Short communication

The structural vulnerability of healthcare workers during COVID-19: Observations on the social context of risk and the equitable distribution of resources

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A B S T R A C T

Healthcare workers have emerged as a vulnerable population group during COVID-19, and securing supply chains of personal protective equipment (PPE) has been identified as a critical issue to protect healthcare workers and to prevent health system overwhelm. While securing PPE is a complex logistical challenge facing many countries, it is vital to recognise the social and health systems issues that structure the differential degrees of risk faced by various subgroups of healthcare workers. As an illustrative case study, the author identifies two key social factors that are likely to face the degrees of risk faced by midwives in the Special Region of Yogyakarta, Indonesia, if and when COVID-19 takes hold in Indonesia. Healthcare workers in both high and low resource-settings globally are likely to face particular risks and vulnerabilities that are shaped by localized social and health systems factors. Qualitative social and health systems research can and should be utilized proactively in order to protect healthcare workers, to inform more equitable program design, and to create a foundation for health equity within the future of global health that emerges from the pandemic.

1. Introduction

As the COVID-19 pandemic intensifies, one of the major issues that has come to the forefront is the emergence of a new group of vulnerable populations: healthcare workers themselves. The vulnerabilities facing healthcare workers during this crisis first came to media attention after the death of Dr Li Wenliang, the doctor in Wuhan who unsuccessfully attempted to alert his colleagues to the emerging virus in December 2019, only to tragically die from COVID-19 after contracting the virus in the course of caring for his patients (BBC News, 2020a). Only weeks later, 24 Italian healthcare workers had died from COVID-19 and almost 5000 had contracted the virus, as the world empathised with the horror facing Italian doctors forced to choose between patients in the provision of care (SBS News, 2020). In late March, disturbing stories emerged of nurses in New York hospital wearing garbage bags in lieu of appropriate personal protective equipment (PPE) (New York Post, 2020). British doctors have threatened to resign over the lack of PPE (Newman, 2020). In Indonesia, too, government officials directed healthcare workers to wear plastic raincoats to work, while stories emerged of nurses pooling resources to buy their own protective masks to share amongst themselves (BBC News, 2020b). Since the Indonesian government first acknowledged the outbreak on 2 March, at least 24 Indonesian doctors have died from COVID-19, accounting for 11% of confirmed patient deaths to date (Lindsey and Mann, 2020).

The primary response we have seen so far to the deaths of

healthcare workers has been an outpouring of admiration and gratitude across social media and in the mainstream media coverage of the pandemic. Meanwhile, global health agencies and governments remain acutely aware that the death and illness of healthcare workers may contribute to health system overwhelm and the escalation of the pandemic (The Lancet, 2020a). There is no question that securing adequate PPE is a major logistical problem and that all countries are working to scale up the capacity of healthcare systems and the acquisition and production of PPE (Livingston et al., 2020). Yet, this is proving to be a major challenge for many countries, and we are still seeing the illness and deaths of significant numbers of healthcare workers, including in countries that usually have strong healthcare systems. Doubts about the integrity and capability of political leaders to respond to this crisis are in the press daily (Glasser, 2020). The visibility the media is giving to the predicaments facing healthcare workers will hopefully work to maintain pressure on governments and global health agencies to step up and develop innovative solutions to meet this urgent issue.

However, although all healthcare workers are at heightened risk and must be protected during COVID-19, it is important to recognise that there are stratified forms of risks and vulnerabilities facing diverse groups of healthcare workers both within and across health systems. While it is now largely accepted that socio-economic inequalities structure vulnerability to illness, it is much less often that we acknowledge that structural violence acts both across and within healthcare systems to shape the differential levels of risk faced by

healthcare workers. If British and American healthcare workers are suffering and dying, it is plausible that healthcare workers in low or middle income countries, or those who work in micro-localities that are resource-poor or not well integrated into health systems, may face even greater risk during COVID-19, if and when the pandemic takes hold in these settings. Internal inequalities must also be acknowledged and addressed. Some subgroups of healthcare workers – such as midwives, community nurses, and community health workers – may have less status, may be less well integrated into institutions and supply chains, and may be at risk of being left behind in the distribution of scarce PPE (Berger et al., 2020). Similarly, marginalized geographical regions within nations may be disadvantaged if reaching these communities is deprioritized by the state.

