic public health provisions governing the management of infectious diseases (as articulated in S(70) Health Act 1956) may be inadequate to manage the nationwide impacts of the current pandemic.
38. In particular S(4) of the COVID-19 Public Health Response Act states
- 38.1. The purpose of this Act is to support a public health response to COVID-19 that—
- (a) prevents, and limits the risk of, the outbreak or spread of COVID-19 (taking into account the infectious nature and potential for asymptomatic transmission of COVID-19); and
  - (b) avoids, mitigates, or remedies the actual or potential adverse effects of the COVID-19 outbreak (whether direct or indirect); and
  - (c) is co-ordinated, orderly, and proportionate; and
    - (ca) allows social, economic, and other factors to be taken into account where it is relevant to do so; and
    - (cb) is economically sustainable and allows for the recovery of MIQF costs; and
  - (d) has enforceable measures, in addition to the relevant voluntary measures and public health and/or other guidance that also support that response
39. Section (9) gives the Minister of Health, (on the advice of the Director General of Health) the power to make nationwide orders under the Act. In addition, Section (10) gives a more restricted power to the Director General to make orders affecting more limited areas.
40. One effect of these legislative provisions has been to change the accountability focus within the Ministry. Previously, the Director of Public Health would have been accountable for and have an independent role advising on pandemic issues, (albeit via the Director-General).
41. While this drafting may have not changed the legal powers of the Director of Public Health, the signal it sends is unfortunate in an environment where some independence of Public Health advice is deemed to be essential. It appears to have led to a degree of marginalization of the public health expertise within the Ministry of Health, with it being reported that their advice is not being routinely sought, for example, on issues such as the development of Orders under the Act, the determination of Alert level rules, or the finalisation of mask/face covering policy.
42. Clearly in the current circumstances the Director-General is a suitably qualified person and as such under the Health Act S (22) is designated also as a medical officer of health, so sections (9) and (10) of the legislation preserve the intention that advice and orders are being developed by people with appropriate expertise.
43. However, legislative provisions should not be written in such a way that their appropriateness depends on particular individual/s holding office. If, for example, a different Director-General was appointed, who was not a public health physician, it would seem to be totally inappropriate that the Director-General would have the power to make Orders under section (10) in their own right. This should be remedied as legislation is updated.

## Importance of economic and social considerations

44. The COVID-19 Public Health Response Act deliberately introduced into the purpose of the Act the requirement to manage the public health response in a way which allows for the social, economic and other factors to be taken into account. The insertion of this provision clearly indicates that Government recognised the management of the health issue had implications well beyond the immediate health sector, and that while protecting the health of the population was a fundamental concern, the development of the health response needed to promote social and economic wellbeing at the same time.
45. In reality, the Ministry of Health is not well informed on the details of how the economy or the social sector operates, and nor is it required to be in normal circumstances. However given that the public health response has a direct impact on how businesses are required to operate and also has wide ranging social consequences, it is imperative that broad consultation with affected parties is able to take place in formulating the Director-General's advice. Feedback to the Committee suggests this has generally not been the norm, and while it is improving there is still some considerable way to go. This approach must be embedded as the norm not the exception.
46. Statutory functions should always be exercised with appropriate regard to all relevant factors. Feedback to the Committee suggests this has not been the standard operating model adopted by the Ministry of Health and this has impacted on the short-term effectiveness of the various Orders and interventions.

## Border management orders

47. The COVID-19 Public Health Response Act gave the Minister of Health a broad power to issue Orders in support of the public health response. Such Orders have been the means of specifying the details of mandatory testing requirements particularly in respect to border facing workers.
48. The development and application of many of these orders has clearly been fraught. The normal process for the application of such legal instruments would be to determine a clear policy position, to issue detailed drafting instructions, to consult on the proposed wording then to finalise drafting and implement with appropriate notification.
49. The process which has actually been followed on most of the border testing related orders promulgated in the past few months has been inadequate with regard to each one of those steps.
50. Despite the clear expectation of Ministers that there would be structured testing of border facing workers, and regular comments in advice papers which stated that such testing was occurring, in reality little testing was happening at the time and little was being done to develop regimes to make such testing mandatory.
51. There are many theories about why this happened. There appears to have been a reluctance on the part of some agencies to contemplate mandatory testing regimes, there was a general lack of forward planning with respect to testing, there was a reluctance to work with employers about how testing could best be implemented at particular sites and there was a lack of clarity about who was in charge of implementing and monitoring the testing regimes.
52. It is not surprising that there were some elements of confusion. The testing regimes being contemplated were an entirely new phenomena, and the system was having to learn on the run. However, the lack of clear leadership able to provide strategic oversight of the implementation of the border testing regime meant that issues were addressed in isolation, essentially as patches upon patches for too long.

