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Ministry of Health:  
Management of  
personal protective  
equipment in  
response to  
Covid-19



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# Ministry of Health: Management of personal protective equipment in response to Covid-19

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# Auditor-General's overview

E ngā mana, e ngā reo, e ngā karangarangatanga maha o te motu, tēnā koutou.

Along with the rest of the world, New Zealand has been grappling with Covid-19, a pandemic that has needed an unprecedented response and affected the lives of every New Zealander. Our health and disability sector has borne much of the burden of that response.

New Zealanders should, quite rightly, expect our health system to be capable of rapidly and competently responding to a foreseeable emergency, including a pandemic. Part of that response includes the need to ensure access to enough appropriate personal protective equipment (PPE) to keep those who need it and those they are caring for safe.

After the H5N1 bird flu outbreak in 2005 and the outbreak of SARS (Severe Acute Respiratory Syndrome) in 2006, the Ministry of Health (the Ministry) and district health boards (DHBs) planned how the health and disability sector would respond to, and co-ordinate in, an emergency. They also set up the national reserve of PPE to ensure access to critical supplies during a pandemic.<sup>1</sup> The Ministry and DHBs hold these supplies.

Covid-19 has been the first real test of this pandemic preparedness. The size, scale, and speed of the pandemic required the Ministry to play a strong and decisive leadership role in a largely devolved sector. This has tested the planning and processes that were in place. There have been several epidemics and a pandemic in recent times. However, these did not trigger such high domestic or international demand for PPE as we have seen with the Covid-19 pandemic. Covid-19 has affected global supply chains to multiple sectors, including health and disability providers.

To date, New Zealand's health response to the Covid-19 pandemic has been highly effective. The country has contained a disease that has already caused hundreds of thousands of deaths worldwide.

However, during the early stages of the response, health professionals, community-based health and disability providers, and those they were providing care for questioned whether PPE was getting to where it was needed, when it was needed.

Public reassurance about the availability of PPE appears to have led to confusion about who should have access to PPE and in what circumstances. PPE supply has caused deep concern for some vulnerable groups and the carers who work with them.

In times of crisis, people need to have trust and confidence in the systems and arrangements set up to support them. I decided that it was important to take

<sup>1</sup> Ministry of Health (2017), *New Zealand Influenza Pandemic Plan*, page 13. Ministry of Health, *National Health Emergency Plan National Reserve Supplies Management and Usage Policies*, pages 1-3.

an independent look at how the Ministry has been managing both the national reserve of PPE, and the supply of PPE during the pandemic.

In April 2020, I agreed with the Ministry to independently review the Ministry's management of PPE during the early stages of the country's response to Covid-19.<sup>2</sup> We chose to do a relatively rapid review given the currency of the issues and the high level of public interest in PPE.

This has meant that we have carefully targeted the scope of our work. We were also aware that the agencies we were reviewing needed to prioritise their resources on the Covid-19 response rather than on our review.

I will want to consider other matters about the Government's response to Covid-19 in the future, and I will report on these separately.

## What we found

The Ministry and DHBs had planned for a national health emergency. The Ministry and DHBs maintain a strategic national supply of critical clinical items, including PPE, to ensure health services have continued access to them during large or prolonged emergencies that generate unusual demands on normal stocks or supply chains. However, there were gaps in the planning about how PPE would be procured and distributed to mitigate the risk of shortages.

The Ministry did not regularly review DHBs' plans to ensure that they were kept current and that they were well aligned with the Ministry's overall plans. We found some misalignment in the plans about roles and responsibilities for both planning for, and providing PPE in a pandemic, which led to confusion.

The gaps in the planning also meant that the Ministry was not well positioned to ensure that PPE was available in enough quantities throughout the country to meet the demand caused by the pandemic.

The health and disability system is semi-devolved, with distributed responsibilities and often complex arrangements between the Ministry, DHBs, and other organisations. The Ministry is responsible for monitoring and forecasting usage of the national reserve of PPE, and prioritising and allocating supplies when needed.

However, in early February 2020, the Ministry did not know what PPE stock the DHBs held in their reserve supplies or have a system to forecast demand. The devolved system of managing and distributing PPE stock for operational use was not able to manage the increased flow of stock needed during the Covid-19 response, and DHBs identified that some of the national reserve stock DHBs held had expired.

<sup>2</sup> For the purposes of this report, when we talk about PPE, we mean masks (standard surgical and N95 masks), goggles, face shields, gowns, aprons, and gloves.

Before Covid-19, DHBs mostly procured stock, including PPE, individually or regionally. Not surprisingly this system did not lend itself to effective procurement in a competitive and internationally constrained market for PPE in the midst of a pandemic.

Guidelines about who should use what PPE and in what circumstances evolved during the response, and communications about those guidelines caused confusion. The changes in guidelines also challenged assumptions about the amounts of PPE that would be needed.

Despite the challenging position the Ministry was in, the Ministry and DHBs worked hard to adapt the processes during the “lockdown” phases of the country's response to Covid-19.

The Ministry moved quickly to set up a new centralised system for procuring, prioritising, and distributing PPE stock. Ideally, that system would have been better planned for and tested as part of the health sector's emergency readiness.

To be sufficiently prepared in the future, the health and disability sector needs a clear understanding of what PPE is held where, who it should be provided to, a way of forecasting demand, and a scalable system for procuring and distributing stock. This will provide some assurance that the right PPE is available and that it is getting to the right people at the right place at the right time.

In my view, Covid-19 would have challenged any public health and disability system. Although New Zealand has been successful in limiting its deadly effects so far, the national lock-down meant our health system has not been tested on a scale that other nations' systems have been tested.

It is important to note that we are not out of the woods yet – there is still a risk that Covid-19 will re-emerge or another pandemic occur. However, much has been learned through this response. I consider that my recommendations will contribute to strengthening the resilience of the systems that support the supply of PPE and assist the Ministry and wider health system to prepare for similar threats that could emerge at any time.

I thank the many people who co-operated with, and contributed to, this report and took the time to talk to us while they were managing a national health emergency. I also thank those people and organisations who approached us with information about the management of PPE.



And I, along with the rest of New Zealand, acknowledge and thank the frontline health and disability workers and Ministry and DHB staff who have worked tirelessly to respond to the pandemic and protect the health of New Zealanders in difficult circumstances.

Nāku noa, nā

A handwritten signature in black ink, appearing to read 'JMRyan', with a stylized flourish at the end.

John Ryan

Controller and Auditor-General  
15 June 2020

# Our recommendations

We recommend that:

1. the Ministry of Health regularly review district health boards' health emergency plans to ensure that they are complete, up to date, and consistent with each other and with the Ministry's overarching Emergency Plan. The plans need to be kept current and tested regularly;
2. the health emergency planning framework contain specific guidance about responsibilities for procuring and distributing personal protective equipment;
3. the Ministry of Health and district health boards, with appropriate health and disability sector representatives, review how clinical guidelines for personal protective equipment will be prepared or amended and consistently communicated during emergencies. The Ministry needs to ensure that demand forecasting, supply, and procurement are updated to take account of changes to guidance that have an effect on demand;
4. the Ministry of Health consider whether the roles, responsibilities, coverage, requirements, and planning assumptions for maintaining the national reserve of personal protective equipment are clear and remain appropriate;
5. the Ministry of Health work with other government agencies to determine how workers and providers not currently covered by the national reserve of personal protective equipment access it in the future and clarify roles and responsibilities for this change;
6. the Ministry of Health regularly reassess assumptions for the categories and amount of personal protective equipment to be held in the national reserve;
7. the Ministry of Health implement a centralised system for regular public reporting on the national reserve and implement periodic stocktakes to confirm the accuracy of the data and the condition of the stock;
8. the Ministry of Health reintroduce a requirement for district health boards to manage national reserve stock in such a way as to reduce the risk of stock becoming obsolete;
9. the Ministry of Health, in collaboration with district health boards, prepare more detailed operational plans and processes that describe how the national reserve system should operate (including distribution mechanisms) and test these as part of future national health emergency exercises; and
10. the Ministry of Health and the district health boards strengthen the procurement strategy by including an analysis of risks to the supply chain and have a plan to address those risks.

# Introduction

- 1.1 For decades, the public health community has warned about the risks of a pandemic from a new virus. SARS (severe acute respiratory syndrome), a type of coronavirus, emerged in 2002. In 2005, a highly pathogenic strain of avian influenza called H5N1 emerged. Fortunately, it was limited in its spread.
- 1.2 Following the emergence of the 2005 avian influenza, the Ministry of Health (the Ministry) prepared a national health plan outlining how to mobilise and coordinate the health and disability sector to respond to a pandemic.
- 1.3 Following the 2005 avian influenza outbreak, Cabinet agreed to funding the Ministry to establish a national reserve of supplies – such as personal protective equipment (PPE), antibiotics, and antiviral medication – to mitigate the risk that a pandemic would cause a spike in demand that our usual international supply chains would not be able to meet.
- 1.4 The Ministry also contracted a private firm, Safety & Medical Manufacturers Limited, trading as Quality Safety (QSi), to domestically manufacture N95 masks (a type of face mask with a 95% efficiency rating) and general purpose (surgical) masks for the national reserve of PPE. This was to offset the risk of having difficulty procuring these masks internationally during a pandemic.
- 1.5 District health boards (DHBs) held operational supplies of PPE for day-to-day use and some national reserve supplies of PPE.
- 1.6 In early 2020, PPE was needed in large quantities and at short notice to safely manage the health risks posed by an aggressive strain of coronavirus that the World Health Organization (WHO) named Covid-19.
- 1.7 Despite the planning and preparation measures, during the Covid-19 response, the media reported concern about whether there was enough PPE, whether the guidance on when and how it should be used was clear, and whether it was getting to all the health and disability workers who needed it.
- 1.8 As the response progressed, these concerns were raised not only by those working in hospitals and primary care settings but also by community-based health and disability providers, people with disabilities receiving assistance from those providers, and non-health workers.
- 1.9 Essential services outside the health sector were turning to the Ministry to provide PPE. There appears to have been an expectation that the Ministry was responsible for providing PPE in circumstances that had not previously been contemplated.
- 1.10 To provide assurance to Parliament and the public, we agreed with the Ministry to provide an independent targeted review of the Ministry's overall approach to managing the PPE that was needed for the Covid-19 response.

## The scope of our work

- 1.11 Our review examined the system for managing the stock of PPE and how well that system could be mobilised to adequately supply and effectively distribute PPE. We assessed the systems for procuring PPE, distributing it to DHBs and others, and managing the stock levels.
- 1.12 The short time frame for completing this work meant that we have not been able to form a complete picture of what happened when health and disability providers, private sector health workers, or other essential services workers tried to access PPE.
- 1.13 However, some of what we have learned about how the national reserve system was originally set up and then operated may shed light on the experiences that people have reported.
- 1.14 We have identified features of the national reserve system that, in our view, warrant revisiting to make sure that the system is ready to respond to any further wave of Covid-19 and the next pandemic.
- 1.15 We did not physically inspect stock levels for two main reasons. First, our staff were unable to visit storage locations while non-essential workers were asked to work from home. Secondly, we understood that stock levels were changing from day to day, if not hour to hour, as supplies arrived and were distributed. There was little or no value in physically inspecting stock levels at one point in time.
- 1.16 We are not clinical specialists, so we did not review the appropriateness of the Ministry's clinical guidance on PPE use. However, we looked at the timing and clarity of the guidance and how that affected health workers' understanding of, and expectations about, their use of PPE.

## How we carried out our work

- 1.17 To carry out this work, we spoke with a wide range of people involved in supplying, managing, and distributing PPE. We requested, reviewed, and analysed a large volume of documents from them and the Ministry and DHBs. We checked our understanding of the responsibilities, systems, and processes with those involved and asked for further information where necessary.
- 1.18 To understand the context the Ministry and DHBs were working in, we looked at the plans and policies that govern pandemic emergency preparedness in the health and disability sector. Our focus was on the national reserve of PPE. We looked at the extent to which the plans were followed before Covid-19 and sought to identify any critical gaps in the plans.

- 1.19 We gathered information from five DHBs – Auckland, Waikato, Capital and Coast, Canterbury, and Southern – because these DHBs had been assigned as leading the procurement for aspects of the Covid-19 response.<sup>3</sup>
- 1.20 We did not seek views from the health and disability sector outside of the Ministry and DHBs or from members of the public. However, several individuals and organisations approached us and shared their experiences and observations.
- 1.21 In some instances, our work supported the observations that people made. We could not substantiate some of the comments, and others were outside the scope of our work. In forming our views, we have relied primarily on the evidence we collected.
- 1.22 Appendix 3 lists the organisations we talked to.

### Structure of our report

- 1.23 Part 2 describes the plans that were in place to guide the health and disability sector's response to a pandemic.
- 1.24 Part 3 discusses the clinical guidance on PPE, including how it changed and was communicated during the pandemic.
- 1.25 Part 4 describes the national reserve system for PPE, and Part 5 discusses what the Ministry knew about those supplies.
- 1.26 Part 6 covers the systems for ordering and distributing PPE and how those systems needed to change as part of the response to Covid-19.
- 1.27 Part 7 describes the systems for purchasing PPE and how they also needed to change during the response to Covid-19.