The fact that COVID-19 has led to health system overwhelm in wealthier countries such as Italy and the United States has led to much concern about the devastating impact that COVID-19 will have if it takes hold in much poorer, larger and more densely populated countries, with weaker healthcare systems. Not only the disease, but also the negative impacts of the disease control interventions, may disproportionately impact the most vulnerable groups globally (The Lancet, 2020b). Low income populations, migrants, marginalized populations, and elderly people in low and middle income countries are likely to be highly vulnerable (Lloyd-Sherlock et al., 2020). Despite being important disease control strategies, lockdown and other mobility restrictions significantly disadvantage the poorest groups in any society, especially through loss of livelihood. Poorer populations will be at heightened risk of infection where housing, population density and access to healthcare are problematic. The success of COVID-19 interventions themselves may also be compromised if social distancing measures amplified existing inequalities (Lewnard et al., 2020). Already we are seeing signs of social upheaval in India, where lockdown is proving to be highly disadvantageous to the poor (Human Rights Watch, 2020). These forms of structural violence may also come to impact directly upon healthcare workers themselves, especially if health systems come under sustained pressure.

In this article I argue that it is likely that a range of social and health systems issues will come into play and structure the forms of risk that various subgroups of healthcare workers are likely to face during the pandemic. Utilizing social science expertise will be important, since these health systems issues will differ from site to site, and may change if and when transmission patterns change in particular local contexts. As an illustrative case study, I highlight two of the key social factors that influence the vulnerabilities facing midwives in the Special Region of Yogyakarta, Indonesia, where I recently conducted ethnographic fieldwork. I then go on to suggest a list of factors that global health actors might consider, in identifying healthcare worker vulnerability and resilience. More broadly, this article makes a case for the importance of keeping health equity at the very centre of program design, despite the urgency and complexity of the situation that many countries are currently facing. Doing so will not only help to make COVID-19 interventions more equitable, but will help to lay the foundation for a deepening of health equity through the post-pandemic recovery.

2. Indonesian midwives and COVID-19

I was motivated to write this article after a number of Indonesian midwives – with whom I conducted four months of ethnographic fieldwork in 2019 and early 2020 – reached out to me in late April 2020 asking for help in accessing PPE. These tough and resourceful women are used to working with limited resources, but were feeling alarmed that they were running low on their usual stock of masks with no clear sign that they would receive PPE suitable for interacting with patients with COVID-19. One month later in late May 2020, the Indonesian government and at least one UN agency have established a COVID-19 program with the Indonesian Midwives' Association, which is an active and vocal professional association representing the concerns of

midwives. There are many sources of resilience within Indonesian society, and the Indonesian government, health agencies and many civil society groups are mobilising efforts to address COVID-19 (Bennett, 2020). However, the Indonesian government's COVID-19 response remains focused on Jakarta, leaving midwives in Yogyakarta to worry that there will be no resources left by the time the epidemic reaches them. If healthcare workers in Yogyakarta, which is an urban and relatively privileged city, feel deprioritized and unprotected, one can only imagine how healthcare workers feel in more remote parts of the country, including in provinces that have less health infrastructure and a history of tense relationships with the central government.

As well as responding to what I felt was my own ethical obligation to support my research interlocutors during this unfolding crisis, this correspondence with my midwife interlocutors made me reflect more generally upon the ways in which social and health systems issues structure vulnerability for healthcare workers, in ways that are often unrecognised and underappreciated, and that may be overlooked in designing COVID-19 strategies. After discussing some of the specific issues that are likely to influence vulnerability for Indonesian midwives, I return to a more general discussion of the factors that global health actors might consider in identifying the degrees of risk that are likely to face subgroups of healthcare workers in particular settings.

2.1. Midwives play expanded roles in the healthcare system

Firstly, Indonesian midwives are important general health providers who provide a range of health services that go beyond the typical tasks of midwives. For instance, midwives often act as an interface between communities and the healthcare system. Largely because midwives have actively developed trust with communities and have taken on important forms of local leadership, it is common for both men and women in rural Indonesia with a broad range of health complaints to seek advice or care from a midwife before approaching a community health centre (*puskesmas*).

This is particularly common for elderly Indonesians in rural areas, many of whom grew up with midwives as the primary health practitioner in their village. Many midwives carry out informal counselling and offer basic healthcare to the elderly, often taking their blood pressure before sitting with them, listening patiently to their stories of aches and pains and heartaches, and massaging their arms during the conversation. The midwife might recommend that they do see a doctor, or they might reassure them that they don't need to. The epidemiology of COVID-19 so far indicates that elderly populations are those most at risk of developing life threatening complications from COVID-19. This cultural practice of midwives offering care to the elderly means that we should anticipate that some elderly, rural Indonesians who develop respiratory symptoms would seek care from their local midwives in the first instance. Likewise, midwives carry out a lot of care for young children. Even in urban areas with reasonable health infrastructure, it is common for people to bring a child with a fever to the local midwife, who typically knows the parents, the child and their medical history well, and since midwives make themselves available for this 24-7.