53. There is little point in delving into this history at this stage, but in order to ensure we have a stable sustainable, and flexible testing regime which can form part of a broader surveillance strategy for years rather than weeks it will be essential to regularise the Order making process.
54. The Committee believes that going forward the Orders governing the testing regimes should be drafted at a higher level, focusing much more on the public health requirements which need to be achieved, e.g. how risk factors for border facing workers will be determined, and what the testing frequency should be for each risk category, and assigning accountability for implementing and reporting on the regimes to the relevant party, most likely the business owner.
55. By stepping back a little and not trying to determine the minutiae at the centre the system, the regime is likely to be better owned by those applying it, be more acceptable within the worksites and more manageable on an ongoing basis. Similarly taking a little more time to ensure stakeholder have a chance to input on the detail would save time in the long run as there would be less need for repeated amendments plus it is likely to be more successful in achieving its objectives.
56. The Orders applying to ports illustrate this well. First, the original orders required all workers to be tested in an impossible time frame even though many of the workers covered had no contact at all with any cross-border activity. These orders ended up being changed a number of times before they were reasonably effective. Yet even at the time of writing this report those port orders still only apply to Auckland and Tauranga, despite the fact that there are ports all around the country processing cargo and crews every day. That represents a large gap in the security of the overall border.
57. Further difficulties have arisen from both the frequency of Orders being promulgated and the timing of their release. Releasing Orders on Friday evenings to take almost immediate effect is never going to improve acceptability. Now would be a good time to deliberately change the cadence of the process.
58. While Orders are clearly an important lever for responding to the pandemic more considered processes would improve their effectiveness.

## Other border management issues

59. Border management with respect to COVID-19 is however about much more than just the testing regimes. The key protection for the country against the threat of further COVID-19 outbreaks is the rigour with which all border locations are able to ensure workers are well protected from contracting the virus. To date we have been largely successful in this regard, but the Committee heard of and observed a number of issues.
60. Some members of the Committee conducted site visits at Auckland international Airport and at a Managed Isolation Facility and meetings were held both with employers and union delegates.
61. While these were not systematic inspections, a number of opportunities for better infection control were observed. For example, better monitoring of mingling between staff and returnees, more consistent mask wearing by staff and better separation handling of dirty and clean laundry. Attention to infection control within indoor testing facilities would also be improved with, for example, cleaning of chairs between use. At the airport there was inconsistency, for example, in access to water fountains or cleaning of surfaces.
62. Overall, there was a lack of consistency between the PPE and training in use, provided by different employers for their workforces on the same site., and there is no regularised auditing of PPE use and infection control across border sites.
63. While the Committee accepts that in general staff and worksite managers are doing their best to comply with guidelines, this will be hard to maintain over a long period of time. It will be important to ensure that standardised training is implemented and kept up to date and regular auditing to maintain security is undertaken.
64. Going forward standardisation and alignment of approach on infection control and PPE is essential and a culture of continuous improvement must be embedded across the system.

65. The location and availability of testing services is also a crucial element in determining the acceptability and effectiveness of the regime. Lack of good communication early on in the process led to unnecessary confusion and delays in getting systems set up to routinely test workers, and an earlier appreciation of the complications of shift patterns etc led to frustration on the part of both service providers and staff.
66. There is no doubt that in the majority of cases on site testing for workers is desirable and it should be incumbent on employers to ensure workers are able to be testing during their normal work shift. On many sites this will require better scheduling of testing appointments so that service providers can resource venues properly. There should also be no barriers to workers being tested at their GP or another testing site if that is more convenient. Data systems should now be able to track each workers test history so location of testing should not be a problem.

## Forward planning

67. It should be acknowledged that by early June when New Zealand moved to Alert Level 1 the range of officials who had been driving the response were close to exhausted. The immediate goal had been achieved and much focus rightly turned to supporting economic recovery. In hindsight, however, better use could have been made in the 102 days to prepare for the inevitable outbreak. This is important, not as a criticism of the actions in the past, but because it is essential, we learn that lesson now. The resurgence plan was not well enough developed to have been tested before it was required for the live outbreak in Auckland. Nor was the resurgence plan understood and owned by those required to operationalise it as part of the outbreak response.
68. Having now experienced an outbreak the community is much more aware of the consequences of a breach in our border protection. We now need to understand and be able to prepare for an extended period of 24-36 months recognising that that future outbreaks may well occur.
69. Now is the time to develop and consult widely on, a forward plan which succinctly explains the ongoing surveillance strategy, and the testing regimes which will form part of that surveillance. In particular more detailed resurgence planning with consideration of a broader range of scenarios should be outlined, and operating models, with clear decision rights and accountabilities, and the capability of rapid deployment as required, should be developed. That planning and deployment should actively recognise the accountabilities and decision rights of those who are involved and leading the response. There would be considerable merit in regular stress testing of the resurgence plans to ensure they are integrated and capable of execution as and when necessary.

## Utilisation of health expertise outside of the Ministry

70. It has been evident for some time that New Zealand does not have a strong and coordinated Public Health function. Other reports have commented on this in detail and we will not repeat that analysis. However, this weakness meant that the Surveillance Plan created in May was developed by a contracted veterinary epidemiologist, as no human disease epidemiologist was available. It was signed off by key parties in the Ministry of Health, including the Director of Public Health. It was not necessarily fit for purpose with respect to properly informing the Testing Strategy. It was supposed to be a living document, to be regularly updated as needed but as noted above, no changes have been made to the Plan.
71. Similarly, the Testing Strategy did not properly take into account the effect of labelling some groups as essential for testing and therefore other groups as non-essential. The basis for including some groups in a high priority groups was not optimal. For example, the aim should be for people with diabetes and the elderly not to become infected in the first place. There should also be more focus on optimising access to testing, across the population, in consultation with community leaders and providers. Furthermore, testing should be offered to all people presenting with symptoms, if at all possible, throughout the pandemic. The only difference should be with respect to who is required to isolate while waiting for a test result.
72. Both the Surveillance Plan and Testing Strategy should now be revised and updated. The revision should be peer reviewed by leading human disease public health specialists including Māori and Pacific expertise. With respect to the Testing Strategy, the documentation should be rationalised to one regularly updated testing plan. All documentation should be aligned and consistent with each other at all times, including the current 'case definition' document. Compared to the existing documentation these should be shorter and more clearly connect with each other
73. Testing plans should cover the approach to be used under various scenarios including , from no community transmission to outbreaks, the border, the general community, symptomatic and asymptomatic screening, to hospital admissions and staff, sewage surveillance (e.g. at aged care facilities), correctional facilities, self-testing and different types of testing platform.
74. If New Zealand seeks to continue to be successful in its COVID-19 response, it will be essential to make the best use of all expertise through having their input in design and peer review and to learn rapidly from both local and international experience.
75. Learning from the New South Wales experience, it would be advisable to have a standing group with relevant expertise meeting very regularly to review the targeting of testing on a regular basis. While the base testing strategy involving testing all people with symptoms should remain unchanged, at least some DHBs will always need to be supplementing this by more targeted approaches as circumstances continually change. Ensuring the best expertise is harnessed to keep these plans under review is essential.