3 We note that Auckland DHB and HealthSource jointly managed procurement.

# 2

## What plans were in place for responding to a pandemic?

- 2.1 The national health emergency system requires integrated planning and collaboration (between the Ministry, DHBs, and others in the health and disability sector that the Ministry oversees).
- 2.2 In this Part, we describe the planning for pandemics and, in particular, the aspects of the plans that relate to PPE. We look at the extent to which the Ministry and DHBs implemented those plans during the response to Covid-19 and how well those plans assisted the response.
- 2.3 We looked at the health emergency response planning framework, each of the individual plans that form part of the framework, and the monitoring and reporting arrangements associated with those plans.

### Planning framework to support readiness for a national health emergency

- 2.4 The planning framework guiding health responses for a national emergency mainly comprises:
  - the National Health Emergency Plan (the Emergency Plan);<sup>4</sup>
  - the New Zealand Influenza Pandemic Plan;<sup>5</sup>
  - the National Health Emergency Plan: Infectious Diseases (the Infectious Diseases Plan)<sup>6</sup> – the Ministry is responsible for preparing and maintaining these plans;
  - the Operational Policy Framework (set by the Ministry), which includes expectations about DHBs' health emergency plans; and
  - the health emergency plans developed by DHBs.

### The national plans

- 2.5 The Emergency Plan is an overarching plan that sets out how the health and disability sector needs to co-ordinate with other government agencies to respond to an emergency. It has six risk components – risks, risk understanding, readiness, reduction, response, and recovery. The Emergency Plan has several subsidiary plans for managing specific health emergencies. Its policies include the National Reserve Supplies Management and Usage Policy (the Reserve Supplies Policy).

4 Ministry of Health (2015), *National Health Emergency Plan – A framework for the health and disability sector*, Wellington.

5 Ministry of Health (2017), *New Zealand Influenza Pandemic Plan*, Wellington.

6 Ministry of Health (2004), *National Health Emergency Plan: Infectious Diseases*, Wellington.

- 2.6 The Emergency Plan notes that every health provider has an obligation to understand the hazards and the risks it faces so that it can make informed decisions about how best to manage risk and develop needed capabilities to respond to an emergency.
- 2.7 The Emergency Plan refers to approaches or options for managing emergency surge capacity during periods of significant increased demand on health services. The Emergency Plan describes options for managing the risk of general supply shortages, including:
- prepare – routinely maintain stockpiles of necessary items or their equivalents;
  - substitute or adapt – use a clinically equivalent or alternative item or technology;
  - conserve – use less of a resource by reviewing dosage and utilisation practices;
  - reuse – use again after appropriate disinfection or sterilisation; and
  - reallocate – move therapy or technology from one patient to another with a higher chance of benefit.
- 2.8 The Emergency Plan requires DHBs to manage their “business as usual” supplies and supply chain capacity at a level that can support all reasonably predictable local events without needing additional resources from national reserves.
- 2.9 The Ministry prepared further specific plans to guide emergency responses that sit underneath the Emergency Plan. The New Zealand Influenza Pandemic Plan describes how an influenza pandemic (and other respiratory pandemic) disease outbreak should be managed. It provides an overview of activities to prepare for an influenza pandemic and describes all-of-government response measures that could be implemented.<sup>7</sup> It was this Plan that was operationalised to support the Covid-19 response.
- 2.10 The Infectious Diseases Plan focuses on how to respond to a potentially containable emergency infectious disease such as SARS and describes the role of DHBs in supporting emergency responses to infectious disease outbreaks. This Plan contemplates that, in an emergency, the Ministry may consider national procurement where there are difficulties procuring critical supplies, but it lacks any detail about how and when this would be done.

7 This plan had two substantive updates. The first was in 2010 based on insights gained from the SARS outbreak in 2004 and the Influenza A (H1N1) pandemic in 2009. In 2017, there was a minor update to reflect changes to legislation and terminology. The decisions, interventions, and phases of pandemic planning and response remained unchanged.

### DHB health emergency plans

- 2.11 The Ministry's Operational Policy Framework for DHBs (executed through funding agreements between the Ministry and DHBs each year) tasks DHBs and public health units with developing and maintaining regional health emergency plans. Those plans, among other matters, identify how DHB-funded ambulance, primary, secondary, tertiary, mental health, disability support, aged residential care, and public health services will be prioritised, structured, and delivered during the response phase of health emergencies.
- 2.12 DHBs are required to develop, maintain, exercise, and operate their own health emergency plan. They also need to ensure that health care providers and supporting agencies (through contractual arrangements) plan, maintain, exercise, and continue to deliver health services in an emergency.
- 2.13 The DHB's health emergency plan is also meant to identify the roles and resources of health-related non-governmental organisations, volunteer organisations, and iwi/Māori and Pasifika providers.
- 2.14 The health emergency plan should describe its links with, assumptions about, and critical dependencies on the emergency response plans of those organisations. It does not state any expectations about these organisations needing to maintain their own PPE supplies or whether they could expect to rely on DHBs' national reserve supplies of PPE in an emergency.
- 2.15 DHBs are expected to require all the services they fund (for example, ambulance, primary, secondary, tertiary, mental health, aged residential care, and public health providers) to have emergency plans and resources, and to ensure that those plans are integrated, co-ordinated, and exercised alongside the DHB's health emergency plan. DHBs are meant to post their health emergency plans on their websites. We could not find complete or up-to-date health emergency plans on every DHB website.
- 2.16 The Ministry is responsible for leading planning for health-related emergencies and for ensuring a co-ordinated planning approach between the DHBs. The Ministry told us that it does not check whether DHBs have published their health emergency plans and does not have any process to formally review them.



## Our observations

### Integrated planning is needed

- 2.17 Several plans have supported, and continue to support, the response effort of the Ministry and DHBs. There are also arrangements for the Ministry and each DHB to hold national reserves.
- 2.18 The semi-devolved nature of the health and disability sector, with 20 DHBs and different health provider contracting models, makes effective planning more complex than it would be under a centralised model. However, it is critical that there is a co-ordinated response to emergency situations.
- 2.19 DHBs are meant to publish their health emergency plans on their websites, but they have not done this consistently and some plans are out of date. The Ministry is responsible for co-ordinating health emergency responses but has not reviewed these plans. In our view, the Ministry needs to exercise stronger leadership and ensure that plans are complete, up to date, and consistent with each other, as well as with the Ministry's overarching Emergency Plan.

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### Recommendation 1

We recommend that the Ministry of Health regularly review district health boards' health emergency plans to ensure that they are complete, up to date, and consistent with each other and with the Ministry's overarching Emergency Plan. The plans need to be kept current and tested regularly.

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- 2.20 We observed some inconsistencies with the roles and responsibilities for providing PPE between aspects of the planning framework, particularly the Operational Policy Framework and the Reserve Supplies Policy. We discuss the Reserve Supplies Policy in Part 4.
- 2.21 There were also gaps in the planning about how and when supplies would be procured to mitigate the risk of shortages if the national reserve of PPE came under pressure during a health emergency response.
- 2.22 In our view, a new policy should set out how and when a centralised procurement system would need to be set up and how this should work. This policy should be clear about the roles and responsibilities of those involved in procurement and should consider and document the main risks to the supply chain.

### The need for national operations during a response

- 2.23 The planning documents contained few details about how a national PPE system would operate. The working assumption appears to have been that the usual processes for procurement and logistics could be used.
- 2.24 During the response, those processes were not effective. We discuss this in more detail in Parts 5 and 7.
- 2.25 As a result, the Ministry needed to urgently implement new models for procuring and distributing PPE. In our view, the Ministry should have considered this as part of readiness planning, rather than having to resolve it during the response.
- 2.26 It would be advisable that plans include more detail on what an operating model for procurement and distribution in a national emergency should look like.

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### Recommendation 2

We recommend that the health emergency planning framework contain specific guidance about responsibilities for procuring and distributing personal protective equipment.

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- 2.27 The Ministry was due to revise the Emergency Plan this year. This gives the Ministry and DHBs an opportunity to update the Emergency Plan based on the lessons learnt from Covid-19 and better prepare for future health emergencies.

## How was clinical guidance developed?

- 3.1 Media coverage and correspondence we received contained criticism that the Ministry's guidance about what PPE was needed was too narrow. Many health and disability workers and the people they were caring for felt that they needed a higher level of PPE to feel safe. Frontline workers and those they cared for were concerned about the risk of contracting and spreading Covid-19.
- 3.2 In this Part, we describe the guidance the Ministry issued about the use of PPE, how it prepared and communicated that guidance, and how this affected health workers' understanding of, and expectations about, the PPE they would need.
- 3.3 For the purposes of this report, we focused mainly on the guidance aimed at community workers. Based on the media coverage and information provided to us, this appeared to be where there was most confusion about what PPE was needed.

### What was the guidance on personal protective equipment?

- 3.4 Under the Emergency Plan, the Ministry is responsible for developing clinical guidelines and DHBs are responsible for observing all clinical guidelines, usage policies, and national priorities developed by the Ministry.
- 3.5 In mid-January 2020, the Ministry set up an Infection Prevention Committee to review and sign off on clinical guidance for use in New Zealand. In developing clinical advice, the Ministry closely followed WHO guidance on the appropriate use of PPE.<sup>8</sup>
- 3.6 On 27 March 2020, the Ministry published guidance for DHBs on prioritising the use of PPE in particular clinical settings (see Appendix 1). On 28 March 2020, it provided specific guidance for community care providers (aged residential care, aged-related community care, disability, hospice, and home care services – see Appendix 2).
- 3.7 By 31 March 2020, a national state of emergency had been declared. New Zealand was under “lockdown” and only essential services remained open. There were cases of community transmission of Covid-19. Levels of concern about the safety of health care and other essential workers were understandably high.

<sup>8</sup> World Health Organization, *Rational use of personal protective equipment (PPE) for coronavirus disease (COVID-19): interim guidance, 19 March 2020*.

- 3.8 There appears to have been mixed messages about the use of PPE. At the daily Covid-19 media briefing on 31 March 2020, the Director-General of Health acknowledged that staff needed to feel safe as well as be safe. However, he said that this should not contradict clinical guidelines:
- I am also conscious that our frontline health workers not only need to be safe, they need to feel safe, and I know that many of them are particularly concerned about elements of that advice. I think it's very good advice. It's from infectious diseases specialists, and it's designed to ensure that they know what PPE to wear in different situations. But I am conscious that many of our frontline healthcare workers are concerned about not having access to masks when they feel they need them to feel safe. (...) So, we're undertaking a process at the moment of releasing a large number of masks (...). The purpose of this is not to contradict what is in the guidelines, because I think that the advice in the guidelines is very good and it's based on the best evidence.*
- 3.9 One of the DHBs that we spoke to told us that comments made about increased access to PPE led to increased demand from the health and disability sector and a perceived disconnection between what was wanted and what the clinical guidelines said was needed. That DHB said that, in the end, it distributed what people were asking for rather than what the guidelines recommended.
- 3.10 A consistent message from community-based health and disability care providers was that the guidelines did not provide what they felt they needed to feel safe delivering care. Providers also said that, even when they met the criteria, they experienced difficulties accessing PPE through DHBs.
- 3.11 We were also told that many disabled people were concerned that they could be exposed to infection from caregivers who visited their homes and that guidance should have been provided on PPE for caregivers to reduce the perceived risks.
- 3.12 A group from the Ministry met with unions representing different clinical, administrative, and laboratory professions that work in DHBs and in the wider health and disability sector, as well as organisations representing nurses, midwives, and some resident doctors and laboratory/allied health professions, to prepare sector-specific guidance for using PPE.
- 3.13 We have seen a joint statement about PPE dated 22 April 2020, from the New Zealand Public Service Association, E Tū Union, Home and Community Health Association, and DHBs. It said that, where a staff member or client believed it was necessary to wear PPE, a surgical mask and gloves should be provided for each visit.

- 3.14 On 23 April 2020, the Ministry published one page of updated guidance material for PPE use, including care provided in homes.<sup>9</sup> This guidance set out what PPE is needed in particular settings and provided some discretion about whether a worker should wear a surgical face mask when caring for patients.
- 3.15 On 5 May 2020, the Ministry added more detailed guidance tailored to the particular work environments of community care providers providing care in residences. It published guidance for disability support and care workers who work in clients' homes on 7 May 2020 (see Appendix 2).
- 3.16 The Ministry told us that the initial Infection Prevention Committee guidance in March was based on advice from the WHO and other sources of evidence that focused on what was clinically necessary. As guidance from the WHO and other sources changed, the Ministry updated its own guidance.
- 3.17 The Ministry told us that its role was to provide guidance that informs advice on appropriate PPE use, and the DHBs and other providers then could choose to adapt or adopt that advice. The Ministry said that alternative sources of guidance (from unions or DHBs) may have had more of a focus on what PPE employees wanted rather than on what was necessary from an infection control perspective.
- 3.18 We did not see examples where DHBs had adapted the Ministry's guidelines or issued their own based on their own clinical technical committees. However, if this happened, it may have led to different approaches about what PPE health and disability workers should be provided with.

