

20 June 2022

s 9(2)(a)

By email: s 9(2)(a)

Ref: H202206894

Tēnā koe s 9(2)(a)

### Response to your request for official information

Thank you for your request under the Official Information Act 1982 (the Act) to the Ministry of Health (the Ministry) on 25 May 2022. You specifically requested:

*“14-Apr 20220682 Options for improving respiratory protection against aerosolised viral particles for vulnerable and priority populations”*

I have attached the document requested. Some information is withheld under section 9(2)(a) of the Act, to protect the privacy of natural persons. I have considered the countervailing public interest in release in making this decision and consider that it does not outweigh the need to withhold at this time.

Under section 28(3) of the Act, you have the right to ask the Ombudsman to review any decisions made under this request. The Ombudsman may be contacted by email at: [info@ombudsman.parliament.nz](mailto:info@ombudsman.parliament.nz) or by calling 0800 802 602.

Please note that this response, with your personal details removed, may be published on the Ministry website at: [www.health.govt.nz/about-ministry/information-releases/responses-official-information-act-requests](http://www.health.govt.nz/about-ministry/information-releases/responses-official-information-act-requests).

Nāku noa, nā



Maree Roberts  
**Deputy Director-General**  
**System Strategy and Policy**

# Briefing

## Options for improving respiratory protection against aerosolised viral particles for vulnerable and priority populations

<b>Date due to MO:</b>	22 April 2022	<b>Action required by:</b>	29 April 2022
<b>Security level:</b>	IN CONFIDENCE	<b>Health Report number:</b>	20220682
<b>To:</b>	Hon Chris Hipkins, Minister for COVID-19 Response Hon Dr Ayesha Verrall, Associate Minister for COVID-19 Response		

### Contact for telephone discussion

Name	Position	Telephone
Stephen Glover	Group Manager, COVID-19 Policy	s 9(2)(a)
Maree Roberts	DDG, System Strategy & Policy	s 9(2)(a)

### Minister's office to complete:

- |   |                                    |  |
|---|------------------------------------|--|
| <input type="checkbox"/> Approved             | <input type="checkbox"/> Decline   | <input type="checkbox"/> Noted               |
| <input type="checkbox"/> Needs change         | <input type="checkbox"/> Seen      | <input type="checkbox"/> Overtaken by events |
| <input type="checkbox"/> See Minister's Notes | <input type="checkbox"/> Withdrawn |  |

Comment:

# Options for improving respiratory protection against aerosolised viral particles for vulnerable and priority populations

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**Security level:** IN CONFIDENCE                      **Date:** 13 April 2022

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**To:** Hon Chris Hipkins, Minister for COVID-19 Response  
Hon Dr Ayesha Verrall, Associate Minister for COVID-19 Response

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## Purpose of report

1. This report provides advice on options to provide vulnerable and priority populations with increased respiratory protection, in order to reduce the risk of transmission of COVID-19 to these groups.
2. The measures outlined in the report form part of the Ministry of Health's plan for managing New Zealand's health and disability system over winter of 2022.

## Summary

3. Winter 2022 will be a challenging time for the health system, and for individuals and communities who are particularly vulnerable to COVID-19.
4. As part of our preparation for the winter, the Ministry of Health has explored options for providing masks or particulate respirators to clinically vulnerable individuals and priority populations, in order to improve their respiratory protection and reduce the harm of COVID-19.
5. The Ministry assessed three specific options:
  - a. **Option 1** – P2/N95 particulate respirators
  - b. **Option 2** – alternative particulate respirators
  - c. **Option 3** – three-ply ASTM Level 2/Type IIR ear loop medical masks
6. Of these options, the provision of Level 2 ear loop medical masks (**Option 3**) is recommended because while these masks may be less protective on an individual basis than a correctly fitted particulate respirator, the Ministry considers it likely that a familiar, simple to use option will be more effective at a population level.
7. Particulate respirators have several useability issues, including that:
  - a. they are often uncomfortable for users to wear for extended periods of time, which may reduce the likelihood of them being used correctly – and therefore their effectiveness at reducing aerosol transmission of COVID-19;