## Testing framework

76. While there have been a number of iterations of testing plans, they have not been well connected through a clear risk analysis or framework. The Surveillance Plan back in March referred to risk factors which should be used for targeting testing, but these have not generally been elaborated or used in a structured way to design the testing plans.
77. The same issue has arisen in the design of the testing regime for border facing workers. Much time has been spent by the Ministry of Health defining groups of workers required to be tested, with little knowledge of the work environments etc. If there had been a clearer risk framework established from the outset, which was well communicated and understood, employers would have been in a much better position to both categorise their workforce according to the criteria and also to reconsider work management practices to minimise the numbers of workers facing higher risk and apply the testing regime appropriately.
78. A clear high-level plan for border sites, would allow accountability for ensuring both PPE and testing regimes could be designed, monitored and reported on by employers as part of their ongoing PCBU duties
79. As noted above the language used in the case definition and testing criteria is confusing and messy in places. The case definition changed several times over July, August and September. While such changes may have been reasonable from a theoretical point of view, given the increasing knowledge of the virus characteristics, as the case definition was effectively being used as a testing criteria, the impact of regular changes was to confuse stakeholders and the public and cause disruption to existing processes.
80. The Committee believes that in future any changes to the testing plan and criteria for testing, including during an outbreak, should include input from the Director of Public Health and be subject to the following:
- Rapid peer review by the epidemiology reference group, including Māori and Pacific expertise, and possibly other external experts;
  - Consultation in relation to the ability to operationalise and message the change;
  - Formal adjustment of all relevant documentation; and
  - A proper process to ensure all messaging and Healthline guidance are adjusted in real time and are appropriate.
81. A plan for a scenario, such as wintertime, when testing capacity may be exceeded, should be made, which is different from a higher index of suspicion/high risk group approach. This will require high level epidemiological thinking along with wide consultation with respect to implementation issues.
82. As further testing plans are developed priority should be given to changes which will further improve the social acceptability of testing and the speed with which results are available.

## Issues for the Māori and Pacific communities

83. Core to the testing strategy is ensuring access to testing is effective and equitable for all groups in particular Māori and Pacific.
84. Māori and Pacific communities have borne the brunt of the latest outbreak in New Zealand and given the preponderance of workers from these communities in border facing occupations, these communities face a higher risk of future outbreaks as well. Not only is the risk of exposure to COVID-19 higher but the generally lower health status and crowded or unsatisfactory living conditions along with lack of easy access to health services means the impact of an outbreak is greater.
85. The Committee has been impressed with the extent to which both the Māori and Pacific health care providers have demonstrated not only their willingness but also their adaptability and preparedness to innovate, to meet the rapidly changing needs of testing in the community.
86. However, maintaining community acceptance of the need for surveillance testing on an ongoing basis will be a challenge and it will be important to ensure Māori and Pacific community leaders are engaged in both the design and the implementation of testing regimes. Managing mandatory isolation during community outbreaks is an area of particular concern, especially having health service models that fulfil the duty of care for whānau and individuals. These whānau will have predictable health needs that must be met during their stay in Managed Isolation Facilities, and it will be important to ensure that Māori and Pacific public health experts are involved in monitoring the testing regimes.

## Community and worker acceptance of testing regimes

87. When New Zealand moved to Alert Level 1 the populations demand for testing, in keeping with a change to criteria for testing and growing complacency, fell significantly. The lower testing rates reduced our ability to identify and minimise any undetected community spread as called for in the strategic documents.
88. Now that there is more recognition that managing the impact of COVID is a long term not a short-term issue, the sustainability of policy settings from a community standpoint is vital. The changes in personal and group behaviour required to effectively maintain social cohesion and foster economic recovery are significant and will require the population to fully understand not only what is being asked of them but also why it is necessary
89. Acceptance will also require that policy settings make it as easy as possible for community to comply with policy settings.
90. In this respect priority needs to be given to broadening the range of testing methods able to be used. The elimination strategy requires that many workers face the prospect of regular ongoing testing, and that the community accepts that for the foreseeable future the presence of any relevant symptoms should trigger having a test. For that to be sustainable the test will need to be if possible, generally less invasive than that currently being used.
91. Many other jurisdictions internationally are relying on saliva tests for the bulk of their surveillance. While work is underway in New Zealand on verifying such testing, on current plans widespread introduction is still more than 2 months off, even though in other jurisdictions saliva testing, involving large numbers of test per day, has been well established for several months. The New Zealand time frame appears to be driven by a presumption that saliva test would replace the PCR test. This need not be so, as it could well be complementary.