### How were changes to clinical guidance communicated?

- 3.19 The Ministry published guidelines on its website and on the Covid-19 website. It relied on DHBs, primary health organisations, unions, and clinical leadership groups in various sectors (such as the Royal New Zealand College of General Practitioners) to share that guidance.
- 3.20 The Ministry used its networks to disseminate the information further. It emailed Needs Assessment and Service Coordination contacts (agencies that assess what support people with disabilities need), as they had contacts with disability support providers.
- 3.21 We saw examples of communications from DHBs to community care providers, midwives, disability and aged care providers, and primary care services about the clinical guidance and to inform them that PPE would be made available.
- 3.22 Beyond seeing the messages the Ministry sent out, we do not know how effective these channels of communication were.

<sup>9</sup> The Ministry released subsequent guidance for community care providers on 23 April, 5 May, 7 May, 14 May, and 15 May. See Appendix 2 for a list of the guidance published.

## Our observations

- 3.23 The Ministry was operating in a complex and intense environment and needed to prepare clear and consistent information quickly about what measures were appropriate for health workers to take to reduce the risk of infection. We do not have the clinical expertise to reach a view on the process for developing the clinical guidance on the use of PPE or on the appropriateness of the guidance.
- 3.24 In January and February 2020, the Ministry was monitoring the spread of Covid-19 overseas closely, and it issued the first substantive clinical guidance on PPE at the end of March. It then updated that guidance in late April and early May.
- 3.25 The Ministry's guidelines on the use of PPE were based on advice from the WHO and focused on what was considered clinically necessary. As guidance from the WHO and other sources changed, the Ministry worked to update its own guidance.
- 3.26 The Ministry responded to health workers' concerns by working with unions and health professional bodies to refine the guidelines to address the concerns raised, but this took some time.
- 3.27 There appears to have been mixed messages about PPE guidance. At the daily Covid-19 media briefing on 31 March 2020, the Director-General of Health acknowledged that staff needed to feel safe as well as be safe. He also stated that this should not contradict clinical guidelines. That same day the Ministry instructed DHBs to provide PPE to the wider health and disability sector, and told DHBs that it was releasing masks from the Ministry's national reserve for distribution to DHBs (see paragraph 6.19).
- 3.28 A degree of confusion appears to have arisen after some workers interpreted the Director-General's comments as meaning that they would be supplied with the PPE they had requested. However, the Ministry's guidelines at that time set a narrower scope of what PPE should be worn than the subsequent guidance issued in late April and early May, and most DHBs followed those guidelines.
- 3.29 There was always likely to be a tension between people's personal risk assessments of what they feel they need to keep safe (especially where there was a wide range of opinions on the efficacy of PPE), the view of infection control experts, and the need to prioritise the appropriate use and allocation of PPE.
- 3.30 The Ministry took steps to resolve confusion by publishing additional guidance for PPE use in specific health care settings (maternity, pharmacy, primary care, disability, aged care, and hospice providers) and for non-health workers.<sup>10</sup> It modified the original clinical guidelines for community-based health and disability workers after discussions with unions and published revised guidance in the first week of May.

- 3.31 The revised guidance about the circumstances in which PPE should be worn and the expectation that DHBs would provide it appears to have presented difficulties for some DHBs. DHBs did not have relationships with many health and disability providers and may not have had enough PPE supplies to meet the increased demand.
- 3.32 The Ministry mainly relied on DHBs and primary health organisations to disseminate PPE clinical guidance to other parties through their distribution networks. The extent to which this was effective is unclear.
- 3.33 To minimise the risk of confusion in the future, it would be desirable for relevant plans and guidelines to clarify who is eligible to be supplied with PPE from the national reserve.

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**Recommendation 3**

We recommend that the Ministry of Health and district health boards, with appropriate health and disability sector representatives, review how clinical guidelines for personal protective equipment will be prepared or amended and consistently communicated during emergencies. The Ministry needs to ensure that demand forecasting, supply, and procurement are updated to take account of changes to guidance that have an effect on demand.

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# 4

## National reserve supplies

- 4.1 The national reserve supplies, are by definition, a reserve to ensure continuity of supply during a large or prolonged emergency that affects usual supply chains.
- 4.2 In 2005, the Ministry provided DHBs with \$6.3 million funding through the Crown Funding Agreement to purchase supplies for the national reserve. The funding was based on population numbers at that time and on modelling that assessed the PPE needs of hospital use only. The funding was to be allocated proportionally to particular categories of PPE. DHBs were required to use this funding to purchase PPE stock.
- 4.3 From 2008 to 2013, DHBs were provided with funding for ancillary costs associated with storing and managing the PPE inventory of the national reserve. After 2013, DHBs have been expected to manage the national reserve supplies they hold through their baseline funding (that is, without specifically targeted additional funding).
- 4.4 In this Part, we outline how the national reserve system was set up, who the supplies were intended for, and the extent to which this changed during Covid-19.

### **How does the national reserve system work?**

- 4.5 The Reserve Supplies Policy describes the responsibilities for managing and prioritising PPE. The Ministry is responsible for:
  - maintaining national reserves supplies in Ministry stores;
  - developing clinical guidelines;
  - setting and communicating policies for managing, prioritising, allocating, and using national supplies;
  - prioritising and allocating supplies between DHBs and regions;
  - releasing supplies (when necessary and appropriate);
  - transporting and distributing supplies to DHBs;
  - monitoring, forecasting, and replenishing national supplies; and
  - funding the use of national supplies.



- 4.6 The Reserve Supplies Policy makes DHBs responsible for:
- maintenance and turnover of national reserve supplies they hold;
  - prioritising internal supply and allocation in emergency situations;
  - supporting neighbouring/regional DHBs;
  - reporting and forecasting local and regional supplies usage;
  - distributing and transporting supplies within their district;
  - applying to the Ministry for release of supplies when needed;
  - ensuring compliance with Ministry-issued clinical guidelines, usage policies, or national priorities;
  - ensuring appropriate and economical use of national reserve supplies in all clinical settings; and
  - accounting to the Ministry for their receipt and use of national reserve supplies.
- 4.7 DHB health emergency plans reinforce these responsibilities. The plans are meant to describe how the DHB will receive, manage, and transfer PPE supplies between DHBs, and how the DHB will store, rotate, and manage the national reserve supplies that it holds.

### **Who were the reserve supplies meant for?**

- 4.8 The health and disability sector is made up of a wide range of organisations and providers. DHBs are funded to provide specific health services to people in their district. In turn, DHBs fund primary care (general practice clinics) and aged residential care services.
- 4.9 The Ministry funds some services (such as disability support services and maternity care by Lead Maternity Carers), the Accident Compensation Corporation funds others, and some health services are fully private.
- 4.10 During the Covid-19 response, all these providers needed PPE of varying types, but not all of those providers had links to the DHBs. In our view, the relevant plans and funding agreements were not clear enough about who would be responsible for providing PPE to all these providers.
- 4.11 During the response, some government agencies (for example, customs staff) and essential services outside the health sector also turned to the Ministry and/or DHBs seeking to access PPE.

- 4.12 The Reserve Supplies Policy acknowledges that, in a prolonged, unusual, or large health emergency, it “may be appropriate” for the national reserve of PPE to provide support to primary health organisations, private health providers, or non-health agencies. The Reserve Supplies Policy has a prioritisation hierarchy for allocating national reserve supplies. The order of priorities is:
1. health organisations that are essential to deliver the health services response to the emergency, such as community-based assessment centres;
  2. health organisations essential for the continued delivery of non-emergency health services, such as day-to-day service delivery during an emergency; and
  3. non-health organisations essential to support the continued delivery of critical services during a health emergency.
- 4.13 The Ministry told us that the modelling that underpinned the funding for DHB-held national reserve stock was intended to support hospital use only and did not include the needs of the wider health and disability sector or non-health sector. The Reserve Supplies Policy and the earlier Ministry funding agreement said that the national reserve of PPE should also be available for the primary and community health sectors and first responders. The Ministry has subsequently told us that there did “seem to have been some margin assumed for wider use when considering the original funding” but did not indicate the extent of that margin.
- 4.14 On 31 March, the Ministry issued instructions to DHBs that they were to provide PPE to the wider health and disability sector. It was not clear to us that DHBs anticipated that they would be required to supply PPE to health and disability providers who they do not fund and, in many instances, do not have relationships with.
- 4.15 The Ministry told us that it has initiated a review of the Reserve Supplies Policy.

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**Recommendation 4**

We recommend that the Ministry of Health consider whether the roles, responsibilities, coverage, requirements, and planning assumptions for maintaining the national reserve of personal protective equipment are clear and remain appropriate.

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- 4.16 During Covid-19, the Ministry provided PPE to essential workers who are not part of the health and disability sector. It also set up an ordering and distribution channel for PPE that other public and private sector organisations used. We note that the Ministry carried out Exercise Pomare, an all-of-government influenza pandemic exercise, from October 2017 to May 2018. In its report on Exercise Pomare, the Ministry recommended that central government agencies include in their business continuity plans the type and quantity of PPE that their agency

should hold or have available.<sup>11</sup> Further thought might need to be given to whether there needs to be a whole of community/whole of government approach to PPE.

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#### **Recommendation 5**

We recommend that the Ministry of Health work with other government agencies to determine how workers and providers not currently covered by the national reserve of personal protective equipment access it in the future and clarify roles and responsibilities for this change.

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### **Original basis for estimating the need for personal protective equipment**

- 4.17 Calculations for how much PPE should be held in the national reserve were based on an influenza pandemic scenario. This is not unreasonable. A plan cannot contemplate every disease scenario. There is always a risk that resources may need to be scaled up at short notice to respond to different or unanticipated scenarios.
- 4.18 However, we now know that there are important differences between influenza and Covid-19. The speed of transmission differs. Influenza has a shorter incubation period and can spread faster than Covid-19, but a person with Covid-19 can infect more people than someone with influenza. A higher proportion of people with Covid-19 become seriously ill and require hospital treatment than people with influenza.
- 4.19 The Ministry told us that the demand for PPE during the Covid-19 pandemic has been different to the demand that had previously been planned for. Initially, PPE needs were formulated on the basis that a person had to be symptomatic to transmit the virus. Once it was understood that a person could be asymptomatic and transmit the virus, this increased demand for PPE.
- 4.20 This information should be used to strengthen planning and future demand assessments.
- 4.21 The amount of national reserve stock DHBs held was linked to the population characteristics of those DHBs in 2005. There have been significant changes in population numbers and in population distribution since 2005. The Ministry told us that the overall population growth rate since 2005 is 19%.
- 4.22 During our work the Ministry told us that, as a result of Covid-19, it was considering trying to ensure that the national reserve has enough stock to last for three to six months (as a minimum) to ensure supply in the face of global demand and global supply chain issues.

11 Ministry of Health (2018), *Exercise Pomare: Post Exercise Report*, Wellington, page 20.

- 4.23 In our view, when the Ministry looks to restock the national reserve of PPE, it should look at its planning assumptions and update the allocation based on current population characteristics.
- 4.24 This should include considering whether the decentralised model for managing the national reserve of PPE remains appropriate, whether a prioritisation or criticality assessment for PPE is needed, whether the categories of stored PPE remains appropriate, whether responsibility for storage is appropriate, and whether the distribution model and scope about to whom stock may be distributed remains appropriate. The Ministry subsequently told us that it plans to review the existing arrangements to improve resilience, identify optimal stock holding levels, and develop solutions to minimise stock obsolescence.

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**Recommendation 6**

We recommend that the Ministry of Health regularly reassess assumptions for the categories and amount of personal protective equipment to be held in the national reserve.

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**Our observations**

- 4.25 There was a lack of clarity about whether the national reserve of PPE had enough stock and the level of stock that DHBs should have held. Although the Ministry knew what it had in its own supply, it had to survey DHBs to work out how much PPE was held in DHB reserves.
- 4.26 We noted differences in understanding about what DHBs were required to purchase for the national reserve and what they had been funded for. We also saw gaps in monitoring and oversight of the national reserve of PPE.
- 4.27 In our view, there was a lack of clarity and consistency about how the national reserve supply was resourced when it was set up and who it was expected to provide for.
- 4.28 There appears to have been an inconsistency between what the original funding was modelled on (hospital use) and the Crown Funding Agreement, which specified that DHBs were funded to purchase PPE for “health care workers in the hospital environment, the primary and community health sectors, and first responders”.

