

Hearing the voices of Australian healthcare workers during the COVID-19 pandemic

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ABSTRACT

Background The statistics of healthcare worker (HCW) COVID-19 infections do not convey the lived experience of HCWs during the pandemic. This study explores the working conditions and issues faced by Australian HCWs.

Methods Qualitative analysis of free-text responses from Australian HCWs from 3 August to 26 October 2020 from an open letter calling for better respiratory protection for HCWs, transparent reporting of HCW COVID-19 infections and diversity in national infection control policy development. The open letter was sent to an email list of 23 000 HCWs from a previous campaign and promoted on social media.

Results Among 3587 HCWs who signed the open letter during the study period, 569 free-text responses were analysed. Doctors and nurses accounted for 58% and 33% of respondents, respectively. Most respondents came from Victoria (48%), New South Wales (20%), Queensland (12%) or Western Australia (11%). Dominant themes included concerns about: work health and safety standards; guidelines on respiratory protection including the omission of fit-testing of P2/N95 respirators; deficiencies in the availability, quality, appropriateness and training of personal protective equipment; and a command-and-control culture that enabled bullying in response to concerns about safety that culminated a loss of trust in leadership, self-reported COVID-19 infections in some respondents and moral injury.

Conclusion Deficiencies in work health and safety, respiratory protection, personal protective equipment and workplace culture have resulted in a loss of psychological and physical safety at work associated with an occupational moral injury. The challenge for healthcare leaders is to repair trust by addressing HCW concerns and fast track solutions in collaboration with them.

INTRODUCTION

Compared with many developed countries, Australia has been relatively spared the impacts of COVID-19. Total case numbers were 7767 until 30 June 2020, but increased when Victoria, a state with a population of >6 million, experienced a resurgence in early July 2020 accounting for 20 341 (74%) of a total of 27 513 infections by 26 October 2020.¹ This resurgence was associated with a sharp increase in healthcare worker (HCW) infections in Victoria (national data unavailable) from 388 on 16 July² to 3577 by 27 October with one death reported in April 2020.³

There are parallels between the Australian and international experience with HCWs disproportionately infected with COVID-19 compared with the general community. The prevalence of COVID-19 in HCWs from the USA and the UK is 2747 cases per 100 000 HCWs, compared with 242 cases per 100 000 people in the general community.⁴ By 16 September 2020, an

estimated 3 million HCWs globally had been infected, and as of 16 July 2020 over 3000 had died.⁵ Over 1300 HCWs have died in the USA⁶ and 600 in the UK,⁷ with HCWs from non-Caucasian backgrounds comprising nearly two-thirds of deaths.⁸ While many jurisdictions have struggled to prevent HCW infections, some have effectively protected their HCWs, with China,⁹ Singapore¹⁰ and Taiwan¹¹ the notable exceptions.

Statistics, however, do not convey the lived experience of HCWs. In Australia, the media and professional societies have highlighted some of the issues faced by HCWs, who have reported workplace bullying,¹² concerns about personal protective equipment (PPE)¹³ and mental health morbidity.¹⁴ HCWs have turned to the media to help broadcast their concerns¹⁵ in response to a lack of progress using conventional channels.

At the start of the Victorian resurgence, national guidelines on respiratory protection for HCWs was a surgical mask for the routine care of COVID-19 suspected or confirmed patients with the N95/P2 respirator reserved for aerosol-generating procedures.¹⁶ However, in late July, major hospitals in Melbourne introduced N95 respirators for COVID-19 confirmed and suspected patients in response to multiple hospital outbreaks¹⁷ with the state guidelines aligning with this approach soon after.