92. All efforts should be made to introduce saliva testing as soon as possible as part of the range of testing methods being conducted. If necessary outside assistance should be sought to accelerate development. While sensitivity of saliva testing may be slightly less than the current method, the ability to test more frequently and with greater acceptance, may far outweigh that.
93. Similarly, there are many other testing and surveillance tools being developed internationally. New Zealand should be open to incorporating a range of methods into a comprehensive surveillance strategy, we need to be kept fully informed about this fast-moving field and New Zealand and international expertise should be engaged for this purpose.

## Workforce issues

94. Currently the testing regimes from planning, to conducting the tests to the laboratory analysis, have been staffed largely by redeploying staff from other parts of the health system. While some redeployment will always be necessary for surge capacity, the base testing and surveillance will be ongoing, and it will be important to ensure the workforce is trained. This workforce also needs to have an appropriate mix of cultural and linguistic concordance. This needs to be part of the forward planning as it is fundamental to being able to achieve the desired coverage and to be ready to introduce new technology as it becomes available.
95. It needs to be recognised that the emotional and physical demands on the workforce which is developing and implementing the COVID response is significant and is probably not sustainable at current levels over a 2-year period. Planned and regular rostering of people in and out of the effort needs to be managed into the workforce plan.
96. The plan should also recognise that there is no guarantee that the next outbreak will occur in an area where there are staff that can be potentially redeployed. It would be prudent now to ensure that planning has been done to provide for surge capacity to move around the country to support a less well-resourced region.
97. In developing sustainable testing strategies for the next 24-36 months messaging needs to ensure that no stigma or negativity attaches to workers engaged in the key border facing roles.

## Data management

98. The Ministry of Health, as lead agency, has been responsible for monitoring and reporting on all aspects of the response including on testing and surveillance.
99. Unfortunately, the lack of properly integrated information systems as identified in earlier reports has hampered the Ministry's ability to provide reliable and timely reporting. This combined with a lack of integration with other data sets from within the public service and little understanding of data sources and information able to be generated by other stakeholders has led to considerable confusion in reporting.
100. Ministers and the media have been presented with many reports which have used data from non-reconciled data sets which has made direct comparisons meaningless. Daily data have often been presented from processes which vary too much on a day to day basis to make daily reporting meaningful. Overall, in the rush to present "numbers", there has been not enough consideration given to what "intelligence" is being presented.
101. The fact that different data sets are being called on is not a problem. While in a fully integrated health data system you would expect to be able to track a test from end to end in the system, the reality is our information systems do not guarantee this yet. Work is being fast tracked and good progress is being made, but in the meantime, care needs to be taken.
102. Stakeholders should be reporting on the aspects of the testing regime they are each accountable for. So, for example, employers have all the relevant records relating to their workforces, shift patterns etc. accountability for reporting on who has or has not been tested much more sensibly sits there. Reporting of that data should be the responsibility of a central data management function which can be expected to ensure data sources are reconciled before publication and which focuses on using available data to produce useful intelligence rather than simply presenting decisionmakers with a range of raw numbers.
103. Already various departments are providing their individual Ministers with more readily understood intelligence on testing of their staff. This simply needs to be better integrated. This data management and intelligence function for whole of government reporting should reside within the AoG.

## Recommendations

1. There needs to be more consistent use of language in Ministry of Health documentation on COVID-19 surveillance and testing, with new versions of documents being more clearly identified so changes can be easily tracked. There should always be a current complete set of documentation easily available on the Ministry website.
2. Accountability lines should be clarified and be more explicit. While the Ministry of Health should clearly continue to be the lead agency in determining policy positioning and the setting of standards which need to be met with regard to all surveillance and testing strategies, other agencies and stakeholders should be given accountability, particularly in relation to designing and implementing operational elements.
3. The All of Government Group should be renamed the COVID Planning and Coordination Directorate (CPCD). The Director should report formally to the Chief Executive of DPMC, but also have a direct reporting line to a designated Minister. The Directorate should be mandated to work across government agencies to ensure the overall forward plan is brought together cohesively and in a way which allows for rapid and seamless deployment.
4. Accountability for meeting standards set for service delivery or meeting testing coverage targets should be devolved to the appropriate agency, employer or business owner most directly impacted and should be monitored by the CPCD.
5. In order to ensure that economic and social concerns are properly incorporated into policy advice, all Cabinet papers from individual departments, should contain an explicit comment from the CPCD. This should not replace the need for agencies to be better connected in the development of advice but would provide an additional check in the process.
6. In particular, as these regimes will need to operate over a significant period of time, employers should be given explicit accountability for implementing monitoring and reporting on testing regimes as they affect their own staff.
7. The process for issuing ongoing Orders under the COVID-19 Public Health Response Act should be regularised. Orders should in general be at a higher level focusing on the public health objective to be achieved and providing room for those giving effect to the orders to design and implement processes to meet agreed and accredited standards.
8. Priority should be given to ensuring maritime border provisions are applied across the country rather than just at two ports.
9. Work should focus immediately on preparing a comprehensive, but concise forward plan which sets out the range of options likely to be facing the country in the next few years with opportunity for public and stakeholder discussion before adoption.
10. This plan should include an updated surveillance and testing plan which has benefitted from the input of a broader range of public health expertise and should also address forward workforce planning.
11. The testing plans should have clear and consistent messages for the public so that the basic strategy does not change over time. The core message should be that anyone with symptoms should have a test, then additional messages aimed at particular population groups may change over time.
12. Priority should be given to broadening the range of testing methodologies employed. In particular, saliva testing as a complementary methodology should be introduced as soon as possible to increase acceptability of testing across workforces and the community. Every effort should be made to steadily reduce the turnaround time for delivering test results so that regular testing becomes more effective.
13. The importance of community engagement in the design and delivery of ongoing surveillance should be emphasised especially amongst Māori and Pacific communities and wherever possible DHBs should be given the flexibility to design and implement surveillance and testing regimes and be held accountable for their delivery.