- 4.29 The Ministry told us that “the [national reserve of PPE was] only to support DHBs and not the wider sector or non-health sector”. The Reserve Supplies Policy suggests a need to provide for other providers (“DHBs and the wider health sector”). However, that expectation is not mirrored in the planning requirements in the Operational Policy Framework for DHBs, and it is not clear in current funding arrangements.
- 4.30 It is also not clear whether, before Covid-19, DHBs had uniformly understood that they were expected to hold national reserve supplies for community-based health and disability providers that they do not directly fund. During the response, the Ministry told DHBs that they were responsible for identifying the needs of, and providing PPE to, all publicly funded health and disability services.
- 4.31 The Ministry also ended up supplying PPE to essential workers who are not part of the health and disability sector due to constraints in their usual supply chains.
- 4.32 The Ministry told us that when it established the national reserve it believes it made it clear to all groups that they were responsible for maintaining the safety of their staff and services. In the Ministry’s view, these groups were responsible for meeting their own PPE needs. We note that legislation requires employers to meet their health and safety obligations.

# 5

## Maintaining the national reserve of personal protective equipment

- 5.1 In this Part, we set out how stock in the national reserve of PPE was managed before Covid-19, and how the Ministry subsequently identified what supplies were held in the national reserve.
- 5.2 We looked at the state of knowledge about what was held in the national reserve of PPE in early 2020. We also report on our work to reconcile the reporting on stock on hand, stock received, and stock distributed during the response.

### How did the Ministry know what the national reserve held?

- 5.3 Until Covid-19, the national reserve model was a mixed model, with both the Ministry and DHBs responsible for maintaining and distributing supplies (see Figure 1).
- 5.4 DHBs were expected to maintain sufficient PPE stock to meet their routine operational needs. In addition, DHBs also held national reserve supplies.

**Figure 1**  
National reserve supplies held by the Ministry of Health and by district health boards

National reserve supply items	Stored by DHBs	Stored by Ministry
Respirators (N95 or P2 masks) and general purpose masks	✓	✓
Personal protective equipment (aprons, gloves, eye protection)	✓	
Clinical equipment (such as syringes, sharps bins, giving sets, IV fluids)	✓	
Antivirals – Relenza and Tamiflu (each DHB holds 440 courses of Tamiflu)	✓	✓
Pandemic antibiotics	✓	
H5N1 pre-pandemic vaccine		✓
Vaccination supplies		✓
Body bags		✓

Source: Ministry of Health, *National Health Emergency Plan: National Reserve Supplies Management and Usage Plan*, third edition, page 1.

- 5.5 The Ministry’s national reserve of PPE comprises masks manufactured and held by QSi, pre-pandemic vaccine, body bags, and vaccination supplies. For the purposes of responding to Covid-19, only the masks needed to be used.
- 5.6 The Ministry received reports about what stock it held in the national reserve. On 1 January 2020, the Ministry had 9 million N95 masks and 5.2 million general purpose masks.

- 5.7 In November 2019, the Ministry asked QSi to produce 4.5 million more general purpose masks. By 31 January 2020, QSi had manufactured 1.452 million masks and procured an additional 3.048 million masks from China. At the start of February 2020, the Ministry had 18 million masks in its national reserve.
- 5.8 DHBs held operational and national reserve supplies of PPE. They had different approaches to how they managed the national reserve supplies they were holding.
- 5.9 Before 2016, DHBs had to report to the Ministry on stock levels, and expired and expiring stock. At first, they had to report this quarterly, then every six months from 2008. They have not had to report since 2016.
- 5.10 This meant that, when the Ministry started to mobilise its emergency response, it did not know whether or how DHBs were fulfilling their responsibilities to maintain national reserve supplies.
- 5.11 We asked the Ministry what volumes of stock were meant to be held in the national reserve of PPE. The Ministry could not initially locate any specific guidance about PPE levels and was unable to provide us with evidence that it had done regular stocktakes of the national reserve supplies held by DHBs.
- 5.12 On 4 February 2020, the Ministry asked all DHBs to provide information about their PPE stock levels to identify any pressure points and help assess the need for further PPE.
- 5.13 The Ministry told us that, when it needed to quickly assemble this information to identify what reserve supplies there were in New Zealand, the information DHBs provided and the quantity of reserve supplies that DHBs held varied significantly. There does not seem to have been a consistent method for reporting stock on hand, use rates, and forecasting demand.
- 5.14 As a result, on 16 March 2020, the Ministry asked DHBs to confirm and clarify any ambiguities in their original stock information and to provide information on other stock. DHBs were given a template to report on national reserve stock they held.
- 5.15 We heard that one DHB reported that several weeks' worth of stock figures reported to the Ministry were inaccurate because stock had expired.
- 5.16 The Ministry carried out a follow-up exercise with DHBs on 31 March 2020 to determine what stock they were holding. Several DHBs identified issues with PPE supplies as part of this stocktake.

## Expired stock

- 5.17 DHBs and the Ministry were responsible for maintaining and turning over national reserve supplies. Some DHBs rotated national reserve stock into their own supply and replaced it with new stock to keep it current. We observed that DHBs that kept the national reserve stock separate were more likely to end up holding expired stock. Capital and Coast DHB has suggested that one means of ensuring that stock is kept current could be for DHBs to partner with PPE suppliers and their supply chain infrastructure.
- 5.18 During April 2020, two DHBs told the Ministry about an issue with faulty N95 masks the Ministry had provided. QSi recalled 364,000 masks and checked them. Five thousand were rejected as unfit for use, and QSi is continuing to investigate this.
- 5.19 Once the Ministry started receiving regular information from DHBs about stock levels, it emerged that a significant amount of stock had expired. Fourteen DHBs informed the Ministry that they were holding either expired national reserve mask stock or no national reserve mask stock. Because DHBs' responses to the Ministry's request for information were not consistent (that is, no volumes or volumes of some items reported inconsistently), the Ministry has been unable to quantify the volume of expired stock.
- 5.20 It is concerning that stock management practices led to the expiry of PPE stock and that it took two months to assemble this information. Although this does not appear to have affected availability, it could have in different circumstances (for example, if procurement had been more difficult).

## Stock reconciliation

- 5.21 From 7 April 2020, the Ministry requested a weekly report from DHBs on operational and DHB-held national reserve PPE use and supplies on hand. However, issues were identified through this process. These included inconsistency in how stock was counted, the process for identifying stock that had expired, and national reserve stock not being separately identified from operational PPE stock.
- 5.22 To help DHBs provide information in a consistent manner, a national template was prepared for the DHBs to complete and units of measurement were made clearer.
- 5.23 We have tried to reconcile the stock held in stores, incoming stock and new stock on order, and outgoing stock. For the reasons outlined below, this has been difficult to do.
- 5.24 Between 1 January and April 2020, the Ministry went from having oversight of national reserve stock held by QSi in stores in three locations in the North Island to



having multiple new domestic and international PPE suppliers and three different distributors supplying a large number of providers.

- 5.25 The Ministry's stock on hand report as at 29 April 2020 involved compiling information from these three distributors and 20 DHBs, and about stock that had been procured and had arrived in New Zealand but that was not yet in the main distributor's warehouse.
- 5.26 Each provider of information has separate systems, and the Ministry placed a high degree of reliance on information provided by the distributors and DHBs. The Ministry could not independently verify the information. It has not been practicable in the time available to us to document and understand every system.
- 5.27 There are some inconsistencies with stock reporting from DHBs. DHBs do not have the same inventory systems nor the same level of reporting information. For example, some DHBs count stock issued from the central store as "used" while others have detailed stock information at a hospital ward level. Of the DHBs we asked, all had a stock system, but some were not able to produce historical information about stock in hand.
- 5.28 The Ministry does not track the amount of stock that has been released beyond the DHBs to community providers. All stock released from one of the three distributors is deemed to have been used unless it goes directly to a DHB or is transferred to another distributor.
- 5.29 The Ministry considers its stock on hand information an estimate because of the difficulties in collating this information at a point in time, the differences in how organisations assess when stock has been released, and the potential for stock orders to be processed at any time of day in a hospital environment.
- 5.30 As part of our review, we summarised stock received and distributed by each class of PPE from 1 January to 29 April 2020. The Ministry was unable to provide this information to us in collated form. We identified discrepancies in the level of PPE held and the levels set out in schedules provided by different organisations.

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#### **Recommendation 7**

We recommend that the Ministry of Health implement a centralised system for regular public reporting on the national reserve of personal protective equipment and implement periodic stocktakes to confirm the accuracy of the data and the condition of the stock.

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#### **Recommendation 8**

We recommend that the Ministry reintroduce a requirement for district health boards to manage national reserve stock in such a way as to reduce the risk of stock becoming obsolete.

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## Depletion modelling

- 5.31 The Ministry told us that, in March 2020, it did not know how much PPE would be needed. In an attempt to determine this, the Ministry developed a PPE depletion model based on information from several sources.
- 5.32 We did not test the assumptions the model was based on or the integrity of the model. The model had several high-level assumptions and took into account clinical guidance on PPE use. Initially, the model did not include aged residential care, community providers, ambulance services, or community midwifery services. However, it was adapted in April to include estimates of both the primary and community care health workforce.
- 5.33 From April 2020, the Ministry requested weekly and then daily reports from DHBs about stock levels and stock received. It started to rely more on actual PPE usage data than the depletion model.
- 5.34 In March 2020, the Ministry released masks from the Ministry's national reserve supplies. Since the start of April, there has been at least weekly distribution of PPE stock to DHBs. The Ministry told us that decisions on allocation took into account a number of factors, including PPE allocation based on DHBs' populations, information from DHBs on available mask stock levels and usage, and consideration of Covid-19 incidence in the area.

## What stock has been ordered and distributed?

- 5.35 In the early days of the Covid-19 response, the Ministry (through the Director-General) and the Prime Minister provided regular updates on what PPE – in particular, masks – had been distributed. The Ministry told us that in February and March 2020, in anticipation of increased demand and likely supply chain pressures, the Ministry placed additional mask orders with QSi. By the end of March, the Ministry had distributed about 897,000 masks from national reserve supplies to DHBs.
- 5.36 On 2 April 2020, in its response to the Epidemic Response Committee and in the Director-General's daily briefing, the Ministry reported that 1.8 million masks had been distributed in the last seven days. It also reported that it had placed an order for a further 41 million masks, 1 million gloves, 850,000 safety glasses, and 640,000 face shields, with orders due to arrive in the next six weeks.<sup>12</sup>
- 5.37 Isolation gowns and some aprons were in short supply because there was a shortage of raw materials worldwide and New Zealand had no domestic production capability. Figure 2, which is based on information from the Ministry, shows the estimated stock at hand and on order as at 29 April 2020.

<sup>12</sup> Ministry of Health, answers to Epidemic Response Committee questions on 31 March 2020, published 7 April 2020, page 4.

- 5.38 The volumes of supplies on order indicates that the Ministry recognised that the stock held was likely to be not enough to meet a significant increase in the rate of infections or a second wave of Covid-19. The Ministry told us that it considered that it should try to have enough stock to last for three to six months (as a minimum) to ensure supply in the face of global demand and global supply chain issues. There is a significant difference between three and six months of stock.
- 5.39 We note that the Ministry has subsequently told us that it plans to review the optimal stock levels.

**Figure 2**

**Estimated stock of personal protective equipment at hand and on order, as at 29 April 2020**

PPE item	Estimated stock on hand		Outstanding orders	
	National reserves + central store	DHB (usual use + reserves)	Total on order	Awaiting arrival confirmation*
N95 mask (or equivalent)	8,897,150	1,029,393	11,732,800	500,000
Procedure mask (or equivalent)	15,166,463	5,357,639	107,802,044	41,500,000
Isolation gown (or equivalent)	86,500	429,787	3,817,900	2,247,900
Disposable apron	94,000	1,199,414	2,803,000	103,000
Glasses/goggles (or equivalent)	147,900	43,058	1,015,201	765,201
Face shield (or equivalent)	700,992	52,859	8,400	
Nitrile gloves (all sizes, each)	9,518,200	16,131,254	123,000,000	
Hand sanitiser (500mL equivalents)		39,840	300,000	
Hand sanitiser (2L equivalents)			150,012	
Detergent wipe (or equivalent)		Not identified in stocktake	478,824	19,980
Disinfectant wipe (or equivalent)	2,052,000	Not identified in stocktake	126,388,000	100,000,000

\* Orders awaiting confirmation of delivery mode and date of arrival.

Source: Ministry of Health.

## Our observations

- 5.40 For a national reserve system to operate well, you need to know how much stock might be needed, what is held in supplies, whether the stock is usable, how stock can most effectively be distributed, and how you can quickly source more stock if you need to.
- 5.41 The Covid-19 response identified that some of the earlier systems to support the Ministry's oversight of the national reserve of PPE had fallen away over the years. In February 2020, when the WHO confirmed that Covid-19 constituted a public health emergency, the Ministry did not know what stock was held by DHBs in their national reserve throughout the country.
- 5.42 Information that was not initially available included what PPE was on hand in DHB stores and information about the condition of PPE. There was no central oversight of what the national reserve held. Requirements for stock rotation appear to have lapsed, and the Ministry did not monitor this.
- 5.43 In February, the Ministry took steps to quickly assemble information to identify what national reserve supplies there were in New Zealand. However, the information DHBs provided varied significantly. This is likely to have contributed to a degree of confusion about precisely how much PPE was available.
- 5.44 The Ministry asked for better information, and it took DHBs five weeks to provide it. Through this process, the Ministry identified that some national reserve stock had expired.
- 5.45 We are in no doubt that the Ministry has learned much from setting up systems to respond to the demand for PPE during Covid-19. We consider it timely for the Ministry to review the planning framework for the national reserve system.
- 5.46 In our view, this should include ensuring that there is a system for identifying optimal PPE levels and monitoring and reporting on stock. Stock should be appropriately managed to reduce the risk of redundancy. The Ministry needs to continue to improve its demand modelling and take into account what it has learned about actual PPE usage during the Covid-19 response. The planning framework should also make clear what the preferred model is for procurement and distribution during a national emergency.