It was against this backdrop that some of the authors (MA-R, BV and GK) spearheaded a national advocacy campaign to elevate the occupational safety of HCWs. On 2 August 2020, a letter signed by 23 doctors was sent to the Australian Federal Minister for Health (<https://tinyurl.com/y3pyp567>). The letter called for better respiratory protection, greater diversity on our national infection control guideline committee and transparent reporting of HCW infections. The letter was shared via email to 23 000 HCWs (61% doctors and 28% nurses) who had responded to earlier campaigns by BV and GK advocating lockdown. It garnered over 2700 signatures by the morning of 5 August 2020 and a total of 3587 by 26 October 2020 when it was closed. An optional question was included for respondents to share concerns about their occupational safety. This triggered an outpouring of responses from HCWs that have been thematically analysed to better understand the challenges they have faced during the COVID-19 pandemic.

METHODS

Qualitative analysis

Experienced health services researchers (DA, CP and DB), who were not involved in development of the open letter, coded the responses. Twenty responses were initially coded to create a coding framework. The primary codes were individual, organisational and system level factors with barriers and enablers



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Table 1 Demographic characteristics of healthcare worker respondents

Role	Count (n=569)	%
Nurse	188	33
Doctor	331	58
Allied health	25	4
Paramedic	13	2
Clerical	7	1
Midwife	5	1
State/territory	Count (n=569)	%
Vic	275	48
NSW	111	20
Qld	68	12
WA	63	11
Tas	18	3.2
SA	18	3.2
ACT	13	2.3
NT	3	0.5

ACT, Australian Capital Territory; NSW, New South Wales; NT, Northern Territory; Qld, Queensland; SA, South Australia; Tas, Tasmania; Vic, Victoria; WA, Western Australia.

identified for each category. Approximately 190 responses were coded by each investigator, with coding disagreement resolved through discussion and consensus.

RESULTS

The open letter was signed by 3587 HCWs with 569 free-text contributions. The majority (48%) of respondents were from Victoria (VIC), followed by New South Wales (NSW) (20%) and similar representation from Queensland (QLD) and Western Australia (WA) (12% and 11%, respectively). Doctors and nurses accounted for 91% of responses, with remaining respondents from paramedicine, allied health and clerical backgrounds (table 1).

The themes below represent the spectrum of issues concerning HCWs. To convey their voices, results have been presented in a narrative style below (Online supplemental file 1 provides a table of HCW quotes mapped to the themes below).

Work health and safety issues including policies/guidelines

We don't want to be heroes. We just want protection in line with OHS standards. (GP, Victoria)

HCWs felt that they deserve *'the same occupational health and safety demanded in any other industry'* (anaesthetist, VIC) and that *'with community transmission rates climbing, subpar PPE is just unacceptable'* (trainee doctor, VIC). HCWs highlighted the mining and asbestos removal industry where *'no worker can work without the appropriate respirator'* (nurse, WA). HCWs perceived guidelines derived from the WHO to be *'woefully inadequate...[with] studies showing the virus to be airborne since March, whereas WHO only got on board in July'* (general practitioner, QLD). This WHO position gave *'managers and hospital executives an excuse to lower the standard of PPE to a surgical mask, face shield, and apron'* (nurse, WA) with HCWs noting *'very poor leadership from executive'* (doctor, VIC). Many perceived that guidelines were *'dictated by resources and not staff safety'* (nurse, QLD) and that Australia has *'waited until our own staff got sick and intubated before we very gradually changed the PPE quality supplied to staff in Australia'* (doctor, VIC).

HCWs decried that *'staff becoming sick is unacceptable'* (nurse, TAS) and *'having any fellow HCWs at the same health network with confirmed COVID is far too many'* (doctor, VIC).

They asked, *'since when was it acceptable for miners to die from preventable OHS accidents? Never - so don't make it acceptable for HCWs'* (doctor, VIC) noting that *'We give everything for our patients, but we don't expect to have to give our lives'* (nurse, TAS).

The approach to occupational safety was, *'reactive not proactive as numbers began to grow'* (nurse, VIC). Instead of introducing *'PPE appropriate for airborne transmission, and scale back if required'* (doctor, VIC), policies dismissed precaution and were *'dragging their heels ... Adopting the cheapest PPE instead of the most suitable'* (paramedic, VIC). Respondents drew a comparison with SARS, where *'respiratory protection was upgraded well before the evidence-based studies regarding respiratory protection "proved" that aerosol spread was occurring which saved hundreds of HCW lives'* (physician, TAS).