- b. they can cause facial and skin irritation including damage to the skin and swelling to the face; and
  - c. particulate respirators increase the work of breathing more than medical masks and could have the additional risk of further compromising the respiratory capability of those who have respiratory or cardiac vulnerabilities.
8. Nonetheless, given the potentially increased respiratory protection for certain individuals, it is recommended that a smaller number of P2/N95 particulate respirators are provided to health providers from existing stock held by the Ministry of Health as soon as practicable, for use by the most clinically vulnerable patients (but potentially not those with respiratory/cardiac compromise).
9. The expected cost of providing medical masks through this initiative is \$18.8m through to 30 September 2022.
10. To support the provision of medical masks and respirators, the Ministry has developed criteria for determining who is a clinically vulnerable person. Should Ministers approve one of the options in this report, masks or respirators would be distributed via existing channels to both clinically vulnerable people and priority populations.
11. There are two complementary measures which the Ministry will undertake alongside provision of masks or respirators to clinically vulnerable people and priority populations:
- a. clear and culturally appropriate messaging over winter 2022 to reinforce fundamental infection prevention and control procedures, such as staying home while sick, wearing a mask and hand hygiene; and
  - b. promoting simple methods for increasing the effectiveness of medical masks by improving the fit, which include double masking or the use of toggles, clips or knots to shorten the ear loops.
12. Clinically vulnerable people and priority populations will be further supported through the use of oral anti-viral COVID-19 treatments. Pharmac has recently approved access criteria for these treatments which prioritise patients who are immunocompromised or have multiple risk factors, including certain specified conditions range of specified conditions, being over 65 years of age or being of Māori or Pasifika descent.

## Recommendations

I recommend you:

- a) **Note** that as part of its preparation for winter 2022, the Ministry of Health has undertaken an assessment of options to improve respiratory protection for clinically vulnerable people and priority populations. **Noted**
- b) **Agree** to the provision of Level 2 ear loop medical masks to clinically vulnerable people and priority populations at an estimated cost of \$18.8m to 30 September 2022. **Yes/No**
- c) **Agree** to providing a smaller number of P2/N95 particulate respirators to health providers from existing stock held by the Ministry of Health as soon as practicable, for use by the most clinically vulnerable patients. **Yes/No**

- d) **Note** that further work is required to clarify the operational guidance and preparation for the use of P2/N95 particulate respirators among those who are clinically vulnerable. This work will be completed by late April 2022. **Noted**
- e) **Note** that the Ministry has developed a definition of clinically vulnerable people, which is consistent with definitions adopted by comparable international jurisdictions, such the United Kingdom and Canada. **Noted**
- f) **Note** that should Ministers agree to provide Level 2/Type IIR ear loop medical masks, they would be distributed to clinically vulnerable individuals and priority populations through established channels used to distribute rapid antigen test kits and masks. **Noted**
- g) **Note** that the Ministry will also undertake two complementary measures to support and realise the benefits of providing masks: **Noted**
- i. providing clear and culturally appropriate messaging over winter 2022 to reinforce fundamental infection prevention and control procedures, such as staying home while sick, wearing a mask and hand washing; and
  - ii. promoting simple methods for improving the effectiveness of medical masks by improving the fit, such as double masks or using clips to shorten the ear loops.
- h) **Note** that clinically vulnerable individuals and priority populations will be further supported through the use of oral anti-viral COVID-19 treatments, with access criteria for these treatments having been recently approved by Pharmac. **Noted**



Dr Ashley Bloomfield

**Director-General of Health**

Date: 13 April 2022



Hon Chris Hipkins

**Minister for COVID-19 Response**

Date: 20/4/2022

Hon Dr Ayesha Verrall

**Associate Minister for COVID-19 Response**

Date:

# Options for improving respiratory protection against aerosolised viral particles for clinically vulnerable and priority populations

## Background and context

The winter of 2022 will be challenging for the health and disability system and for vulnerable New Zealanders

13. Winter is always a challenging time for the health system. Winter 2022 will be especially challenging due to a long tail of COVID-19 cases, and in time further waves of cases.
14. COVID-19 vaccines have been effective at reducing serious illness and hospitalisation, but this will wane over time.
15. We will be dealing with other illnesses that require a health system response using the same resources we have used to manage COVID-19. As our borders open, illnesses such as influenza and Respiratory Syncytial Virus (RSV), will be reintroduced into our communities.
16. We will be managing this in the context of a health workforce that has been under pressure for a long time, and a diminishing social licence for some of the public health measures we have used over the last two years.