# Appendix A.

## Terms of Reference

*Advisory Committee to oversee the implementation of the New Zealand COVID-19 Surveillance Plan and Testing Strategy*

### PURPOSE

1. The purpose of the Advisory Committee (the Committee) is to oversee the implementation of the New Zealand COVID-19 Surveillance Plan and Testing Strategy. [Cab-20-Min-0415 refers.]

### BACKGROUND AND CONTEXT

2. The current COVID-19 Surveillance Plan provides the overall approach to surveillance for COVID-19, as one of four pillars of the overall strategy of disease elimination. The Testing Strategy is a core component of this surveillance plan.
3. The objectives of the updated Testing Strategy are to:
  - a. ensure rapid identification of all cases of COVID-19 to assess and clinically care for them as well as stop any ongoing transmission of infection by isolation, tracing and quarantining their contacts
  - b. identify and minimise any undetected community spread in New Zealand
  - c. monitor people at higher risk of exposure to COVID-19 to ensure that protections in place are working
  - d. ensure access to testing is effective and equitable for all groups in particular Māori and Pacific.

4. The Surveillance Plan has the following two aims:
  - a. to understand the burden of COVID-19 disease and SARS-CoV-2 infection in the New Zealand population in order to inform the COVID-19 response
  - b. to assess the effectiveness and equity of public health strategies to control the disease.
5. The Committee will oversee the Ministry of Health's implementation of the Surveillance Plan and Testing Strategy and the Committee will:
  - a. determine the extent to which all elements of the strategy are being implemented including testing at the border
  - b. identify any issues or barriers that are preventing the strategy from being implemented, including resourcing, capacity, and legal matters
  - c. identify any improvements that can be made in the implementation
  - d. any other matters relevant to the Surveillance Plan and Testing Strategy and the pandemic response.
  - e. Recommend options and or interventions required to successfully deliver the Surveillance Plan and Testing Strategy

### ROLE AND SCOPE

6. Cabinet authorised the Minister of Health, in consultation with relevant portfolio Ministers, to finalise the terms of reference and membership of the committee to oversee the implementation of the New Zealand COVID-19 Surveillance Plan and Testing Strategy." [CAB-MIN-0415 refers].
7. It is intended that the Committee will primarily focus on current testing activity, rather than auditing past decisions, but it will need to understand the Ministry's approach to implementation.
8. All aspects of the Surveillance Plan and Testing Strategy are included in the scope, including the border, Managed Isolation and Quarantine facilities (MIQ), and community testing.

9. The Committee will:
  - a. report to and provide advice to the Minister of Health on the implementation of the Surveillance Plan and Testing Strategy;
  - b. work with Government agencies and other key stakeholders including private employers and unions to ensure that the Testing Strategy is properly informed;
  - c. be able to request information from Government agencies and or other sources to support the successful implementation of the New Zealand COVID-19 Surveillance Plan and Testing Strategy.
10. The role of the Committee may be reviewed at or before the end of four weeks from the date of appointment and it may be appropriate to expand the Committee's terms of reference or consider other arrangements at that point.

#### MEMBERSHIP AND FEES

11. The Committee will comprise two Co-Chairs and three members with expertise in public health and Māori / Pacific health perspectives.
12. Fees for the Co-Chairs and members will be set according to the Cabinet Fees Framework and outlined in a letter of appointment.
13. All costs associated with Committee will be met through existing Ministry baselines.
14. All appointments to the Committee will be made by the Minister of Health in consultation with the relevant portfolio Ministers.
15. Appointment to the Committee will be for a period of four weeks from the date of appointment.

#### MEETINGS AND PROCESSES

16. The Committee will meet regularly on dates determined by the Co-Chairs. It is anticipated that work in the Committee may take up to three days per week.
17. The Committee will operate in good faith and on a 'no surprises' basis.
18. Meetings can be held virtually or in person. The Co-Chairs are responsible for setting meeting agendas, leading meetings and ensuring that the business of the day is heard.
19. The Department of Prime Minister and Cabinet (DPMC) will provide administrative and secretariat support to the Committee including:
  - a. setting up meetings
  - b. collating and distributing papers
  - c. recording minutes and actions as required.
20. The Committee will have access to such additional resource for example policy expertise, as it requires to complete its task.

#### ACCESS TO INFORMATION AND CONFIDENTIALITY

21. Discussion within meetings will remain confidential and minutes will not be circulated outside the Committee without the agreement of the Co-Chairs.
22. The Committee can request access to any information held by Government agencies and other relevant health system agencies (e.g. PHUs and DHBs) provided the information is within scope of these terms of reference.
23. All information received, considered and generated by the Committee is subject to the Official Information Act 1982. Responses to any such requests will be collated by the Department of Prime Minister and Cabinet for the Chairs approval.