Opportunities had been squandered given, *'Australia had so much time to learn from the experiences overseas'* (nurse, TAS). Instead we *'lost valuable time to prepare for this pandemic due to government and department effective obstructiveness'* and did not consult broadly enough, *'occupational medicine doctors should have been involved in expert groups from start to prevent workplace outbreaks'* (occupational medicine physician, WA). HCWs recognised the threat to health system functionality where asymptomatic patients who had *'moved across many areas of the hospital'* could cause an outbreak *'affecting hospital flow and productivity'* (midwife, VIC).

Issues with PPE: access, quality, appropriateness and training

Protect us PROPERLY so we can protect you! (Nurse, Western Australia)

Despite HCWs being *'essential'*, a lack of or limited supply of PPE was reported across Australia. Respondents emphasised that they *'need PPE in our practice consult rooms, not in a "National Stockpile" thousands of kilometres away!'* (doctor, QLD). The lack of availability of PPE had led to rationing, with PPE being *'locked in cupboards'* (doctor, NSW) and respondents being *'directed to store surgical masks in a plastic bag and reuse them for the same patient on multiple occasions'* (doctor, NSW). PPE had quality issues with *'gowns that tear easily, surgical mask quality is often poor'* (nurse, WA), masks that *'often require a tremendous amount of "MacGuyver-ing"'* but still *'slid down, exposing my nose'* (trainee doctor, VIC), *'poorly fitting ear loop ones'*, which affected critical manoeuvres where *'several colleagues had to remove eye protection as they kept fogging up'* (surgeon, NSW).

Fit for purpose PPE was important particularly for first responders where they *'do not function in a controlled environment'* and *'face wind, weather, manual handling of infected patients, difficult extrications, patient lifts, carries, and sit centimetres from patients in confined spaces'*. Gowns were prone to *'billowing in the wind, spreading droplets, contaminating faces and surfaces, as well as providing no protection to legs when bending, lifting, sitting'* (paramedic, WA). Proceduralists encountered PPE failures, *'on a patient who had suffered a cardiac arrest, the mask developed a major leak and fogged up the face shield which meant I was exposed to viral aerosol and had poor visibility. It is incredibly stressful. Make fit testing mandatory and provide us state of the art PPE.'* (anaesthetist, VIC). Even anaesthetists, who are at high risk due to intubation responsibilities are being asked *'to use cheap N95 duckbill masks without formal fit testing... intubators' face shields are fogging so badly that it is almost impossible to see. Full face Respirators must be made available'* (anaesthetist, VIC). Guideline variability resulted in

mask confusion with the need *'to juggle between different masks based on the interventions we use to treat patients' where 'we are not able to predict these decisions until we are already on scene'* (paramedic, NSW).

HCWs were angered by a lack of internal support: *'My hospital's Chief Medical Officer has been silent on this issue, even when it was raised in a public forum'* (trainee doctor, VIC), citing that the inadequacy of PPE *'runs contrary to OH&S regulations in every other facet of working life'* (trainee doctor, QLD). The lack of representation in policy making meant that, *'General Practice is under-represented in the decision-making process and the allocation of PPE, despite our high profile in the early presentations'* (nurse, WA). Consequently, HCWs are *'purchasing their own masks, at extreme cost'* (nurse, SA) including non-approved items such as *'an elastomeric P3 filter mask but I would be disciplined if I wore it to work despite it likely being superior to a non-fit tested N95/P2 respirator'* (doctor, VIC).

In addition to fit testing, PPE training was required. *'Donning and doffing correctly, needs education and compliance monitoring! I've seen so many nurses do it incorrectly'* (surgical nurse, VIC). There were calls for *'a nationwide respiratory protection programme incorporating the training, use and centralised cleaning of PAPRs and reusable elastomeric respirators for those who do not fit disposable P2/N95 masks'*. Without this level of oversight, *'Governments and healthcare organisations are currently failing in their duty of care to provide a safe working environment for HCWs'* (anaesthetist, NSW).