## The Ministry of Health is preparing for the winter

17. The Ministry of Health (the Ministry) is preparing a winter plan to address this issue, and operational planning is already underway. Our focus remains on minimising serious illness and death, but the way in which we do that will need to change once again.
18. The proposals of this briefing form one element of those plans. The wider plans will be the subject of separate briefings.

## We need to continue to proactively learn about and respond to SARS-CoV-2 to improve outcomes for New Zealanders

19. Over the course of the pandemic there has been a shift in understanding about the mode of transmission of SARS-CoV-2, with an increasing recognition of the role that aerosol transmission plays in the spread of the virus. It is now widely accepted that SARS-CoV-2 can also be transmitted via infectious aerosols, and that this risk is increased in confined, poorly ventilated indoor spaces.
20. As we head into winter and with the risk of new variants emerging, it is important that we remain agile, proactively respond to the limited available evidence as it emerges, and progressively strengthen our risk mitigations as part of a precautionary approach. This is particularly pertinent within the context of our Omicron strategy.

## Options for improving respiratory protection for clinically vulnerable and at-risk populations

The Ministry has explored options for reducing serious illness and death among clinically vulnerable and priority populations by improving respiratory protection for those individuals

21. As part of our precautionary approach, it would be possible to provide a higher level of respiratory protection to those who are clinically vulnerable to respiratory viruses or members of priority populations than is offered by the medical masks or other face coverings currently used.
22. The purpose of providing respiratory protective equipment (RPE) would be two-fold:
  - a. reducing the real risk of serious illness, poor health outcomes and death for clinically vulnerable and priority populations by providing improved respiratory protection; and
  - b. providing greater assurance to clinically vulnerable people, to allow them to participate in society more confidently.

There are three feasible options for providing respiratory protective equipment free of charge to improve respiratory protection for vulnerable and priority populations

23. **Option 1: P2/N95 particulate respirators**, such as 3M 8210, 3M 9210 or Drager 1720C particular respirators, which are similar to those used by the non-healthcare workforce;
24. **Option 2: Alternative particulate respirators**, such as those which are designed to a KN95 or KF94 standard; and
25. **Option 3: Three-ply ASTM Level 2/Type IIR ear loop medical masks**, which are currently provided to patients and visitors in hospital, primary care and certain other settings and priority populations through direct distribution from the Ministry.
26. It is also possible to adopt a combination of these options, with different kinds of masks or respirators being provided to different groups.

The Ministry has assessed each of these three options against several key considerations

27. These factors are:
  - a. efficacy of the RPE for an individual, when used correctly;
  - b. real world efficacy of the RPE at a population level; and
  - c. supply and cost considerations.
28. A summary of this assessment is at **Attachment 1**, with a more detailed assessment set out below.

### Efficacy of the RPE for an individual, when used correctly

29. When used correctly, including being fitted tightly to an individual's face, P2/N95 particulate respirators (**Option 1**) are likely to provide the greatest level of respiratory protection of the three options considered. It is estimated that the fitted filtration

efficiency of such a respirator is up to 98%, compared with around 38.5% for a Level 2/Type IIR ear loop medical mask (**Option 3**).

30. Alternative particulate respirators (**Option 2**) may provide close to the level of respiratory protection for an individual which could be achieved with a P2/N95 particulate respirator. However, should Option 2 be pursued, a further review of the test certificate, regulatory requirements and verification for authenticity would be prudent.