#### DISCLOSURE AND OTHER MATTERS

24. All Committee members must declare any actual, possible or perceived conflicts of interest. DPMC's administrative support function will keep and maintain a register of any such declarations.

## Appendix B. List of stakeholders

Air New Zealand	Pacific Perspectives
Auckland Airport	Pasifika Futures
Auckland District Health Board Te Toka Tumai	Port of Tauranga
Congregational Christian Church of Samoa, Māngere East EFKS Puaseisei, Magele Sasa'e	Ports of Auckland Tāmaki Herenga Waka
Counties Manukau District Health Board	Te Kawa Mataaho Public Service Commission
Department of the Prime Minister and Cabinet Te Tari o te Pirimia me te Komiti Matua	Royal New Zealand College of General Practitioners Te Whare Tohu Rata o Aotearoa
The Institute of Environmental Science and Research	Te Kaha o Te Rangatahi Trust
Labtests	The Fono and Chair of the Pacific Business Trust
Ministry of Business, Innovation and Employment Hīkina Whakatutuki	Turuki Health Care
Ministry of Health Manatū Hauora	Union delegates
Ministry of Primary Industries Manatū Ahu Matua	The University of Auckland Te Whare Wānanga o Tāmaki Makaurau
Ministry of Transport Te Manatū Waka	University of Hong Kong
New Zealand Customs Service Te Mana Ārai o Aotearoa	University of Otago Te Whare Wānanga o Otāgo
Office of the Prime Minister's Chief Science Advisor	WorkSafe Mahi Haumarua Aotearoa
	Yale University

30 November 2020

Hon Chris Hipkins  
Minister COVID-19 Response  
Parliament Buildings  
Wellington

Dear Minister

### Contact Tracing – Auckland Outbreak

As requested in your previous capacity as the Minister of Health, we have undertaken a brief review of the issues highlighted by the recent Auckland outbreak with a particular focus on the key learnings that are relevant to, and or potentially impact on, future outbreaks.

The approach focussed on interviewing key personnel from both the Ministry of Health and the Auckland Regional Public Health Service (ARPHS). The interviews took place on Friday the 16<sup>th</sup> and Monday the 19<sup>th</sup> of October. A list of those interviewed is attached in Appendix 1.

At the outset it needs to be recognised that the system developed to respond to an outbreak has evolved significantly over recent months. Significant resource has been deployed to create an outbreak testing and contact tracing system that facilitates and delivers a timely, informed response to any outbreak. Those involved deserve credit for what has been achieved.

Our earlier report (dated 16 July 2020) highlighted a number of issues for your consideration in particular the need for:

- Scenario planning and the stress testing of the system to ensure that it is capable of being both deployed and targeted toward a successful and timely outcome;
- Clarity of accountabilities and decision rights within the response activities;
- Role of technology to support Contact Tracing as an enabler of an informed timely response to any outbreak that eventuates;
- A Fit for Purpose project structure that improves the probability of success to any deployed response;
- A Very active cross-government approach to ensure that activities are aligned and deliver on achieving the confidence and trust of all those involved across the system; and
- A whole of system view to avoid fragmentation of resources.

These issues continue to be relevant including the all-important issue of regularly stress testing the system. Similarly, ongoing work is required to ensure that decision rights and accountabilities are clear across the system especially with respect to the role of the Ministry of Health and the respective Public Health Units.

There is nothing from our most recent review that invalidates the earlier conclusions and nor does it highlight new issues. What is clear though is that the system and those in it are actively learning from doing and making modifications in response to the circumstances they face. That is to be encouraged.

## Strategic Context

The comments contained in this report must be seen in the context of the system having collectively delivered an outcome which permitted the country to return to level 1. While acknowledging the imposition that had on the Auckland region (in particular), it is also important to recognise the extreme efforts many people within the health system contributed to achieve that outcome. The demands on the system were extreme and people responded – for that we should celebrate and recognise their efforts.

While recognising the outcome, it is also important to critically analyse what happened and to learn. Those learnings are critical to the ongoing amendments required to best position New Zealand for future outbreaks.

In that context the comments below are designed to highlight areas that require attention. They are not faults per se, more valuable learnings from which we can all benefit.

## Auckland Outbreak

It is widely recognised that the August outbreak was far more complex than the earlier 'wave' in March/April and it was especially different with respect to the cases and contacts.

The recent outbreak was Pacific, and Maori dominated, the number of contacts per case were on average over 20, and the cases and contacts often had underlying medical conditions. The number of contacts per case clearly changes across the Alert levels, and the characteristics of outbreaks going forward are likely to continue to be very different from the situation in March/April.

That complexity has created a valuable opportunity to further understand the resources required to successfully respond to, and eradicate any outbreak.

## Key Learnings

### *Capacity to perform contact tracing for a large outbreak*

The ARPHS is the most likely PHU to have to handle a new covid-19 outbreak. It serves NZ's largest population and hosts the largest number of Managed Isolation Facilities. ARPHS has been asked to be able to surge to manage contacts of over 120 cases, calculated in proportion to the Auckland population. However, since Auckland has particular characteristics, a higher proportion of the NZ outbreak management capacity than calculated just on its population, is needed.