Fit testing

We were horrified by the mismatch in different people's faces to various brands of P2/N95. (GP, Tasmania)

The provision of respirators is not a one-size-fits-all matter. Respiratory protection is only effective if HCWs *'have quantitative Fit Testing'* (anaesthetist, VIC) *'to ensure that they provide an adequate seal. Without proper fitting, these masks provide no additional protection over and above a standard surgical mask'* (anaesthetist, NSW). One surgeon recounted how they *'had to apply strips of Micropore tape around the mask to achieve an adequate seal. ... It beggars belief that HCWs are expected to jury-rig N95 masks to achieve a life-protecting air-tight seal'* (surgeon, WA).

In-house fit testing was occurring, with alarming results, where *'around 40% of women failed a quantitative fit test on the disposable P2/N95 masks'* (anaesthetist, NSW), noting that *'women and non-Caucasian faces appear at greatest risk of failure. They also appear to be disproportionately the HCWs exposed and dying in the UK'* (anaesthetist, QLD). Arranging fit testing was not easy, with HCWs having to *'fight to even be fit-tested for N95 masks'* and having to *'to pay for that fit-testing myself before the hospital relented and tested the rest of the department'* (doctor, TAS). HCWs were bewildered as to *'why certain industry sectors make it mandatory for their workers to have such rigorous testing performed and others such as healthcare, where lives matter just as much, do not seem to be implementing this'* (anaesthetist, VIC). *'Supply issues'* was the reason cited for organisational resistance to fit testing even when there were *'multiple HCW infections despite adhering to the current policy for PPE'* (emergency department doctor, VIC).

Reusable respirators such as powered air-purifying respirators were seen as viable alternatives to disposable respirators *'as it provides superior protection in those who cannot achieve adequate seal with N95 or P2 masks'* (anaesthetist, WA) and had a proven track record in safety during SARS: *'I owe my life to the*

wearing of the 3M Jupiter Hood System with ventilatory filters... issued by the hospital administration' (physician, WA). However, there was resistance to reusables even when *'none of the N95 masks fit my face and my hospital won't let me wear my own 3M respirator, so how do I minimise my risk?'* (anaesthetist, NSW).

Fear for self and others, bullying and censure

I have not been sleeping well for a long time. I am likely to be called up for active service on the COVID-19 wards and this fear is playing on my mind. (Physician, Victoria)

HCWs described being bullied and victimised in their workplaces, being told they were *'not a team player'* (ED doctor, NSW) and *'face shaming tactics from colleagues'* (GP, WA), in a workplace that *'has actively tried to silence me'* (allied health, QLD) for expressing concerns about their safety. HCWs were *'threatened to be stood down for requesting an N95 mask'* (paediatrician, NSW), having *'N95 masks taken out of our hands before going into see positive COVID-19 patients'* (physician, VIC) and of being *'bullied by admin staff who don't want us to ask for appropriate PPE, and lied to'* (anaesthetist, QLD).

Senior managers had told staff that they *'need to toughen up'* (ED doctor, QLD), while infection control nurses were *'chastising front-line ED nurses caring for suspected COVID-19 patients for wearing N95s, saying they should only use surgical masks'* (trainee doctor, TAS). Requests for use of personal higher grade PPE was discouraged by infectious diseases experts as it may *'set a precedent and that the optics of not following the [Department of Health and Human Services] guidelines were not good'* (nurse, VIC). Infection control was *'very poor in backing up the HCWs'* and preferred to *'toe the executive line rather than evidence-based practice'* (ED physician, NSW), creating *a very bad taste in our department* (ED physician, NSW). HCWs were angry that infectious diseases experts *had determined N95 masks were only needed for aerosol generating procedures in COVID-19 patients* and accused them of expressing *'hubris when they were asked about HCW infections'* implying *'that the high rate of HCW infections and deaths was due to incorrect donning and doffing rather than the grade of the PPE itself'* (physician, VIC).