#### Real world efficacy of the RPE, at a population level

31. At a population level, it is likely that the actual efficacy of these different kinds of RPE in improving respiratory protection would be markedly different, with Level 2/Type ear loop medical masks (**Option 3**) likely to be more effective than particulate respirators in reducing transmission of COVID-19 (and other respiratory illnesses), serious illness and death.
32. This is because of several significant disadvantages with particulate respirators:
- discomfort may reduce correct use:** particulate respirators – whether P2/N95 or an alternative – are often uncomfortable for a person to wear, particularly for extended periods of time. This is likely to increase the incidence of individuals removing their masks or wearing them in a way that it ineffective, such as covering their mouth but not their nostrils);
  - particulate respirators perform best when they fit well:** this means that a person wearing a loosely fitted P2/N95 particulate respirator may have a lower level of respiratory protection than a person wearing a well-fitting Level 2 ear loop medical mask; and
  - a possible perception by some individuals that they are “protected” by a higher grade of mask may increase complacency and reduce compliance with fundamental infection prevention and control practices:** the benefits of increased respiratory protection may be offset by reduced compliance with basic practices, such as staying home when sick, physical distancing or hand washing.

#### Supply and cost considerations – P2/N95 particulate respirators (**Option 1**)

33. Global supply of P2/N95 particulate respirators remains constrained for a variety of reasons, including the increasing incidence of COVID-19 cases, trade and export measures internationally and the reduction in emergency use authorisation initiatives.
34. The Ministry currently holds a total available supply of 6,247,680 P2/N95 particulate respirators (3M 8210, 3M 9210 & Drager 1720C), for this initiative. There is the potential to utilise the previous national reserve supply however, this is contingent on further review of the retested documentation and quality of held stock. If available and required for use post examination, this would add a further 9 million P2 particulate respirators to the current available stock.
35. The following supply model has been created on the assumption that the clinically vulnerable population requirements equates to 800,000 people with an average weekly use of 3 comparable P2/N95 particulate respirators, and at an average cost of \$2.00 per particulate respirator (mask + freight) (**Table 1**).

36. Note that this supply model is on top of the current utilisation and budget estimations for the healthcare and disability workers currently accessing and utilising P2/N95 particulate respirators.

Table 1: P2/N95 particulate respirators (**Option 1**) for use by clinically vulnerable people and cost assumptions

Clinically vulnerable additional respiratory comparable P2/N95 supply requirements (approximate)	P2/N95 Per week requirements (at 3 particulate respirators per week)	P2/N95 Cost per week (average at \$2 per unit purchased at national volume)	Total volume of respirators required to support initiative until 30 September 2022	Impact of decision on budget (from 14 April 2022 to 30 September 2022)
800,000	2.4m	\$4.8m	57.6m	\$115.2m

### Supply and cost considerations – alternative particulate respirators (**Option 2**)

37. The Ministry has the opportunity to source alternate particulate respirators in the form of a Chinese KN95, Korean KF94 or European FFP2, for this initiative. These differ by  $\leq 1\%$  bacterial filtration efficacy compared with P2/N95 particulate respirators. Again, this is contingent on further review of the test certificate, regulatory requirements and verification for authenticity.
38. The following supply model has been created on the assumption that the clinically vulnerable population requirements equates to 800,000 people with an average weekly use of 3 comparable alternate particulate respirators, and at an average cost of \$0.80 per particulate respirator (mask + freight) (**Table 2**).
39. Note that this supply model is new and based on assumptions and indicative national volume sourced costs.

Table 2: Alternate particulate respirators (**Option 2**) for use by clinically vulnerable people and cost assumptions

Clinically vulnerable additional respiratory comparable P2/N95 supply requirements (approximate)	Alternate particulate respirators Per week requirements (at 3 particulate respirators per week)	Alternate particulate respirators Cost per week (average at \$0.80 per unit purchased at national volume)	Total volume of respirators required to support initiative until 30 September 2022	Impact of decision on budget (from 14 April 2022 to 30 September 2022)
800,000	2.4m	\$1.92m	57.6m	\$46.08m

### Supply and cost considerations – alternative particulate respirators (**Option 3**)

40. The Ministry has the opportunity to consider the use of 3 ply ASTM Level 2/Type IIR ear loop medical mask to provide clinically vulnerable people with sufficient specification masks.
41. The following supply model has been created on the assumption that the clinically vulnerable population requirements equates to 800,000 people with an average weekly use of seven 3 ply ASTM Level 2/Type IIR ear loop medical mask and at an average cost of \$0.14 per mask (mask + freight) (**Table 3**).