# How were the national reserve supplies distributed?

- 6.1 Supplying PPE is part of the day-to-day routine of providing health services. It is also a vital part of responding to a health emergency such as Covid-19. Maintaining adequate stock of PPE on hand ensures that critical health services are able to continue to operate safely even if supply chains are disrupted in an emergency.
- 6.2 The Ministry told us that, before Covid-19, it had no day-to-day role in distributing PPE. In this Part, we discuss the changes that the Ministry made to centralise the supply and distribution of PPE to DHBs and other providers.

## Centralised ordering and distribution

- 6.3 Initially, the Ministry did not know what PPE stock DHBs held or how quickly that stock was being distributed. At the Covid-19 daily briefing on 26 March 2020, the Director-General of Health said that the Ministry would make PPE supply and distribution a national process.

## Ordering and allocation

- 6.4 From 1 April, all nationally procured stock was routed through Healthcare Logistics (HCL). HCL and OneLink (a health supply chain company) have more than 20 years' experience as healthcare distribution providers, mostly working with manufacturing companies. They have supply chain management contracts throughout New Zealand.
- 6.5 HCL already had a contract with the Ministry to store pandemic pharmaceutical supplies. The Ministry extended this contract to include warehousing and logistics for PPE.
- 6.6 Under the new system, DHBs, community health providers, and other essential health workers requiring PPE could (with Ministry approval) set up an account with HCL that gives them access to an online portal to request an allocation of PPE. The Ministry reviewed the orders to gain a comprehensive view of national demand, urgency, and stock on hand.
- 6.7 To manage potentially competing demands for PPE, the Ministry prepared a prioritisation process for deciding how PPE should be allocated. This process assessed PPE requests from DHBs and organisations that are not part of the health and disability sector. The Ministry's criteria took into account:
- the criticality of the service asking for the PPE;
  - how much stock was available and on order, and usage rates (to minimise the risk of supply shortages); and
  - urgency of need throughout the country (to balance competing demands).

- 6.8 From 1 May 2020, the Ministry's new centralised process for ordering PPE applied to all orders.<sup>13</sup> DHBs were told that all orders from domestic suppliers would be redirected to the Ministry under the new national model. Stock was moved to particular warehouses to be made available for distribution through the national model.
- 6.9 The Ministry made these changes so it could manage stock levels nationally to ensure that PPE was available when and where it was needed.

### **National stock distribution system**

- 6.10 Before Covid-19, a company called HealthSource provided shared services for supply chain management to the four northern DHBs (Auckland, Waitematā, Counties Manukau, and Northland).<sup>14</sup> HealthSource contracted Onelink to manage its stock as a warehouse and logistics provider. Onelink provided internal supply chain and distribution (including supplies for operating theatres and stock management) for the northern DHBs, Waikato DHB, and Southern DHB.
- 6.11 QSi are contracted to manufacture, store, and distribute national reserve masks to DHBs. However, before Covid-19, there was limited call on QSi's store of masks. The Ministry contracts other providers to store and distribute other national reserve items.
- 6.12 During Covid-19, two methods of distribution were implemented for publicly funded health care providers. PPE could be distributed to the DHB or ordered by the DHB on behalf of the provider and delivered to that provider directly. From the second week of April, health care providers could also place orders through HCL using the Onelink portal. The Ministry would review the order and authorise the release of PPE for direct distribution to the provider.
- 6.13 The Ministry engaged National Express Products (NXP, a sourcing and distribution company) to provide a distribution service (primarily for masks and gloves) to essential workers who are not part of the health and disability sector. Private organisations could register and order PPE supplies through NXP, which were offered at cost plus any distribution costs. This was initially restricted to general purpose and N95 masks.
- 6.14 In practice, the DHB supply processes did not change, apart from adding new providers and dealing with increasing demand. Distribution from DHBs to community health and disability care providers varied – some DHBs preferred

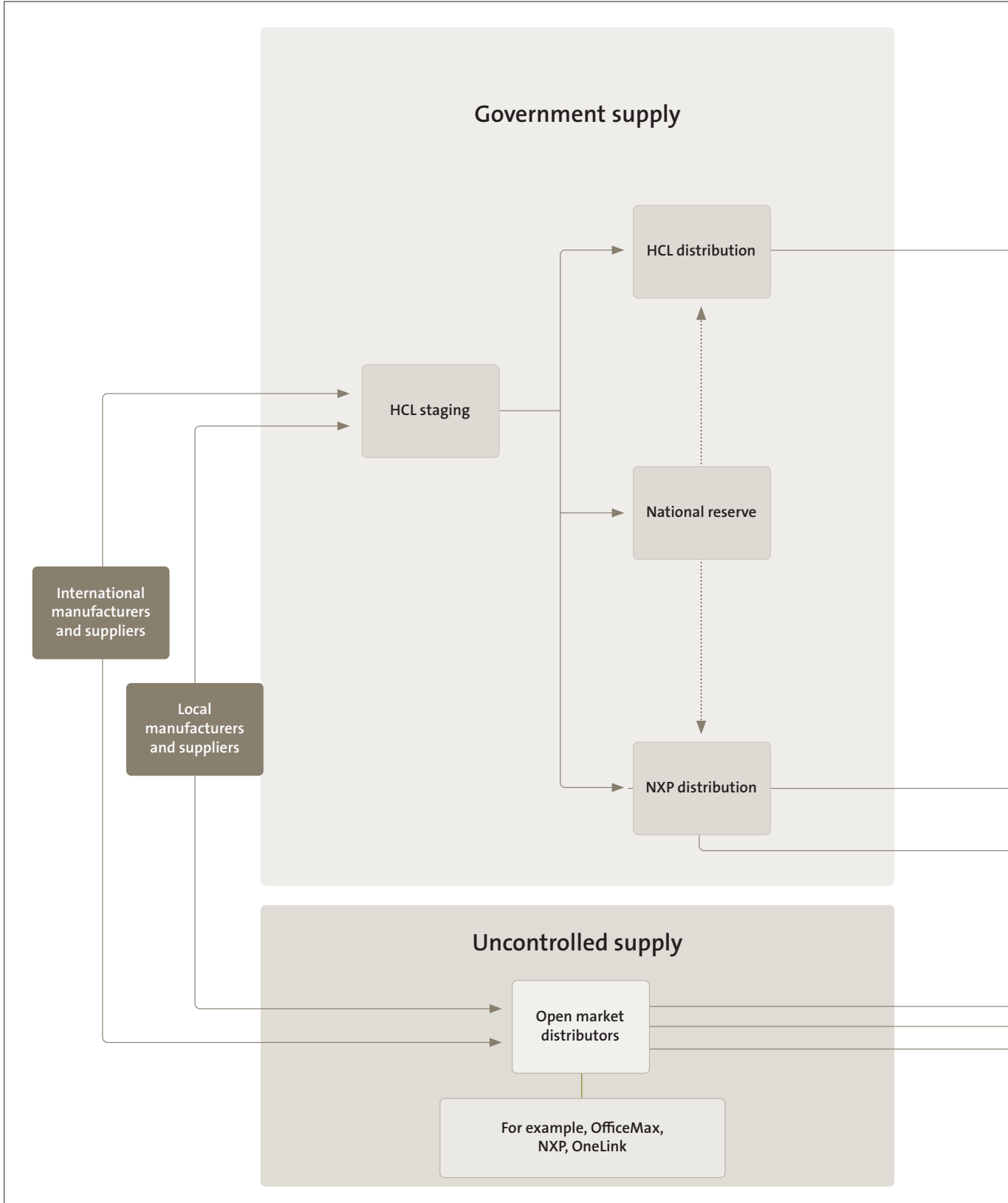
13 The Ministry's demand model informed the quantities of PPE to be purchased. Procurement leads at Auckland, Waikato, Capital and Coast, Canterbury, and Southern DHBs submitted a request to a designated Ministry finance team member, who raised and approved an electronic purchase order with the supplier. Once the procurement lead confirmed receipt of goods/services, they advised the Ministry's finance team that payment could be made.

14 In addition to providing a shared service for procurement and supply chain, HealthSource also provided a shared service to the four Northern DHBs for finance, payroll, and eligibility assessments.

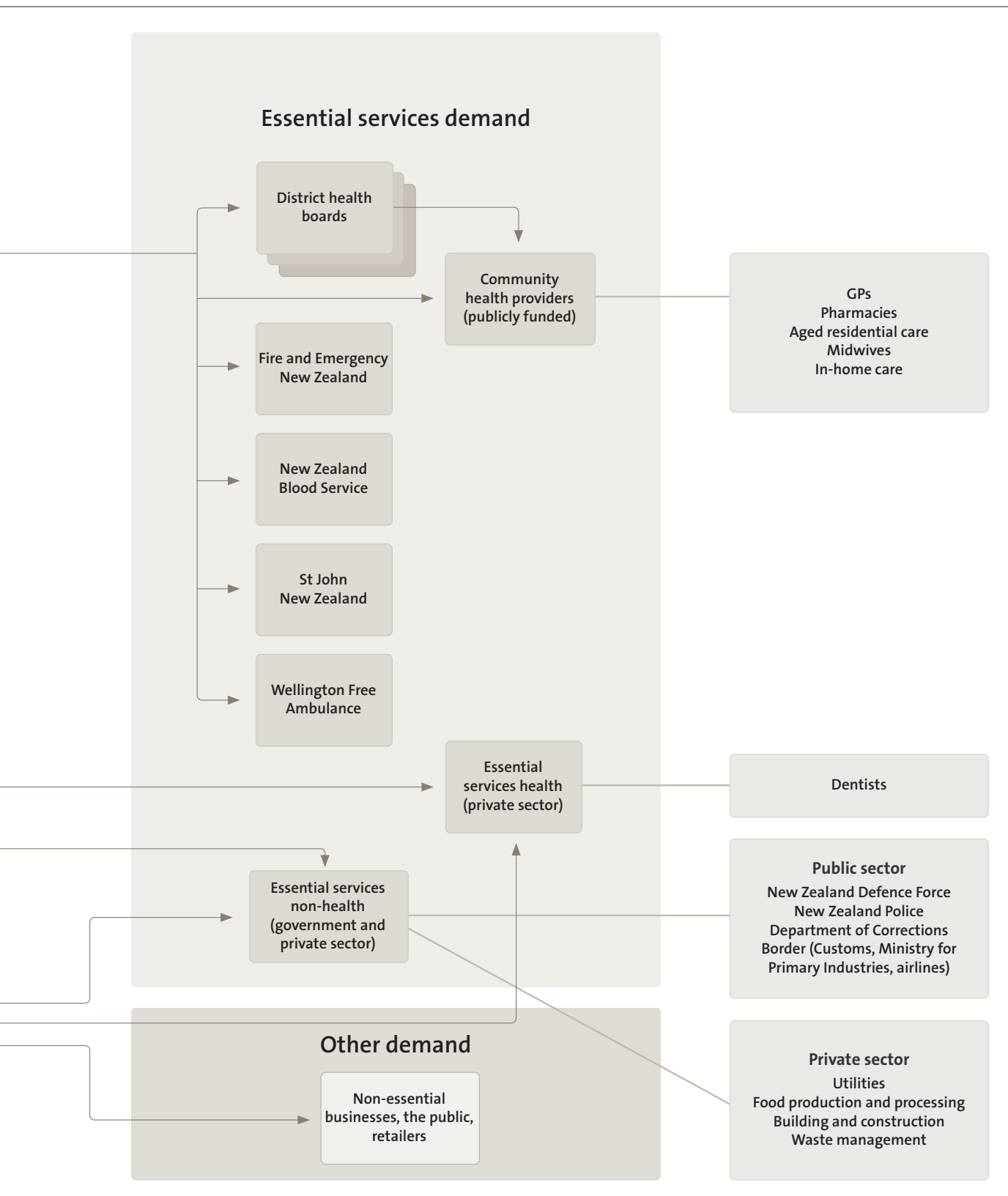
to order on behalf of the provider and have HCL deliver the PPE directly to the provider. Other DHBs preferred to have the stock sent to them to distribute to health care providers.

- 6.15 On 9 April 2020, the Ministry of Business, Innovation and Employment engaged Mainfreight Limited as the preferred freight provider for international air freight and domestic distribution services. Mainfreight Limited delivered PPE to New Zealand sites, as directed by the Ministry.
- 6.16 Figure 3 shows the distribution process that developed during the response to Covid-19.