Concerns about workplace safety had *'caused increased anxiety'* (nurse, WA), leading to withdrawal from family noting that being *'away from my family and my pets is hard emotionally, but I do this so I can serve my community and protect my family'* (doctor, WA). HCWs were *'mentally exhausted stressing about the possibility of bringing home the virus'* (trainee Doctor, WA), with *'growing burnout ... We are losing sleep at unprecedented levels due to worry'* (GP, NSW). They felt *'threatened coming to work and seeing COVID suspected patients with inadequate PPE'* (doctor, WA).

Self-disclosed HCW infections

I was denied N95 masks, informing me they are 'unnecessary' when caring for COVID19 positive patients. I am now COVID19 positive, and won't see my baby for weeks. All because of trying to care for people, when no one cared for me'. (Nurse, VIC)

HCWs stated that COVID-19 infections were *'almost certainly contracted in my workplace'* (doctor, COVID-19 clinic, VIC) as *'evidenced in 10% of cases being HCWs. Rates in the community are far lower than 10%. HCWs are acquiring this infection in their places of employment'* (anaesthetist, VIC). Many felt that they contracted COVID-19 despite *'wearing the correct PPE, and yet it still wasn't safe enough'* (nurse, VIC). PPE guidelines were ineffective as *'three nurses on our ward tested positive to COVID-19, only surgical masks were provided to nurses when caring for*

suspected positive patients (nurse, VIC). Similar stories were evident for community-based HCWs: *'my colleague looked after two COVID-19 patients in their home wearing the current PPE and is now at home isolating as he is COVID-19 positive'* (physician, VIC). *'The risk is real and it is too great not to act'* said an infected ED doctor (VIC) especially with a *'close friend in ICU after contracting COVID-19 working in ED'* (GP, VIC).

Poor consultation and loss of trust in leadership

We have the knowledge and skills required to sort this out. The bureaucracy is getting in the way of safety. (Anaesthetist, NSW)

Underlying the themes was a loss of trust in leadership at service, state and national levels. *'We use our judgement and analyse situations as part of our daily work. Do not lie to us and gaslight us when we assess the situation to be unacceptably risky'* (ED doctor, WA). Throughout the pandemic *'there is one thing which is constant and consistent, which is no transparency and no honesty reflected in the leadership's policies'* (ED doctor, NSW). *'We have had very poor leadership from executive, they have cut corners with our safety at every turn'* (physician, VIC), such that *'I have lost faith in leadership that sees risk to my safety at work as acceptable'* (trainee doctor, VIC). Directives were top-down with little consultation with HCWs because *'Hospital admin only take advice from the health department despite requests and recommendations by local physicians'* (physician, NSW). Requests for extra precautions were *'not responded [to] at all despite repeated requests and lobbying'* (physician, VIC). HCWs found *'it hard to trust leadership'*, which *'makes already low morale, even lower'* (physician, VIC) and were *'seriously thinking of leaving nursing due to the lack of leadership, support and respect within the system'* (nurse, NSW). The lack of precaution was short sighted with a HCW wondering *'what happens when we've infected all our staff and don't have adequate staffing levels to provide care'* (anaesthetist, NSW).

DISCUSSION

This study provides insights for organisational leaders, managers and policy makers to enable them to address barriers to work, health and safety and to better understand the perspectives of HCWs. HCWs described a lack of physical and psychological safety that transgressed a normative expectation that they should feel safe and will be kept safe at work.¹⁸ Themes inductively identified from the data spanned the system, organisational and personal impacts of COVID-19 with leadership cross-cutting all of them. Policies on respiratory protection were perceived to have disregarded the precautionary principle that is implicit within work health and safety legislation.¹⁹ Issues regarding access to PPE, its appropriateness, training and quality; a lack of respirator fit testing within a respiratory protection programme; and a command-and-control culture in the workplace that had disregarded respondent concerns were felt to have contributed to self-reported workplace acquisitions of COVID-19. Respondents were critical of leadership, at all jurisdictional levels, which has resulted in a loss of trust that will take time to repair. The moral injury to HCWs would appear to be the 'hidden pandemic', resulting in emerging mental health issues including anxiety, sleeplessness, withdrawal, resentment and anger.