42. Note the Ministry of Health has provided over 10 million 3 ply ASTM Level 2/Type IIR ear loop medical masks to priority populations since 17 August 2021.

Table 3: 3 ply ASTM Level 2/Type IIR medical masks (**Option 3**) for use by clinically vulnerable people and cost assumptions

Clinically vulnerable additional respiratory comparable Medical/Procedure mask supply requirements (approximate)	Medical/Procedure mask Per week requirements (at 7 masks per week)	Medical/Procedure mask Cost per week (average at \$0.14 per unit purchased at national volume)	Total volume of medical masks required to support initiative until 30 September 2022	Impact of decision on budget (from 14 April 2022 to 30 September 2022)
800,000	5.6m	\$0.78m	134.4m	\$18.8m

**Based on this assessment, it is recommended that Ministers approve Option 3**

43. While on an individual basis, particulate respirators may provide greater respiratory protection for an individual and may give some users greater confidence to participate more fully in society, Level 2/Type IIR ear loop medical masks remain the most suitable option for use by the public.
44. These masks are easy to use, familiar, inexpensive, more comfortable than particulate respirators and effective.
45. Option 3 will build on the Government’s existing approach, with the Ministry having already provided over 10 million Level 2/Type IIR ear loop medical masks to priority populations since 17 August 2021.

**However, in the case of individuals who are clinically vulnerable, there is a strong case to supply smaller numbers of P2/N95 particulate respirators**

46. It is also recommended that a smaller number of P2/N95 particulate respirators be supplied to health providers from existing stock held by the Ministry of Health as soon as practicable, for use by the most clinically vulnerable patients, but potentially not those with respiratory/cardiac compromise.
47. This measure acknowledges that in certain cases, there may significant benefits to for high risk individuals from using particulate respirators. This might include, for example, an immunosuppressed patient who is regularly required to visit a hospital for treatment.
48. To enable this measure to be effective, the Ministry of Health will work to clarify the operational IPC guidance for the use of comparable P2/N95 particulate respirators and will support local health providers with information to provide to at risk patients. This work will be complete by late April 2022, alongside an active infection prevention and control national communications programme.

**The Ministry has developed criteria for determining eligibility to receive publicly funded masks or respirators based on clinical vulnerability to COVID-19, which are similar to definitions adopted in comparable international jurisdictions**

49. In countries like the United Kingdom, France, United States and Canada, there have been various definitions of "extremely high risk" patients, including but not limited to the term "clinically extremely vulnerable". Given New Zealand's high vaccination rates broadly, we have settled on the term "clinically vulnerable" only for this initiative.
50. People defined as clinically extremely vulnerable are at very high risk of severe illness from COVID-19. Internationally, there are two ways in which people have been identified as clinically vulnerable:
  - a. they have one or more of the conditions listed below; or
  - b. their hospital clinician or general practitioner has confirmed in writing that based on their clinical judgement, they deem a person to be at higher risk of serious illness if they catch the virus or if they have not received vaccination for the virus due to a serious medical condition.
51. Adults and young persons with the following conditions would be deemed clinically vulnerable for the purposes of additional respiratory protective equipment (publicly funded and provided mask/particulate respirator):
  - a. Solid organ transplant recipients
  - b. Those with specific cancers:
    - i. People with cancer who are undergoing active chemotherapy
    - ii. People with lung cancer who are undergoing radical radiotherapy
    - iii. People with cancers of the blood or bone marrow such as leukaemia, lymphoma or myeloma who are at any stage of treatment
    - iv. People having immunotherapy or other continuing antibody treatments for cancer
    - v. People having other targeted cancer treatments that can affect the immune system, such as protein kinase inhibitors or poly adenosine diphosphate-ribose polymerase (PARP) inhibitors
  - c. People who have had bone marrow or stem cell transplants in the last 6 months or who are still taking immunosuppression drugs
  - d. Those with severe respiratory conditions including all cystic fibrosis, severe asthma and severe chronic obstructive pulmonary disease (COPD)
  - e. Those with rare diseases that significantly increase the risk of infections (such as severe combined immunodeficiency (SCID), homozygous sickle cell disease)
  - f. Those on immunosuppression therapies sufficient to significantly increase risk of infection
  - g. Adults with Down's syndrome
  - h. Adults on dialysis or with chronic kidney disease (stage 5)
  - i. People who are pregnant with significant heart disease, congenital or acquired