**Figure 3**  
Distribution process for personal protective equipment, developed during the response to Covid-19







- 6.17 On 1 May 2020, the Ministry formally advised DHBs that HCL would distribute PPE to national service organisations such as St John, Wellington Free Ambulance, air ambulance services, Fire and Emergency New Zealand, New Zealand Blood Service, New Zealand Health Group, Manawanui, Access Community Health, and Green Cross Pharmacies. Dentists providing emergency services could access PPE through DHBs.

### Getting personal protective equipment to community providers

- 6.18 The Ministry told us that during March 2020 it released masks from its national reserve to DHBs as demand for masks was increasing. On 31 March 2020, the Ministry released 1.2 million general purpose masks from the national reserve for DHBs to distribute to health and disability providers. The Ministry asked the DHBs to set up processes to distribute PPE to all local publicly funded health and disability providers, including those not directly funded by the DHBs (this included a mix of private businesses, non-governmental organisations, and providers contracted by the Ministry).
- 6.19 The Ministry said that it would distribute 1.2 million general purpose masks from the Ministry's national reserve to DHBs and that further masks would be transferred during the next two weeks. On 31 March 2020, the Ministry instructed DHBs that:

*We need you to establish a local process today for the distribution of PPE to all publicly funded health and disability providers who deliver health and disability services (Aged Care, Home and Community Support, Disability support services, Community based providers, Midwives etc) This includes providers who may not be directly funded by DHBs, such as MSD and ACC providers.*

*We need you to communicate this process to providers in your district in the next 24 hours. To ensure providers get the masks they need as fast as possible, you must start using masks from your reserves while we distribute new masks to you. This needs to be done with urgency. We will provide you with recommended volumes of PPE for providers of different sizes tomorrow.*

*Providers will need to be aware of the current published clinical guidelines which have not changed. DHBs need to reinforce to providers that when they allocate to health care workers, that [health care workers] need to have the requisite training for using masks in order to mitigate any risks of further transfer of the virus. ... We recognise this means you will be providing a service to a number of organisations that you would not normally do so. However, we are dealing with a situation that requires us to operate differently.*

- 6.20 The Ministry emailed disability providers and the Needs Assessment Coordination Services (organisations contracted to work with people with disabilities, their families, and carers) advising them that DHBs would contact them to ascertain their PPE needs.

### **How did the district health boards approach this?**

- 6.21 We looked at how five DHBs approached this. Our observations are high level – we would need to do more work with all DHBs to understand how they managed provider requests and how hospitals prioritised how they used PPE internally and supplied it to the community-based health and disability sector.
- 6.22 It is clear that the DHBs took different approaches to fulfilling this instruction (for example, providers reported finding it easier to access PPE in some areas than others). Each DHB had its own process for receiving requests from community providers, reviewing and clarifying requests before processing, assessing demand, recording the PPE it released, and releasing PPE.
- 6.23 Waikato DHB asked community providers to confirm how many staff the provider had who would need PPE, their roles/tasks that would need PPE, and how much PPE would be needed (based on clinical guidance at the time).
- 6.24 Capital and Coast DHB told us that before the Ministry's email it had already distributed PPE to primary health organisations on 18 March 2020, and to other community providers from 27 March 2020. Capital and Coast DHB told the Ministry that it would co-ordinate requests for PPE from community providers in the Capital and Coast DHB, Hutt Valley DHB, and Wairarapa DHB areas. The DHB emailed community providers on 2 April 2020 outlining the process for ordering PPE.
- 6.25 Capital and Coast DHB prepared a request template and set up a central email address to receive requests. Community Based Assessment Centres (CBAC) and primary care requests were to be expedited.
- 6.26 Capital and Coast DHB treated requests from aged residential care providers differently. A stocktake of aged residential care PPE was to be carried out, and minimum levels of PPE were established with infection control staff. The level of PPE took into account requirements to isolate newly received patients and to isolate suspected Covid-19 patients. The DHB said that, if aged residential care providers had not made enough provision for PPE, it would provide more.
- 6.27 We also saw templated emails from Southern DHB dated 17 and 27 April that referred the reader to Ministry guidance for community-based workers. The templated message said that there was high demand for PPE and that the DHB had been able to obtain only enough supplies to maintain DHB services.

The DHB told us that it did not receive any of the masks released by the Ministry on 31 March 2020.

- 6.28 In most instances, Southern DHB informed these providers that the only PPE requirement relevant for them was fastidious hand hygiene. The DHB suggested that providers contact private medical suppliers or NXP. We were told that the DHB sent this response to non-funded health and disability providers and essential workers who are not part of the health and disability sector. However, in April, the DHB provided some PPE to aged residential care, midwives, and disability services.
- 6.29 Canterbury DHB told us that it did not receive any masks from the Ministry in February or March 2020. On 1 April 2020, it told community providers that PPE was being prioritised to hospital workers, health centres, general practitioners, and rest homes. It also told them that good handwashing and maintaining distance was the best way of avoiding infection.
- 6.30 However, we also saw evidence that, on 16 April 2020, Canterbury DHB distributed masks to disability, aged, and mental health residential care facilities and to six home-based support service providers. The DHB told us that this was a once-only allocation and that, unless the provider or service was dealing with a suspected or confirmed Covid-19 patient, the DHB would not provide any more PPE.
- 6.31 Staff from the four northern region DHBs and HealthSource worked together at the Northern Region Health Coordination Centre based at Auckland DHB co-ordinating PPE requests on behalf of Waitematā DHB, Counties Manukau DHB, and Northland DHB. We have viewed an undated letter that informs community providers about a new process for requesting PPE. The letter said that the release of N95 masks would need to be clinically approved.
- 6.32 We can see from the information provided to the Minister's rapid PPE stocktake (see paragraph 6.40) that the DHBs provided supplies to aged residential care facilities. However, these supplies were not necessarily in the quantities that were requested. One provider asked for 17,500 masks (10,000 were supplied), 5000 gowns (125 were supplied), and 2000 units of eyewear (25 were supplied).
- 6.33 DHBs were faced with balancing prioritising supplies and preventing providers from stockpiling PPE in quantities that they were unlikely to need.
- 6.34 We saw evidence of some inconsistency in DHBs' approaches to supplying PPE to community health providers. In some instances, DHBs told community health providers that they were not in a position to supply PPE. We acknowledge that DHBs were being asked to do something during a national crisis that had not been planned for and that they had not done before.

### What did service providers tell us?

- 6.35 A nationwide service provider that supports people with disabilities who have individualised care funding from the Ministry told us that it found dealing with multiple DHBs to access PPE frustrating and inefficient.
- 6.36 The provider told us that the Ministry had agreed to identify what PPE the provider's staff would need and that it understood that the PPE had been provided to DHBs for distributing. Two DHBs would not provide the PPE requested, and another released 10% of the PPE that the organisation thought had been agreed with the Ministry.
- 6.37 As a national organisation, the provider considered that it made more sense to deal directly with the Ministry rather than with 20 DHBs.
- 6.38 In Part 3, we describe how clinical guidance on PPE use by community health and disability support workers changed between March and May. When the Ministry asked DHBs to distribute PPE to community based providers, DHBs were still applying the 31 March guidelines, which took a more restrictive approach to when PPE was needed.
- 6.39 The New Zealand Spinal Trust told us that, in early April 2020, it asked all DHBs how PPE could be obtained for people with spinal cord injury living in the community to provide to their carers. Two DHBs said that they had already supplied some PPE to spinal cord injured people who had contacted them directly. All but two of the other DHBs made it clear they would issue PPE only in accordance with the Ministry's clinical guidance (that is, only to confirmed or suspected Covid-19 patients).

### What did the Ministry of Health's rapid personal protective equipment stocktake find?

- 6.40 On 23 April 2020, the Minister of Health asked the Ministry to conduct a rapid stocktake of what PPE DHBs had distributed to community health and disability providers.<sup>15</sup> DHBs were asked to report:
- what PPE they had distributed to community providers during the previous two weeks (the DHBs were not asked for information about what providers had requested, only what they had distributed);
  - how PPE was ordered and distributed, and the time frame for this; and
  - the complaints process, complaints received, and how the DHB addressed them.

<sup>15</sup> Hon Dr David Clark (23 April 2020), *Rapid stocktake of PPE distribution*, available at [www.beehive.govt.nz](http://www.beehive.govt.nz).

- 6.41 This review provided a snapshot of how the system was working towards the end of April, after revised ordering and distribution systems had been set up. Because the review focused only on this time period, it is unlikely to have captured a full picture of the experiences of providers.
- 6.42 The information provided by DHBs as part of the rapid PPE stocktake indicates that the DHBs' approach to providing PPE to community providers still varied considerably in late April. The Ministry acknowledged that DHBs had worked to set up distribution for providers that they did not have a previous relationship with and that, although there had been "teething problems", these were mostly resolved.
- 6.43 The Ministry told us that it felt that some DHBs took some time to recognise the scope of the disability sector (that is, disability residential care and people with individualised care packages). This was the first time significant contact DHBs had with these Ministry-funded disability support providers and disabled people with individualised funding.

### **Our observations**

- 6.44 Although the devolved system of managing PPE stock and distributing it to the health and disability sector may have worked well under normal circumstances, it was not able to manage the increased flow of stock needed during the Covid-19 response.
- 6.45 The Ministry needed to act quickly to set up a centralised approach to managing national reserve stock levels, ordering, freight, and distribution. With the benefit of hindsight, having these systems and processes in place at the outset would have enabled the Ministry to respond faster and make better-informed decisions about supply and demand challenges.
- 6.46 The Ministry responded appropriately by setting up a new centralised system for prioritising, allocating, and distributing PPE stock. It could improve some weaknesses in that system, including that it remains difficult to reconcile stock volumes and stock distribution.

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### **Recommendation 9**

We recommend that the Ministry of Health, in collaboration with district health boards, prepare more detailed operational plans and processes that describe how the national reserve system should operate (including distribution mechanisms) and test these as part of future national health emergency exercises.

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- 6.47 In late March 2020, the Ministry asked the DHBs to set up processes to distribute PPE to all local publicly funded health and disability providers, including those not directly funded by the DHBs (this included a mix of private businesses, non-governmental organisations, and providers contracted by the Ministry).
- 6.48 The DHBs we looked at did this. We saw that there were delays in early April in providing PPE to community-based providers, but by late April the DHBs we looked at had distributed PPE to community providers. This is consistent with the findings of the rapid stocktake of PPE requested by the Minister.
- 6.49 We heard concerns from community health and disability providers who sought to access PPE through DHBs. We heard about different approaches to allocation, particularly in early April and particularly for health providers that the DHB had no pre-existing relationship with. We saw correspondence from DHBs to one nationwide community disability support service indicating that it would not provide PPE to them. In early April, health and disability workers in different DHB areas were getting different responses about what PPE they could expect to receive.
- 6.50 We consider it important to note that DHBs were being asked to do something during a national crisis that had not been planned for and that they had not done before. It is not surprising that there were challenges for DHBs in setting up these processes in a short time.
- 6.51 We would need to do further work to identify how different DHBs treated requests from community-based health providers and form a more comprehensive view on the extent of this. We will consider whether to do further work to better understand this.

# 7

## How was personal protective equipment procured?

- 7.1 The global pressure on PPE supply chains as a result of Covid-19 and concerns about access to PPE affected many countries. New Zealand was not alone in needing to rapidly buy PPE in a heated international market.
- 7.2 From our discussions with the sector, it was evident that the Ministry had difficulty responding to the increase in demand for PPE in the early period of the Covid-19 response.
- 7.3 The main factors for this were:
- As noted earlier, the Ministry did not have an overall view of existing PPE stock levels (DHBs' normal operating stocks and the DHBs' national reserve supplies, or of how much of that stock had expired), depletion rates, or usage. It needed this information to accurately forecast demand, which was changing daily. It also needed a process to ensure that the right volume of PPE went to the right place at the right time (to prevent shortages or, conversely, stockpiling).
  - Demand for PPE was sensitive to changes in the clinical guidance provided for the use of PPE, and this changed frequently.<sup>16</sup>
  - Some suppliers found it difficult to respond to the multiple orders DHBs were placing. Procuring agencies wanted a more co-ordinated approach to eliminate procurement competition between DHBs and shared service agencies.
- 7.4 In this Part, we look at how PPE was procured before Covid-19, the changes the Ministry made to this decentralised model during the Covid-19 response, and how effective those changes were.
- 7.5 We review the appropriateness of the Ministry's use of emergency procurement during the pandemic. We also look at the extent to which the procurement strategy, if fully implemented, could have helped the Ministry and DHBs to better understand and mitigate procurement risk.

