Management of personal protective equipment in New Zealand during the COVID-19 pandemic: report from the Auditor-General

Elizabeth Fenton

ABSTRACT

In June 2020 the Office of the Auditor-General released its report on the management of personal protective equipment (PPE) in New Zealand during the COVID-19 pandemic. The report raises three issues of ethical concern: inadequate stock, inequity and complacency. Acting on the report's recommendations is a critical step in strengthening New Zealand's preparedness for future public health crises.

In June 2020 the Office of the Auditor-General released its report on the Ministry of Health's management of personal protective equipment (PPE) during the early stages of New Zealand's response to COVID-19. Relative to other countries New Zealand has (so far) fared well in this pandemic, with the number of cases staying well within the capacity of our health system to manage them. As in other countries, however, health workers have expressed concerns that they have not had access to the PPE that they felt was required in the clinical circumstances in which they found themselves. Numbers from April 2020 indicate that 10% of cases in New Zealand at that time were healthcare workers, of which half were infected in their workplace.[1] This number reflects the World Health Organization's estimate (at the time of writing) that 10% of all cases of COVID-19 globally are among healthcare workers, though the percentage varies between countries and regions.[2] Recent studies indicate that front-line healthcare workers are at increased risk for COVID-19 infection, and that availability, quality and correct use of PPE can reduce this risk.[3–5] These findings reflect historical data from previous infectious disease outbreaks, such as the 2014–2016 Ebola epidemic in west Africa, in which disproportionate deaths of healthcare workers were attributed, at least in part, to lack of adequate PPE.[6,7] The Auditor-General's report highlights three issues of ethical concern in the Ministry of Health's management of PPE.

Inadequate stock

The report makes clear that stocks of PPE held by DHBs and the Ministry of Health were inadequate. This was in part because existing calculations for how much PPE should be held in the national reserve were based on outdated population figures and modelling for an influenza pandemic.[8] In addition, funding for the reserve stocks of PPE held by DHBs was for hospital use only, and did not include meeting the needs of health and disability workers in the community, or non-health essential workers.[8] The Ministry confirmed to the Auditor-General that the national reserve of PPE was "only to support DHBs and not the wider sector or non-health sector."[8] Poor stock management also meant that a significant amount of PPE stock held by DHBs had expired.[8]

These deficiencies in stock levels and management are of ethical concern for two reasons. First, in the circumstances of a pandemic we depend on the availability

ISSN 1175-8716
© NZMA

and willingness of healthcare workers, and all those who work in healthcare facilities, to continue to come to work. However, their willingness to do this, even their duty to do this, is in turn conditional on the provision of the equipment, and training in the use of that equipment, needed to minimise the level of risk to which they are exposed. If healthcare workers have a duty to come to work during a pandemic, then we as a society, through our elected government and its institutions, have a reciprocal obligation to protect their well-being so far as is possible.[9,10,11]

Second, inadequate resources for healthcare workers to do their jobs safely, alongside other deficiencies in the systems for managing and accessing those resources, undermines the trust those workers have in the institutions for which they work. Without addressing the appropriateness of the Ministry's clinical guidance on PPE use, the Auditor-General's report highlights that, in addition to confusion and apparent mixed-messages about the use of PPE, there was a discrepancy between what workers felt they needed to be safe, and what the clinical guidance stated was necessary. The Auditor-General received correspondence from health and disability workers (and those they were caring for) expressing concern that the Ministry's guidance was "too narrow" and that "the guidelines did not provide what they felt they needed to feel safe delivering care".[8] One DHB reportedly responded to the concerns of its workers by distributing "what people were asking for rather than what the guidelines recommended".[8]

Healthcare workers' willingness to work during a pandemic will depend in part on trust that guidance on the use of PPE is driven by concern for protecting their safety as much as possible, and not concern to protect inadequate stocks. This will reflect a deeper level of trust that the system as a whole is well-resourced and sufficiently robust to deliver services safely during a crisis. The concern that clinical guidelines did not reflect what healthcare workers felt they needed, and the reported experiences of workers who were not able to obtain equipment they felt they needed, amplify distrust in the capacity of the healthcare system to function during a crisis.