- j. Other people who have also been classed as clinically vulnerable, based on clinical judgement and an assessment of their needs. GPs and hospital clinicians have been provided with guidance to support these decisions.
52. There remains a smaller number of people who, in spite of COVID-19 vaccination, are at higher risk of serious illness from COVID-19. This is due to a weakened immune system (immunosuppressed) or specific other medical conditions and requires enhanced protections such as those offered by antibody and antiviral treatments, additional medical supports and potentially other non-clinical interventions such as masking.
53. Immunosuppression means a person has a weakened immune system due to a particular health condition or because they are on medication or treatment that is suppressing their immune system. People who are immunosuppressed, or have specific other medical conditions, may have a reduced ability to fight infections and other diseases, including COVID-19.
54. Most people with immunosuppression will be under the care of a hospital specialist and will usually have been identified in one of 2 ways:
- Eligibility for a publicly funded clinically administered Flu vaccination or early COVID-19 vaccine booster and
  - Eligibility for new treatments for COVID-19.
55. For the purposes of this initiative, priority populations are considered to be:
- Māori;
  - Pasifika;
  - People aged 65 or over; and
  - People with disability.

**Masks and respirators would be distributed through established channels already used to distribute rapid antigen test kits and medical masks**

56. This would include:
- Māori and Pacific health providers who assess their patients are clinically vulnerable;
  - Māori and Pacific health providers who determine their patients reflect a priority population in need;
  - community assessment teams who determine their patients as clinically vulnerable;
  - general practice and urgent care clinics who assess their patients as clinically vulnerable or who are representative of a priority population;
  - the Maori Provider Distribution Channel (MPDC) which has a reach of over 1000 community partners serving vulnerable and marginalised communities; and
  - Māori and Pacific support services that are not currently supported by the Ministry of Social Development funding to access medical masks.
  - funded disability service providers, including for disabled people who employ their own support workers through individualised funding or personal budgets; and
  - distribution through assisted pathways, like the RAT home delivery and rural delivery services.

## **The Ministry will also undertake two complementary measures to support and realise the benefits of providing masks to clinically vulnerable people and priority populations**

57. Supporting measures will comprise:
- a. clear and culturally appropriate communications leading into and throughout the winter of 2022 to reinforce the importance of fundamental infection prevention and control practices. This includes, but is not limited to, staying at home while sick, using masks, hand washing, obtaining a test for COVID-19 and reporting test results;
  - b. promoting simple methods for improving the effectiveness of medical masks by improving the fit. This would include:
    - i. double masking, that is, wearing a medical mask underneath a tighter fitting cloth mask; and
    - ii. the use of clips, mask braces, fasteners, and/or toggles, which attach to the ear loops and tighten the mask behind the ears or head.

### **Access to oral anti-viral COVID-19 treatments**

58. Clinically vulnerable people and priority populations will also benefit from access to oral anti-viral COVID-19 treatments.
59. Pharmac has recently approved access criteria for these treatments which prioritise patients who are:
- a. immunocompromised; or
  - b. have five or more risk factors, including certain specified conditions range of specified conditions, being over 65 years of age or of Māori or Pasifika descent.
60. These treatments will work alongside public health measures to help reduce serious illness and death among clinically vulnerable people and priority populations.