Furthermore, in reality, with respect to an outbreak like the most recent one, their standing capacity is now the contacts of 20 cases per day and their estimated surge capacity is up to 80, although this surge capacity was not been tested by the recent outbreak where daily numbers of cases was less than 20 throughout. ARPHS have identified through the recent outbreak that surging did not occur fast enough due mainly to the ability of staff to be redeployed from their other tasks within the DHB's.

A process is already in place to address the issue of fast deployment of surge capacity. It is simplistic to use these calculations in some ways, as COVID-19 tends to cause cluster-based outbreaks and outbreak management needs to take this into account, including having skilled public health specialist continually monitoring the outbreak management and identifying backward and forward contact networks.

However, the need to have adequate capacity remains and as long as the limitations of a crude calculation of 20 contacts per case in Auckland under level 1 or 2 are understood, then it remains a reasonable way of calculating capacity.

The main issue is that there is a disconnect between the actual/proven capacity for an outbreak and the general understanding by the government and the public of the capacity of the system of up to 1000cases/day (i.e. rapidly tracing contacts of 1000 cases per day for NZ overall). This needs to be resolved as ARPHS is currently accepting a significant risk on behalf of the government. The resolution of this will inevitably involve the need for more resource and require additional funding.

This should also be considered in the light of the fact that NZ has chosen to respond to a complicated outbreak early with level 3 lockdown i.e. this will blunt the rapid escalation of an outbreak, potentially reducing the daily capacity requirement of a PHU. There is confusion as to under what circumstances a lockdown would be employed otherwise. However, considering that even a short level 3 lockdown incurs a billion dollar plus cost each time, whereas the budget for the ARPHS is only around \$24m for 2020/21(including one-off COVID-19 funding injections of less than \$7m), work needs to be done to identify what a sustainable resource/funding base will be for the foreseeable future – there is a strong argument to be made that the ability to rapidly deploy trained resource will be a critical success factor for any future outbreak and avoiding a lockdown at any point is a high priority. The working assumption of being able to redeploy staff from other roles has proven to be inadequate and places unnecessary early risk into any response. It may also be inadequate as New Zealand's overall capacity, including surge capacity, appears to be much less than the contacts of 1000 cases/day, perhaps even less than 200 per day.

Given that Singapore and Melbourne reached over 900 cases/day in past months, the ambition to be able to surge to manage the contact tracing around similar numbers continues to seem sensible and it seems wise to be very clear on what New Zealand's capacity is expected to be and then to act accordingly. The financial argument alone around justifying a very limited capacity, because there would be a lockdown back up, does not necessarily stack up economically and or socially – it was evident through the various public commentaries that the public goodwill and support was challenged by a repeated lockdown. Of course, early on a very short lockdown may remain unavoidable if the source of the outbreak is not clear and there are already a number of cases.

#### *Communication*

The interview process identified that there were a number of communication issues between those running the response to the outbreak and the media and the public. For example, some statements at the 1pm media sessions compromised the ability of ARPHS to maintain trust with cases and contacts, which was extremely problematic.

There was a large amount of time required to interact with the Ministry and Ministerial questions/queries with up to three sitreps per day. The information requirements created a significant amount of work which did give rise to issues around a perception of a lack of confidence and trust in those in the front line.

There was improvement over the course of the outbreak to the communications, including regular early morning sitreps and interactions in the afternoons. Limiting the number of key people in the Ministry that are in direct communication with the public health unit is also advisable.

There would be significant benefit from undertaking a process to agree on all aspects of communication around a future outbreak before an outbreak occurs. It is acknowledged that there is a strong need for data and insights but that could be largely agreed and tested as part of the stress testing process identified above.

### *Funding*

The ARPHS has a budget of approximately \$24m and remarkably, is facing a shortfall for the current year of up to \$12m (though that number is still being quantified). The contract for 2020/21 is under negotiation.

The current funding position means that it is not possible to employ staff for more than around 9 months at present and stand-up capacity is limited. With all the "busyness", only preliminary planning has been possible with respect to how one might use more capacity in between outbreaks.

This is challenging, as many of the staff employed to increase capacity may not be able to be diverted into many other public health activities due to the limitations of their background training. Nor can human resource necessarily be redeployed from the Ministry and or other PHU's.

Considering the cost of failure to control an outbreak are in the multiple billions of dollars, strengthening ARPHS, plus strengthening other PHUs around the countries, seems like something that has merit and needs to be actively considered.

In particular if it is accepted that the virus will be with us in some form or other for say 24-36 months (especially if a vaccine is not 100% effective), a multi-year budget commitment for the NZ covid response, linking strategically to the general enhancement of the public health capacity in New Zealand is urgent. There is an opportunity to build the foundations for an improved public health capacity for NZ overall. An integrated plan for expansion that involves all aspects, including space, support systems and human resource, along with how the capacity will be deployed between covid outbreaks would be ideal. This could include expanding the coverage of the NCTS to other infectious diseases and deliberately selecting and enabling staff to work on a wide range of public health initiatives. This would require a 2021 budget bid through the standard appropriation process.

The issue of funding has a historical context in that PHU's assert that there have been ongoing reductions in base load funding. That issue together with the expansion in services and the additional demands of COVID collectively create an unnecessary distraction for the system. This needs to be addressed as a priority so that sensible and sustainable resourcing decisions can be made. A case should be made as soon as practicable to support the additional resources and to ensure that it receives the appropriate level of attention and support within the Government budgetary system.