Inequity

The second issue raised by the report is inequity in the availability and distribution of PPE across the health and disability sector. As noted above, the funding provided to DHBs in 2005 to purchase PPE supplies for the national reserve was based on modelling that assessed PPE needs for hospital use only, and did not include the needs of the wider health and disability sector or the non-health sector.[8]

On 31 March 2020 the Ministry instructed DHBs to establish a process to distribute PPE to all publicly funded health and disability providers who deliver health and disability services, including those not directly funded by DHBs.[8] While some DHBs made efforts to follow this instruction, at least one reportedly told community-based workers that it had only enough supplies to maintain DHB services, that the only PPE requirement relevant for them was fastidious hand hygiene, and that they could contact private medical suppliers for additional PPE.[8] While this advice might have been directed towards non-funded services and non-health sector workers, it nevertheless highlights a deeper concern that community-based health and disability providers, and the people they care for, are deprioritised relative to hospital-based workers. To the extent that such prioritisations reflect higher risk levels they are appropriate and justified—higher risk justifies higher levels of PPE—but all health workers providing in-person care during a pandemic require PPE at some level to reflect the risks of close human contact for both workers and those they are working with. At the time of writing, five out of 16 clusters of COVID-19 In New Zealand occured in aged residential care facilities, highlighting the risks for community-based care workers and those they care for. These risks must be reflected in the availability of PPE and other critical resources.

The Ministry and DHB's approach to providing PPE to the wider health and disability sector, as reflected in this report, was at best confusing and piecemeal, and at worst inequitable and unjust. Healthcare workers who were community based or worked outside the funding mechanisms of the DHBs were overlooked in emergency planning and preparations. Given the vulnerability of this sector to the risks of

infectious disease, and its value in providing critical care and support in the community, there is no justification for such oversights.

Complacency

The third ethical concern raised by the Auditor-General's report is apparent complacency towards emergency planning and preparedness. With respect to the Ministry's decentralised model for procurement of PPE, the report notes that the model prevented the Ministry from making informed decisions quickly, and to ensure that "the right product was provided to the right people, at the right place, at the right time". An operational plan should have been part of general pandemic preparedness, "rather than trying to plan as the pandemic was unfolding".[8] The report also observes that the response to COVID-19 revealed the extent to which the Ministry's oversight of PPE reserves had "fallen away over the years".[8] It is worth noting in this context that warnings around supply and availability of PPE for healthcare workers were sounded long before the COVID-19 pandemic, so increased demand was predicatable.[12]

Emergency planning and preparedness activities are ethically important for two reasons. First, the public deliberation required for the complex and difficult questions that arise during public health emergencies cannot happen in the thick of a crisis. Public health emergencies are characterised by uncertainty, urgency, politicisation and fear, and are not conducive to broad public engagement in difficult moral questions about how to allocate scarce resources or restrict individual liberty for the greater good. Although the conclusions of any such deliberation need to be revisable in light of evolving emergency situations, they are best reached, at least provisionally, during the planning phase, rather than in the heat of the moment.[13] Second, emergency planning is valuable as an activity in itself. Emergency planning should be viewed as a civic practice that presents opportunities for citizens to engage out of a sense of solidarity and responsibility for the health of our shared community.[13] On this view emergency planning aspires to more than the production of plans to be consumed, it is "a convenant of public trust" that can embody "both the remembered traditions and values of a community and a forward-looking vision of how the community can be made a better environment for all its members in the future".[13]From this civic perspective, complacency with respect to emergency preparedness is both an ethical failure and a significant oppportunity lost: an opportunity to strengthen social capital within communities, improve resilience, and to direct attention to core values and moral commitments that provide 'compass points' when crises occur. In calling for a "whole of community/whole of government" approach to managing PPE the Auditor-General reflects this more aspirational view of emergency planning as an activity that can bring communities together.[8]