### **Te Tiriti analysis**

61. Māori are one of the priority populations considered for this initiative. The distribution of Level 2/Type IIR ear loop medical masks to Māori is proposed in recognition of the greater risk faced by Māori due to COVID-19.
62. As with the distribution of other medical consumables to Māori (such as testing kits), the Ministry is seeking to partner with Māori health organisations and other support services as a key mechanism for distribution of masks and respirators.
63. Māori health organisations will also play a role in determining which clinically vulnerable Māori may benefit from the use of P2/N95 particulate respirators.
64. This role allows Māori to exercise rangatiratanga in the way in which RPE is distributed to Māori, and who among that community should receive different kinds of RPE.

### **Equity**

#### Usability and fit of the masks

65. A key consideration for this work has been the suitability of different kinds of respirators and masks for a wide variety of users, including elderly or disabled users and users of different ethnic backgrounds.

66. Current evidence suggests that the *fit* of a mask is an important factor with respect to the level of respiratory protection they provide to the wearer against aerosols. This means that a poorly fitted mask (e.g. with 'gaping' at the sides) provides less respiratory protection to the wearer than a mask that is well-fitted to an individual's face.
67. Given the diversity in facial characteristics across the motu, there is likely to be variation in the quality of fit of masks, and therefore protection provided by these masks.
68. There are limited options available to us to provide clinically vulnerable people with better fitting masks.
69. From the perspective of users, one of the key advantages of Level 2/Type IIR ear loop medical masks is that they can be readily combined with other masks or adjusted through simple inexpensive means such as clips or knots to improve the fit, and that because the masks are so flexible, this is true for all users.
70. The majority of people are adept at using these types of masks and know how to put them on and remove them safely. Nonetheless, there will always remain some people who will have difficulty using any kind of mask or respirator effectively, such as individuals with arthritis that makes it difficult to manipulate the ear loops of a mask, or those with breathing difficulties.

#### Accessibility of supply

71. In order for the additional masks and respirators to be useful, they must be accessible to clinically vulnerable people and priority populations. This is a particular issue for isolated, rural communities, as well as some individuals with physical disability.
72. For this reason, the Ministry will rely on a wide range of established distribution channels that reach deep into different populations, and which have already been used to distribute masks and Rapid Antigen Test kits.

#### Preference for other types of RPE

73. Some individuals who are not clinically vulnerable may prefer to use a particulate respirator, notwithstanding the factors which may reduce the effectiveness of these devices and the discomfort of wearing them for extended periods of time.
74. For such individuals, the best option may be to purchase KN95 particulate respirators or comparable models, which are widely available in New Zealand.

#### **Next steps**

75. Subject to ministerial approval, the Ministry will immediately progress implementation as part of our preparations for the winter of 2022.
76. We will keep you informed of progress in our regular weekly updates.

**ENDS**

**Attachment 1 – summary of assessment of options for improving respiratory protection for clinically vulnerable people and priority populations**

	<b>Option 1 P2/N95 particulate respirators</b>	<b>Option 2 Alternative particulate respirators</b>	<b>Option 3 Level 2 ear loop medical masks</b>
<b>Efficacy for an individual</b>	Most effective, if fitted correctly on a user's face	Highly effective, if fitted correctly on a user's face	Moderately effective, but able to be made significantly more effective by improving the fit (eg: with double masking or tightening ear loops)
<b>Efficacy at population level</b>	Effectiveness at a population level is likely to be reduced by the discomfort most users will feel wearing particulate respirators for extended periods. Effectiveness may also be offset due to greater complacency about basic infection and control practices.	Effectiveness at a population level is likely to be reduced by the discomfort most users will feel wearing particulate respirators for extended periods. Effectiveness may also be offset due to greater complacency about basic infection and control practices.	Likely to be most effective at a population level due to greater comfort, ease of use, familiarity and suitability for a wide range of different face shapes
<b>Feasibility of supply</b>	Able to be supplied	Able to be supplied, subject to on further review of the test certificate, regulatory requirements and verification for authenticity	Able to be supplied
<b>Estimated cost</b>	\$115.2m	\$46.08m	\$18.8m