### How was personal protective equipment purchased?

- 7.6 Before Covid-19, the model for sourcing and procuring PPE was largely decentralised. DHBs could use the Terms and Conditions and Pricing schedules agreed nationally by NZ Health Partnerships Limited, which provides shared administrative and procurement support services for DHBs, and Pharmac. They could also choose to procure regionally with other DHBs (for example, northern DHBs used HealthSource for procurement, supply chain, and logistics services) or for their own DHB.
- 7.7 In mid-2019, NZ Health Partnerships set up a national panel of eight suppliers to supply medical devices (including PPE) to the health and disability sector. It entered into a Master Agreement with each panel member. DHBs could use these national

<sup>16</sup> See Part 3, which outlines the clinical guidance issued and the main changes to the guidance for the community sector on what PPE should be used and when.



contracts to procure medical devices. Using the panels was not mandatory, and DHBs could choose to use a supplier of their choice if they preferred.

- 7.8 We reviewed a sample of the national contracts. The contracts required suppliers to be able to meet an increase in demand during an emergency and to use their best endeavours to source and ensure a continuous supply of PPE. Several suppliers were unable to meet the increased demand for PPE because of global demand, but the emergency provisions in the contracts could not be effectively enforced in such circumstances.
- 7.9 In line with the devolved model of stock management, DHBs had different inventory management practices and systems to manage routine clinical supplies (including PPE). They also used different factors to trigger procurement activity.
- 7.10 The Ministry told us that, early in the pandemic response, DHBs started submitting orders for PPE based on their estimates of what they needed.
- 7.11 We were told that HealthSource, which procures on behalf of the four northern region DHBs, placed an order for PPE worth \$20 million. We were also told that it would have placed a further order for \$10 million if this had not presented cash flow challenges.
- 7.12 Canterbury DHB told us that, because it was not allocated any supplies from the first distribution from the Ministry's national reserve, it placed an order based on an estimated need for one million masks each day. If demand had matched Canterbury DHB's original estimates, the DHB's stock would have been depleted in two weeks. The DHB would also have faced cash flow challenges.
- 7.13 On 16 March 2020, Cabinet set up a \$500 million contingency to cover the immediate costs of the Covid-19 public health response. On 16 April 2020, the Covid-19 Ministerial Group agreed that \$200 million of the contingency would be allocated to PPE. That amount was based on a Ministry estimate that used Australia's PPE estimates, adjusted for the New Zealand population.
- 7.14 The Ministry was concerned about the prospect of DHBs purchasing PPE independently and potentially competing with each other on volumes and price. There was also a risk that DHBs would experience cash flow challenges because of the large volumes of PPE that they needed to order.

## What changes were made to procurement in the Covid-19 response?

- 7.15 To address these challenges, the Ministry implemented a more centralised model of procurement in March 2020.
- 7.16 At the beginning of April 2020, the National Health Coordination Centre, which led the health emergency response, set up a Health Regional Logistics group to co-ordinate processes related to PPE, respond to emerging risks, and make decisions about sourcing PPE.
- 7.17 The Health Regional Logistics group included the assigned procurement leads from individual DHBs, NZ Health Partnerships, and HealthSource (for the northern region). The group provided national and centralised co-ordination and distributed the workload for sourcing and procuring significantly higher volumes of PPE.
- 7.18 PPE was separated into categories, and procurement leads were assigned to oversee sourcing and procurement of each category. This group reviewed the status of stock on order, national stock management, and distribution.
- 7.19 We understand that procurement leads were assigned based on whether the agency had the appropriate structure, capacity, and capability to respond to large requests rapidly. This approach required good co-ordination between the procurement leads when engaging with suppliers, particularly if the same supplier was providing several different types of PPE from different categories.
- 7.20 The Ministry instituted a process that required written approval by a Ministry official with the appropriate financial authority before an order for PPE was placed. We consider that this approach is in line with the Ministry of Business, Innovation and Employment's emergency procurement guidance.
- 7.21 The procurement leads used their individual procurement teams to source and procure additional PPE through their existing supplier networks. They looked to existing suppliers under contract (although with substituted PPE products at times) and new suppliers.
- 7.22 They considered importing products and domestic manufacturing capability (where the company was already set up for manufacturing and could increase capacity quickly). Other agencies, such as the Ministry of Business, Innovation and Employment and the Ministry, also suggested potential suppliers (including importers and brokers).
- 7.23 Because global demand was increasing significantly, procurement leads worked quickly to source as much appropriately certified PPE as they could (factoring in

lead times and, to a lesser extent, prices). When deciding whether to use new suppliers, procurement leads considered:

- whether the supplier could provide the appropriate product standard certification and product specification testing documentation; and
- the volumes of PPE that the supplier could deliver, the price (although price was less of a consideration), and whether it was readily available in New Zealand or needed to be transported here, in which case transport options and costs were considered.

7.24 Suppliers were notified that they had 30 days in which to notify their products to Medsafe (all suppliers have to record details about medical devices, including PPE that is being supplied in New Zealand).<sup>17</sup>

### Was the use of emergency procurement processes appropriate?

7.25 During Covid-19, some procurement was carried out under emergency procurement provisions.<sup>18</sup> The Ministry of Business, Innovation and Employment's *Quick Guide to Emergency Procurement* outlines flexibilities to procurement processes that agencies can use in an emergency situation instead of normal procurement procedures.

7.26 Agencies have to confirm agreements with suppliers in writing. This can take the form of a simple Government Model Contract available on the Ministry of Business, Innovation and Employment's website or, if time does not allow this, confirmation by email. This confirmation need only include basic information, such as what is being delivered, to what specification, when, where, by whom, the price, and any other charges (such as freight and insurance).

7.27 Agencies have to balance the need to act without delay against meeting their public sector obligations to act lawfully, reasonably, and with integrity. Procurement decisions still need to be justified.

7.28 We consider it appropriate that the Ministry carried out procurement activities under these emergency provisions. The Ministry will need to determine when it is appropriate for it to transition to the post-emergency reconstruction phase, as described in the *Quick Guide to Emergency Procurement*.

<sup>17</sup> Suppliers must notify the devices they supply in New Zealand to the WAND (Web Assisted Notification of Devices) database run by Medsafe.

<sup>18</sup> An emergency is defined as a sudden unforeseen event that can result in injury, loss of life, or critical damage to property or infrastructure.

## Personal protective equipment price increases

- 7.29 The emergency procurement provisions recognise that, although price will be a factor when selecting suppliers, the overriding consideration must be the immediate provision of relief (in this instance, the continuous supply of all categories of PPE).
- 7.30 We understand that assessing the reasonableness of quoted prices for PPE during the pandemic was challenging. Existing national contracts provided a base comparison for prices, but prices for almost all categories of PPE had increased.
- 7.31 The increased global demand for PPE, and face masks in particular, made it more difficult and more expensive to source. Surgical masks, which had cost 4-8 cents each in 2019, now cost 90 cents to \$1 each on the international market. The Ministry told us that there were similar price increases for other PPE categories.
- 7.32 The Ministry told us that unprecedented global demand for PPE, a dramatic increase in the cost of raw materials, and other input costs increased supply prices. As a result, many suppliers were unable to meet contracted prices, and the Ministry had to absorb the cost increases.

## Due diligence and quality assurance

- 7.33 We looked at the due diligence and quality assurance processes to assess the quality and safety of PPE that had not been used in New Zealand previously.
- 7.34 Procurement leads carried out due diligence checks of suppliers and products from overseas manufacturers at pace to avoid losing potential PPE supplies. Those checks included understanding the supplier's quality control processes and, where possible, receiving confirmation about the supplier and its facilities from an independent source.<sup>19</sup>
- 7.35 Significant volumes of PPE were manufactured in China. The Chinese government provided assurances about the quality of its PPE products.
- 7.36 To accelerate clinical testing of new PPE, procurement leads sought manufacturers' standard and certification documents and testing results before the product arrived in New Zealand.
- 7.37 Procurement leads reviewed these documents and made a recommendation. They did this without a sample of the product. This is not normal practice, but it was considered necessary in the circumstances to accelerate the process and secure the product.

<sup>19</sup> This confirmation was typically sought by requesting importers and brokers with agents in those countries to visit factories and inspect the production facilities and products.

- 7.38 HealthSource facilitated this process for masks, gowns, and protective eye wear through a group in the Northern Region Health Coordination Centre. Other procurement leads ran a similar process using their own internal specialist teams, including Infection Prevention and Control teams for new products from existing suppliers or new products from new suppliers.
- 7.39 Once the PPE was delivered to HCL, HealthSource visually inspected (but did not clinically test) a sample of products on behalf of all DHBs before it was released for distribution to DHBs.
- 7.40 HealthSource told us that it understood that once the PPE was distributed to DHBs, they could carry out their own fit testing of masks before distributing the masks further.
- 7.41 New Zealand regulates the supply but not the safety of medical devices (which includes PPE). Suppliers and domestic manufacturers are required to notify the medical devices, the risk classification, and the intended use of the devices to Medsafe within 30 calendar days of devices being supplied.<sup>20</sup> Suppliers are required to maintain records so that, if a product recall is needed, they can identify who they have supplied the products to.
- 7.42 During the Covid-19 response, the Ministry decided that, in exceptional circumstances, a lack of registration would not preclude the supplier from being considered, and it made arrangements for products to be registered while the order was filled or when the product arrived in New Zealand.

### Procurement strategy

- 7.43 The health and disability sector relies heavily on a global supply market, and understanding supply chain risk and vulnerabilities is critical. Covid-19 has highlighted the extent of several vulnerabilities with the supply chain. These included limited domestic manufacturing capacity, shortages of raw materials to manufacture PPE locally and internationally (some countries would not permit the release of raw materials), and reliance on countries whose production capacity was disrupted by shutdowns resulting from the pandemic.
- 7.44 Other issues included the limited supplier market – such as single or limited suppliers for some products (such as isolation gowns), global price wars because of escalating demand, e-commerce difficulties with overseas suppliers, and overseas border restrictions affecting logistics.

<sup>20</sup> Established under the Medicines (Database of Medical Devices) Regulations 2003.

- 7.45 The Ministry of Business, Innovation and Employment's *Quick Guide to Emergency Procurement* advises agencies to consider contingency planning for providing goods and services if an emergency, supply shortage, or other unforeseen event arises. The *Quick Guide to Emergency Procurement* states:
- The level of forward planning should reflect the strategic importance of the good or service, the risk of an emergency, and the cost of any contingency measures. The approach taken should be balanced, practical and fiscally responsible, and may be part of a wider risk management strategy.*<sup>21</sup>
- 7.46 In our view, given that it was foreseeable that PPE would need to be procured during a health emergency, the Ministry and the wider health and disability sector should have done work to better understand the risks and vulnerabilities of the supply chain for PPE in an emergency.
- 7.47 The health and disability sector has a DHB Procurement Strategy (the Strategy), supported by a DHB National Procurement Policy and a Health Sector Operating Model. The Strategy is clear that, to get the full benefits of collective procurement, the health and disability sector requires robust data, an agreed catalogue of goods and services, robust business processes, robust product management practices, clinical engagement, and trusted reporting to support good decision-making.
- 7.48 Some aspects of the Strategy have not been fully implemented. These aspects could have supported the health and disability sector to better understand and manage the risks that emerged during the Covid-19 response. These include:
- clarifying the roles and expectations of DHBs for procurement activity in an emergency, monitoring sector procurement behaviour, and providing feedback;
  - fully implementing the Health Finance Procurement Information Management System (for national visibility of procurement activity);
  - developing Supplier Relationship Management Frameworks nationally and regionally; and
  - preparing a catalogue of common products.
- 7.49 We understand that a review of the Strategy and the Policy is planned. We expect the review to consider lessons from Covid-19.

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**Recommendation 10**

We recommend that the Ministry of Health and the district health boards strengthen the procurement strategy by including an analysis of risks to the supply chain and have a plan to address those risks.

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21 See the Ministry of Business, Innovation and Employment, *Quick Guide to Emergency Procurement*, Wellington, page 1.

## Our observations

- 7.50 Procurement is an important part of any strategy to ensure continuity of supply of PPE in an emergency, so understanding and mitigating supply chain risks is critical. The Ministry understood this in 2006 when it contracted QSi to domestically produce N95 and general purpose surgical masks to offset risks with sourcing them internationally.
- 7.51 Demand for PPE during Covid-19 differed significantly from DHBs' usual demand for PPE and from the assumptions that the level of national reserves supplies were based on.
- 7.52 The decentralised model of procurement was designed to operate in normal circumstances and for localised emergency responses, but it did not work well for supporting a national emergency with global supply chain implications.
- 7.53 The Ministry's ability to quickly mobilise resources and co-ordinate sourcing and procurement activity was adversely affected by a complex and decentralised procurement model, a lack of an operational plan for emergencies, and a lack of information about PPE at a national level.
- 7.54 This prevented the Ministry from making informed decisions quickly. It lacked information about PPE on hand, usage rates, demand, and criticality. This information would have helped ensure that the right product was provided to the right people, at the right place, at the right time. In our view, the Ministry should have prepared an operational plan as part of the preparation for any pandemic, rather than trying to plan as the pandemic was unfolding.
- 7.55 We consider there was not enough planning and risk management for the PPE supply chain. Before Covid-19, not all categories of PPE were recognised as a critical medical device in an emergency that needed a strategic procurement approach.
- 7.56 As a result, the Ministry had not identified supply chain risks and vulnerabilities, and responsibility for managing supply chain risk remained decentralised and unclear. Further work needs to be done to assess supply chain risks to assist in planning for future events.
- 7.57 It is unclear whether the pre-existing sourcing arrangements could have met the demand for PPE that was forecast through pandemic planning, let alone the demand that arose during Covid-19. The Ministry recognised a need to centralise the procurement process and did so quickly. The new process proved agile enough to respond to the increasing demand for PPE.