An ethical dilemma

The Auditor-General's report concedes that there is likely to be tension between the interests of healthcare workers in maintaining a high level of personal protection and the interests of the Ministry and DHBs in prioritising the appropriate use and allocation of PPE stocks.[8] This concession draws attention to a dilemma at the heart of emergency preparedness: how to balance the goals of preparedness for future uncertain emergencies, and meeting demands on the health budget in the present.Stockpiling for future emergencies has opportunity costs, and so must be done with adequate attention to the potential health benefits lost by investing in resources that might not be used.[14] More generally, this tension reflects a commitment within public health to two conceptions of justice that can be at odds with each other. Its concern for improving the health of populations gives public health a natural affinity with utilitarian principles of justice that emphasise maximising net benefit or welfare. Yet public health is also deeply committed to fairness and equity in the distribution of burdens and benefits across society. When managing resources for public health emergencies these twin foci of efficiency and equity require both that we pay attention to opportunity costs, and also to meeting the needs of those likely to be most burdened by the risks of any future public health crisis.

As with most ethical dilemmas, resolution lies somewhere between the two poles. Put simply, the best preparation for future public health emergencies is to invest in maintaining a robust public health

system.[14] Despite New Zealand's success in managing COVID-19 to date, public health infrastructure is weaker than it could or should be. In his reflections on public health in New Zealand epidemiologist and public health physician Sir David Skegg describes the decline in political support for public health in this country, noting that crises such as the Campylobacter outbreak in Havelock North in 2016, which infected 40% of the population, and resulted in at least three deaths, must be attributed, at least in part, to failures within the government adequately to resource and value public health services.[15] These failures stem from the "invisibility of public health": except in times of crisis, public health is far from public view or concern, and the benefits of the investments required to sustain it are often not realised until long into the future.

The Auditor-General's report focuses primarily on the provision and management of PPE equipment, and does not address the fact that PPE is just one element of respiratory protection for healthcare workers. The importance of training in the procedures for safely putting on and taking off PPE, and regular fit testing, are not considered in the report, nor is the critical role of occupational health practioners in preparing all healthcare workers to protect themselves. The scope of the report is limited in several other important respects. In particular, it does not address in detail access to PPE for non-health essential workers, nor does it review the clinical guidance on PPE use from the Ministry of Health, though it describes reactions to this guidance from healthcare workers. Nevertheless, the report shows PPE to be a bellwether for emergency preparedness and response in New Zealand. Accepting and acting on its recommendations will be important for strengthening our emergency preparedness for the future. It is also an opportunity to build trust in and commitment to our public health system, within the whole health and disability sector, and the community more broadly.

Competing interests:
Nil.

Author information:
Elizabeth Fenton, Bioethics Centre, University of Otago, Dunedin.
Corresponding author:
Dr Elizabeth Fenton, Bioethics Centre, University of Otago, 60 Clyde Street, Dunedin.
elizabeth.fenton@otago.ac.nz

URL:
www.nzma.org.nz/journal-articles/management-of-personal-protective-equipment-in-new-zealand-during-the-covid-19-pandemic-report-from-the-auditor-general

REFERENCES:

1. Ministry of Health [Internet]. Wellington: Ministry of Health. 9 new cases of COVID-19; 2020 Apr 19 [cited 2020 Aug 18]. Available from: http://www.health.govt.nz/news-media/media-releases/9-new-cases-covid-19
2. World Health Organization [Internet]. Geneva: World Health Organization. Over 10,000 health workers in Africa infected with COVID-19; 2020 Jul 23 [cited 2020 Aug 18]. Available from: http://www.afro.who.int/news/over-10-000-health-workers-africa-infected-covid-19.
3. Nguyen LH, Drew DA, Graham MS, et al. Risk of COVID-19 among front-line health-care workers and the general community: a prospective cohort study. Lancet Public Health [Internet]. 2020 Jul 31 [cited 2020 Aug 18]; http://doi.org/10.1016/S2468-2667(20)30164-X Available from: http://www.thelancet.com/journals/lanpub/article/PIIS2468-2667(20)30164-X/fulltext