Respondents reported being in the untenable position of needing to deliver patient care while facing unacceptably high risks to themselves. The list of injurious events started with concerns about national guidelines on respiratory protection recommending the surgical mask for the routine care of patients with COVID-19 rather than fit-tested P2/N95 respirators or

above. When Victorian guidelines changed to recommend greater use of N95 respirators in response to escalating HCW infections, it demonstrated a potential strength of a federated system in that states are guided but not bound to national policy. To respondents, however, academic arguments of disease transmission referencing the aerosol versus droplet dichotomy²⁰ were resolved early in the pandemic. Instead, they felt forced to follow policies at odds with their own assessment of personal risk. Raising legitimate concerns appeared to have invited bullying, intimidation and censure within their organisations. Respondents cited a disregard of work health and safety obligations bordering on hubris by managers and infection control/infectious diseases experts who were unfortunately perceived as being more intent on enforcing guidelines rather than meaningful engagement with frontline staff. As a result, several HCWs took matters into their own hands, organising in-house fittesting or the purchase of reusable respirators. Similar references to suboptimal workplace culture and hubris have been raised in other jurisdictions but poorly researched during the pandemic.²¹⁻²³

During this pandemic, moral injury has referred to challenging decisions involving patient care that conflict with provider values.²⁴ The concept originated in the military and was extended by Litz *et al*²⁵ to 'perpetrating, failing to prevent, bearing witness to, or learning about acts that transgress deeply held moral beliefs and expectations'. A complementary variant has emerged from the social sciences in reference to healthcare where 'it arises from sources that include injustice, cruelty, status degradation and profound breaches of moral expectations'.¹⁸ It is not a mental illness, but rather a violation of an individual's moral or ethical code that results in psychological distress.²⁴ The voices of respondents suggest an established moral injury where they feel like they are being treated as 'expendable' rather than essential to the pandemic response.

Reversing occupational moral injury is not easy once established, but this is the challenge healthcare leadership must rise to. Shale,¹⁸ in a seminal and timely commentary, presents a practical roadmap for moral repair. This framework prefaces each of the seven actions with acknowledgement: of the injured party as a moral equal, of shared norms, of testimony in a climate of safety, of the responsibility of leaders (which is not equivalent to directing blame at them), of remediation, of negative feelings and, finally, authentic acknowledgement of regret that are not rehearsed apologies.¹⁸ The high degree of engagement required for reparation stands in contrast to the limited consultation experienced by many respondents on matters relating to their occupational safety. Inadequate consultation has been a missed opportunity that also contravenes Australian Work Health and Safety legislation designed to address the power imbalance between management, who issue directives and workers placed in the risk zone.¹⁹ Potential solutions including two-way interaction as invoked by several respondents, supported by adaptive or decentralised leadership models²⁶ deserve exploration, especially during this crisis.

This study has several limitations. The purpose of the open letter was primarily to advocate for increased protection for HCWs, and thus the methodology was not designed to optimally probe HCW perspectives. The study may not be representative of all HCWs as the response rate was 16%, and it did not capture sufficient numbers of nurses, allied health or support staff. Victorian perspectives dominated because Victoria had been worst affected. Occupational moral injury deserves further research to better understand its root causes, preventative strategies and evidence-based remediation. These findings require confirmation from other studies as response and non-response

bias favouring the most activated or concerned HCWs may be operating. Finally, there was no 'check' to ensure that respondents were indeed HCWs; however, the consistency of themes would argue otherwise.

Constructive engagement with HCWs that also acknowledges their moral injury presents a major challenge for healthcare leaders during this pandemic and beyond. This process should be seen as an opportunity to harness the resourcefulness of HCWs that many respondents felt had been sidelined with the wealth of governance and operational intelligence among healthcare leaders, policy makers and government in order to fast track solutions. Not doing so risks the contagion described in this report spreading throughout Australia's healthcare system with implications for other jurisdictions.

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