- 7.58 Procurement activity outside of existing contracts with suppliers was carried out as emergency procurement. By its nature, emergency procurement has to be rapid and agile. It achieves this by speeding up or removing aspects of the normal process. To meet the objective of rapidly securing supply, some risks have to be accepted that would be managed differently in normal circumstances. During the Covid-19 response, these included:
- making upfront payments to secure PPE;
  - carrying out limited due diligence checks on new suppliers and their facilities;
  - accepting supplier terms that may not under normal circumstance have been accepted;
  - accelerating the product standard and certification acceptance and testing processes by reviewing suppliers' certification documentation and product testing results without inspecting a sample of the physical product; and
  - not testing whether equipment would fit before committing to ordering products not previously used.
- 7.59 In the circumstances, it was entirely appropriate for DHBs and other procuring organisations to use emergency procurement provisions to source goods quickly, and the actions taken were justifiable on the grounds that the usual procedures would have prevented them from delivering adequate and appropriate PPE to the people who needed it. We are satisfied that the risks were given due consideration by individuals and groups well placed to consider those risks. The Ministry made decisions based on the best information available at the time and the circumstances it faced.
- 7.60 We identified some risks in the accelerated testing and product acceptance processes for new suppliers and new PPE. Due diligence processes for PPE sourced from new suppliers and for new PPE products did not include the usual level of quality assurance. We are not in a position to assess the level of risk that this posed, but this risk was knowingly assumed given the pressing need to source and procure PPE in an extremely competitive global market.
- 7.61 In our view, the Ministry could usefully consider how to mitigate product quality risks when procuring PPE in emergency situations.
- 7.62 As we set out in Part 2, we recommend that, in the future, health emergency plans include how procurement should be carried out during a response.



# Appendix 1

## Guidance for prioritising personal protective equipment

The information below is the guidance provided on 27 March 2020 by the Ministry of Health to district health boards about personal protective equipment.

*Guidance for prioritising personal protective equipment – 27 March 2020*

*This document provides guidance primarily for District Health Boards on how to prioritise, distribute and the use of personal protective equipment (PPE) to ensure that key workers who are at highest risk of being exposed to Covid-19 are protected. This document should be read in conjunction with ... [link to advice for DHBs, health professionals, primary care.]*

*This guidance is a living document and will be reviewed and subject to change as the Covid-19 response changes. For all patient care, staff should follow standard precautions.*

*Criteria for prioritisation includes:*

- *Risk of being exposed to someone who has or potentially has Covid-19*
- *Length of exposure (more than 15 minutes at a distance less than 1 metre)*
- *Type of exposure – for example, delivering close care to a confirmed or suspected Covid-19 person*

*The table below outlines how PPE should be prioritised.*

<b>Role</b>	<b>Type of exposure</b>	<b>Risk mitigation</b>
<b>High priority</b>		
<i>Community-based assessment centre (CBAC) and primary care health care professionals (HCP) assessing and taking swabs from person with suspected Covid-19</i>	<i>Taking nasopharyngeal or throat swabs</i>	<i>Primary care recommended to refer to CBACs Contact and droplet precautions</i>
<i>HCP in hospital assessing and taking samples from a person with suspected Covid-19</i>	<i>Taking throat or nasopharyngeal swabs (primary care to refer those with severe pneumonia to hospital)</i>	<i>Contact and droplet precautions OR Contact and airborne precautions (if aerosol generating procedure performed)*</i>
<i>HCP (including midwives) providing clinical care of confirmed or suspected Covid-19 person/SARI/BAU body fluid exposure</i>	<i>Delivery of close care to a confirmed or suspected Covid-19 person</i>	<i>Follow contact and airborne precautions if aerosol generating procedure* is being performed  For critically ill patients where the HCP is required to remain in the patient room or bed space continuously (e.g. more than one hour), because of multiple procedures, a particulate respirator (N95 mask) should be worn.</i>

**Appendix 1**  
**Guidance for prioritising personal protective equipment**

<b>Role</b>	<b>Type of exposure</b>	<b>Risk mitigation</b>
<i>Emergency triage staff</i>	<i>Assessment of unwell symptomatic patient</i>	<i>All those patients meeting the case definition criteria are managed with standard and appropriate transmission-based precautions –contact and droplet precautions</i>
<i>Community ambulatory – primary care, Accident and medical clinics, Emergency medical services, home care/visiting services</i>	<i>Assessment and delivery of close care to suspected Covid-19 person</i>	<i>Contact and droplet precautions OR Contact and airborne precautions (if aerosol generating procedure performed)*</i>
<i>Cleaners</i>	<i>Potential risk of transmission if patient is in same room.</i>	<i>Contact and droplet precautions only if patient is in the room; otherwise standard operating procedure</i>
<b>Medium priority</b>		
<i>Immunocompromised people in hospitals</i>	<i>Risk of transmission from HCP to immunocompromised person (the risk of transmission from HCW should not be any higher than anyone else but the risk of poor outcome is much higher).</i>	<i>HCP to stay at home if unwell or limit contact with patients.</i>
<i>NICU and ICU staff</i>	<i>Risk of transmission from HCP to patient</i>	<i>HCP to stay at home if unwell or limit contact with patients.</i>
<i>HCP and carers providing direct care to immunocompromised people in the community (including those with open wound/skin condition)</i>	<i>Risk of transmission from HCP to immunocompromised person</i>	<i>HCP and carers to stay at home if unwell or limit contact with immunocompromised person.</i>
<i>HCP in aged care facilities</i>	<i>New resident from community</i>	<i>Standard precautions and daily assessment for symptoms.</i>
<b>Lower priority</b>		
<i>HCP (including midwives) caring for non-Covid-19 patients</i>	<i>Low risk of transmission</i>	<i>Standard precautions** are required based on risk of other transmissible infections</i>
<i>Phlebotomy staff</i>	<i>Low risk of transmission</i>	<i>Hand hygiene and gloves</i>
<i>Pharmacists – dispensing and some urgent consultations</i>	<i>Low risk of transmission</i>	<i>Physical distancing and other measures such as appointments, non-direct contact with public regarding prescription collection</i>

<b>Role</b>	<b>Type of exposure</b>	<b>Risk mitigation</b>
Vaccinators	Low risk of transmission – people who have vaccines have to be well to receive the vaccine	Maintain good hand hygiene between each person they are vaccinating  Ask person to turn their head away from the vaccinator when vaccine being given

For other workplaces not identified in this table, please follow advice outlined in: <https://www.health.govt.nz/our-work/diseases-and-conditions/covid-19-novel-coronavirus/covid-19-novel-coronavirus-health-advice-general-public/covid-19-novel-coronavirus-face-mask-and-hygiene-advice>

\* Contact and Droplet precautions PPE = long sleeve impervious gown, gloves, eye protection and surgical mask

Contact and Airborne precautions PPE = long sleeve impervious gown, gloves, eye protection and particulate respirator (N95 mask)

Aerosol-generating procedures include nebulized medication, endotracheal intubation, rapid sequencing intubation, bronchoscopy, tracheostomy, open suctioning of airway secretions, bilevel positive airway pressure (BiPAP) sputum induction and cardiopulmonary resuscitation.

# Appendix 2

## Timeline of guidance on personal protective equipment

The table below lists the guidance the Ministry issued, by audience, between 19 February 2020 and 15 May 2020.

Date	Guidance made available or updated	Audience
19/02/2020	Caring for yourself and others who have, or may have, Covid-19 at home	General public
20/02/2020	General cleaning information for Covid-19	General public
12/03/20	Role of face masks in health settings	Health professionals
27/03/2020	Guidance for prioritising personal protective equipment	Health professionals
27/03/2020	Webpage on face masks and hand hygiene	General public
28/03/2020	Donning and doffing of personal protective equipment (including videos)	Health professionals
28/03/2020	Personal protective equipment used by community care providers for prevention of Covid-19 (includes aged residential care, aged-related community care, disability, hospice, and home care)	Health professionals
28/03/2020	Personal protective equipment for essential non-health workers	Health professionals
28/03/2020	Personal protective equipment for staff caring for Covid-19 positive patients in hospital	Health professionals
28/03/2020	Personal protective equipment for staff taking nasopharyngeal throat swabs from people with suspected Covid-19	Health professionals
31/03/2020	Personal protective equipment used by community midwives for prevention of Covid-19	Health professionals
02/04/2020	Guidance for admissions into aged residential care facilities at Alert Level 4	Health professionals
05/04/2020	Update for Disability and Aged Care Providers at Alert Level 4	Health professionals
07/04/2020	Guidelines for the use of personal protective equipment for frontline health care workers	Health professionals
08/04/2020	Guidance for personal protective equipment used by community pharmacy for prevention of Covid-19	Health professionals
15/04/2020	Resources for health professionals	Health professionals
16/04/2020	How to keep your bubble safe	Health professionals and general public
20/04/2020	Personal protective equipment for maternity settings	Health professionals
21/04/2020	Infection prevention and control procedures for DHB acute care hospitals	Health professionals
23/04/2020	Personal protective equipment use in health care settings including care provided in homes	Health professionals

<b>Date</b>	<b>Guidance made available or updated</b>	<b>Audience</b>
23/04/2020	FAQs about personal protective equipment	Health professionals
23/04/2020	Transmission of Covid-19 and the role of face masks in health settings	Health professionals
27/04/2020	Guidance for personal protective equipment used by community pharmacy for prevention of Covid-19	Health professionals
01/05/2020	Personal protective equipment for maternity settings	Health professionals
01/05/2020	Personal protective equipment for staff taking nasopharyngeal throat swabs from people with suspected Covid-19	Health professionals
01/05/2020	Personal protective equipment requirement for staff caring for Covid-19 positive patients in hospital	Health professionals
05/05/2020	Personal protective equipment requirement for community care providers who are providing care in people's place of residence (Includes aged residential care, hospice, home and disability support, and mental health)	Health professionals
07/05/2020	Guidelines for personal protective equipment disability support and care workers who work in clients homes	Health professionals
07/05/2020	FAQs about personal protective equipment	Health professionals and general public
14/05/2020	Personal protective equipment requirement for community care providers who are providing care in people's place of residence (includes aged residential care, hospice, home and disability support, and mental health)	Health professionals
15/05/2020	Alert level 2: health and disability sector risk assessment for interactions with people of unknown Covid-19 status to determine personal protective equipment	Health professionals
15/05/2020	Alert level 2: personal protective equipment required when caring for a suspected, probable or confirmed Covid-19 case in health and disability care settings including care provided in place of residence	Health professionals
15/05/2020	Personal protective equipment requirement for staff caring for Covid-19 patients in hospital	Health professionals
15/05/2020	Guidelines for personal protective equipment disability support and care workers who work in clients homes	Health professionals
15/05/2020	Personal protective equipment requirement in maternity settings for prevention of Covid-19	Health professionals
15/05/2020	FAQs about personal protective equipment	Health professionals and general public

# Appendix 3

## Who we engaged with during our review

During our work we interviewed, spoke with, or received information from:

- Ministry of Health;
- Auckland District Health Board, the Northern region lead in the Health Regional Logistics group set up by the Ministry of Health;
- Canterbury District Health Board, the Southern region lead in the Health Regional Logistics group and the procurement lead for gloves;
- Capital & Coast District Health Board, also representing the Hutt Valley and Wairarapa DHBs for the Health Regional Logistics group;
- Waikato DHB, the MidCentral regional lead in the Health Regional Logistics group and procurement lead for disposable aprons;
- Southern District Health Board;
- Healthcare Logistics Limited, responsible for centrally storing and distributing PPE procured through the national procurement process;
- HealthSource, a shared service provider for the northern region DHBs and also procurement lead for isolation gowns, all types of masks, and eyewear;
- New Zealand Health Partnerships Limited, holder of national contracts with suppliers, and initially in charge of PPE procurement before that passed to regional leads;
- Onelink, a supply chain partner for the Northern Region, Waikato, and Southern DHBs, responsible for distributing PPE from a central store to contracted DHBs;
- Pharmac, the procurement lead (with New Zealand Health Partnerships Limited) for hand sanitiser;
- QSi Limited, a local manufacturer of surgical and N95 masks, with a contract with the Ministry of Health for holding national reserve supplies of masks;
- McGuinness Institute;
- New Zealand Human Rights Commission;
- New Zealand Public Service Association;
- New Zealand Spinal Trust;
- New Zealand College of Midwives
- New Zealand Nurses Organisation;
- New Zealand Disability Support Network; and
- Disabled Persons Assembly.

We also heard from individuals or parties who approached us with information they considered might be helpful to our work. They included clinicians and people working in the health and disability sector, including dental and rest home sectors, as well as people in local government and members of the general public.

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