4. Chou R, Dana T, Buckley DI, Selph S. Epidemiology of and risk factors for Coronavirus infection in health care workers: A living rapid review. Ann Intern Med [Internet]. 2020 Jul 21 [cited 2020 Aug 18]; http://doi.org/10.7326/M20-1632 Available from: http://www.acpjournals.org/doi/full/10.7326/M20-1632?journalCode=aim
5. World Health Organization [Internet]. Geneva: World Health Organization. Shortage of personal protective equipment endangering health workers worldwide; 2020 Mar 3 [cited 2020 Aug 18. Available from: http://www.who.int/news-room/detail/03-03-2020-shortage-of-personal-protective-equipment-endangering-health-workers-worldwide
6. Evans DK, Goldstein M, Popova A. Healthcare worker mortality and the legacy of the Ebola epidemic. Lancet [Internet]. 2015 Jul 9 [cited 2020 Aug 18]; 3(8):e439–e440. Available from: http://www.thelancet.com/journals/langlo/article/PIIS2214-109X%2815%2900065-0/fulltext
7. Diamond MB, Woskie L. Covid-19: Protecting frontline health care workers—what lessons can we learn from Ebola? 2020 Mar 25 [cited 2020 Aug 18]. In: BMJ Opinion [Internet]. Available from: http://blogs.bmj.com/bmj/2020/03/25/healthcare-workforce-safety-and-ebola-in-the-context-of-covid-19/
8. Controller and Auditor-General [Internet]. Ministry of Health: Management of personal protective equipment in response to Covid-19; 2020 Jun [cited 2020 Aug 18]. Available from: http://oag.parliament.nz/2020/ppe S. 3.1, 3.9, 3.10, 3.29, 4.2, 4.13, 4.16, 4.17, 4.21, 4.29, 5.20, 5.41, 6.19, 6.27, 7.54
9. Fenton E. Personal protective equipment for frontline health workers: an ethical imperative. 2020 Mar 31 [cited 2020 Aug 18]. In: Journal of Medical Ethics Blog [Internet]. Available from: http://blogs.bmj.com/medical-ethics/2020/03/31/personal-protective-equipment-for-front-line-health-workers-an-ethical-imperative/
10. Dawson A. Professional, civic, and personal obligations in public health emergency planning and response. In: Jennings B, Arras J, Barrett D, Ellis BA, editors. Emergency Ethics: Public Health Preparedness and Response. New York: Oxford University Press; 2016. p. 186–219.
11. Schuklenk U. What healthcare professionals owe us: why their duty to treat during a pandemic is contingent on personal protective equipment (PPE). J Med Ethics [Internet]. 2020 May 22 [cited 2020 Aug 18]. Available from: http://jme.bmj.com/content/46/7/432 doi: http://dx.doi.org/10.1136/medethics-2020-106278
12. Institute of Medicine [Internet]. Preparing for an Influenza Pandemic: Personal Protective Equipment for Healthcare Workers. Washington, DC: National Academies Press; 2008. http://doi.org/10.17226/11980.
13. Jennings B, Arras JD. Ethical aspects of public health emergency planning and response. In: Jennings B, Arras J, Barrett D, Ellis BA, editors. Emergency Ethics: Public Health Preparedness and Response. New York: Oxford University Press; 2016. p. 1–103.
14. Daniels N. Justice, resource allocation, and emergency preparedness: Issues regarding stockpiling. In: Jennings B, Arras J, Barrett D, Ellis BA, editors. Emergency Ethics: Public Health Preparedness and Response. New York: Oxford University Press; 2016. p. 104–134.
15. Skegg D. The Health of the People. Wellington: Bridget Williams Books; 2019.