### *Evolution of a '21st century' response to an outbreak*

An outbreak response in the 21<sup>st</sup> century to a pathogen as capable as the virus that causes covid-19 involves carefully matching the properties of the virus with the best modern tools available. This evolution is evident in the recent response, including rapid molecular testing, a sophisticated data system tool for contact tracing (NCTS), the ongoing evolution of the covid-app (which is now progressing

to Bluetooth or equivalent capability), mathematical modelling, and whole genome sequencing (including analyses to understand directionality of transmission etc.).

There is some lack of clarity around the exact way the app can interact optimally with manual contact tracing. This can only be resolved by dialogue, system redesign, and system testing. And there are probably ways in which mathematical modelling could inform the outbreak response more in real-time.

It would be useful to actively pursue integration of all the tools that are available, including those mentioned above plus spatial mapping, ethical population profiling, etc. It would be useful to have a lead technology person proactively interacting in real time on the ground with an outbreak, including anticipation, real-time augmentation, and optimising the availability of information from the various data sources at play. This person would need to have real understanding of on-the-ground manual boot-leather epidemiological practice. ARPHS have taken steps that could lead to such an approach already.

#### *Stress testing*

Given the recent outbreak has been so beneficial in optimising systems, and as noted above, there remains an ongoing need to stress test the system. The stress-testing work plan should continue to be in place and be used as a valuable learning for all those involved. Preparedness is critical to success.

#### *Other issues*

A number of issues have good processes underway which are likely to lead to resolution. These include:

- a. Active central documentation archive.
- b. Stronger Maori outbreak management capacity, available on a national scale. Although more Maori leadership at all levels of the response is recommended.
- c. Improved timeliness of redeployment of staff into the contact tracing team. This needs to happen quicker.
- d. Engagement with Maori and Pacific communities around the dedicated facility for positive cases and their families, and other aspects. Collaboration should be the focus, not compliance.
- e. Optimisation of NCTS, including increasing ability to meet the needs of backwards and forwards source and cluster even risk mapping, through interaction with the NCTS team in Wellington.
- f. Ongoing application of whole genome sequencing and related tools to outbreak management protocols.
- g. Testing strategies to optimise early detection of an outbreak.
- h. Continuing focus on quality and compliance of MIQs. And continuing improvement in cultural protocols.
- i. Clarity over how the Wellington component of the leadership of an outbreak sits with the Director of Public Health specialists – who are more clearly designated to this task, in a sustainable manner.
- j. Strengthening of epidemiological expertise within the Ministry.
- k. Ability to maintain quality of non-COVID public health activities.

There were some other issues that arose out of discussions which may be worthy of attention:

- l. There was some discussion about the performance indicators. These are seen as useful, although some are more useful than others. The indicator regarding the number of contacts

who are cases already by the time they are traced, needs to be reviewed as it appears that it may be being wrongly measured. It should reflect whether any of the contacts are actually a case at the time of first engagement – whether or not they have been diagnosed yet. This was discussed with the Ministry.

- m. Since Maori and Pacific providers in South Auckland did so much to make the containment of the recent outbreak possible, it is strongly recommended that the PM, Minister and DG, attend a thank you event for them in Auckland. We understand that this would likely be highly appropriate and appreciated.
- n. We support mandatory mask use on aeroplanes and public transport at Level 1. The New Zealand population has shown strong willingness to comply with reasonable requirements. Masks are cheap, the inconvenience is small, there was high compliance when they were mandatory, and the 'peer pressure' to wear them clearly needs to be driven from government. Given the likelihood of an outbreak at level 1 being relatively slow to be detected and able to spread rapidly early, it is strongly advised that mask wearing be continued.

### Conclusions and recommendations

Overall the system has responded well and delivered results which allowed for a return to level 1 across the country. The Auckland outbreak put significant pressure on the system and it is a credit to all those involved that a successful outcome was achieved. New Zealanders can have high confidence that covid outbreaks can and will be contained.

It was clear from our work that those involved in the response have a very active approach to self-analysis and review of what occurred. That is encouraging and should be actively supported.

There continues to be very valuable learnings from this outbreak relative to the earlier 'wave'. It is apparent that the pandemic continues to evolve and the response system must reflect that, and quickly if need be.

We have the following key recommendations:

1. A programme of stress testing should continue, as should the ongoing implementation of the other recommendations of the previous CTAC report. That stress testing should involve a variety of scenarios such as a church event, a residential apartment block of a community event. The diversity of the scenarios should be designed to test preparedness and response. It may not be possible to stress test every scenario in good time. So, it would be useful for list of scenarios and associated plans to be available. For example: what exactly is the plan when there is a case or cases in an apartment block, such as occurred more recently?
2. The capacity and financial sustainability of the Public Health Units needs to be urgently addressed and provision of human and financial resource adjusted accordingly with a 24-36 month timeline in mind. The need for a sustainable funding model that addresses both historical funding issues and the additional pressures from COVID-19 needs to be considered by Ministers as a matter of priority.
3. Work to achieve a common understanding within the system as to what the actual capacity is within the system and the time frames and requirements for it to be deployed as part of any surge capacity.

4. Communications between the Ministry and the PHUs around outbreak management should continue to be optimised which reinforces the previous recommendations around accountabilities and decision rights.

We are available to discuss and or elaborate on any aspect of this report if you wish.

Yours faithfully



Philip C Hill  
McAuley Professor of International Health  
University of Otago



Sir Brian Roche KNZM

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