2.2. Midwives have a history of risk-taking to provide care in the face of limited resources

Secondly, the ethos of care amongst Indonesian midwives might place them at elevated risk of COVID-19. Over the past few decades, medically trained midwives have established themselves as a deeply trusted group of healthcare worker, largely by proving themselves to be dedicated and capable health practitioners, who rose to the challenge of working with limited resources, and who actively generated networks of trust within communities. This personal resilience and dedication has allowed Indonesian midwives to develop the social capital many enjoy today. Historically, it was the determination of midwives to overcome the obstacles of a fragmented healthcare system and offer care with the

limited resources available to them that led to their high social status, especially in rural communities.

A history of working despite a lack of resources is intimately wound up in this ethos of risk taking and patient care. As Alice Street has shown, a lack of medical technologies can mean that healthcare workers in resource-poor settings can come to rely heavily upon case histories and physical examinations (Street, 2011). While a lack of technology has significant disadvantages for patient care, these extended clinical encounters can also have positive effects in creating trust and building the perceived quality of patient care. There is much to admire here about the resilience of healthcare workers building trust with patients and making-do in resource-poor settings. However, this ethos of care and a determination to work in the most challenging of environments also leads to high levels of risk taking amongst midwives. While the bravery and dedication of Indonesia's midwives is admirable, it is also concerning to recognise that midwives are likely to take on very high levels of personal risk to protect their communities.

The two factors I draw attention to here are more relevant for poorer socio-economic groups, in rural communities and in micro-localities where health infrastructure is lacking or mistrusted by communities. Nevertheless, with a 45% rural population in a nation in excess of 267 million people, this represents a very large number of people (World Bank, 2020). The midwives and other healthcare workers serving these communities face particular forms of risk that may be overlooked in a time of crisis. Indonesia's deeply respected midwives are one of the key strengths of Indonesia's healthcare system. But they can only offer their strengths during this crisis if they are both protected and empowered through the COVID-19 response.

3. Anticipating social factors shaping healthcare worker vulnerability

These factors are necessarily anticipatory, since, at the time of writing, COVID-19 is still in its early stages within Indonesia. The situation is changing rapidly, and it is possible that new issues may emerge if and as the pandemic unfolds in the Indonesian setting. But this article also intentionally aims to be proactive and to support global health actors by bringing in existing knowledge of the healthcare system, community health seeking behaviour, and cultures of medicine so that it is more likely that this social science expertise can influence program strategy from the design phase.

The broader point that I've sought to raise here is that a range of social and health systems factors shape the underlying vulnerability of healthcare workers, and that recognising the differential forms of risk facing healthcare workers is important to strengthening equity within COVID-19 interventions. In identifying the vulnerabilities facing various subgroups of healthcare workers during COVID-19, governments and global health actors working in a variety of settings might consider all or some of the following points:

1. Which groups of healthcare workers work most directly with the elderly, immune compromised, or other groups physiologically more vulnerable to COVID-19?
2. Are there cultural tendencies to seek care from trusted healthcare workers outside of the official health system? If so, who would likely be the first point of contact with symptomatic people?
3. Are there unofficial groups of 'first responders' amongst community groups or informal care providers? Have efforts been made to extend protection to these groups?
4. Are there groups of healthcare workers who are marginalized, under-represented, or less well integrated into existing institutional structures, and who might have less collective power to negotiate for access to PPE and other supplies?
5. Are there processes within health systems to ensure that the race, ethnicity, class, religion or gender of individual healthcare workers does not inhibit them from accessing PPE?

6. Is there a culture of high risk taking, improvisation or complacency amongst healthcare workers due to a history of working with few resources? How might this shape healthcare worker response?
7. Are there healthcare workers or informal carers who commonly offer end-of-life care? Are these groups served by existing supply chains and support networks?
8. Are there regions or population groups for whom trust in public institutions is markedly lower than the rest of the population, so that health seeking behaviour is less predictable? Are there strategies to stay highly responsive in these regions/to these population groups to strengthen health provision and protect healthcare workers in these settings?
9. Are there geographical regions or micro-localities with a history of being under-resourced, misunderstood, or overlooked by government policy?
10. Are there institutional weak points within health systems that might face increased pressure and therefore increase healthcare worker vulnerability?

These questions are indicative and illustrative, and global health actors should engage a range of local stakeholders and take into account existing social science expertise in considering these factors within various settings. While there are many ways that anthropologists and other social researchers might contribute to COVID-19 response and recovery, one of these ways could be to be proactive in bringing attention to the social processes shaping healthcare systems, community health seeking behaviour, and ultimately the vulnerability of healthcare workers.

Governments and global health actors are currently working in a highly stressed environment, and this article is written in the spirit of supporting them in responding to this crisis. But although securing PPE is a complex logistical challenge, I argue that we should bring about a shift in orientation from the provision of PPE as a supply-chain issue, to seeing the distribution of PPE as a crucial equity issue. In the short term, this is essential in order to protect healthcare workers and prevent health system overwhelm. In the longer term, the equitable distribution of PPE has the potential to give greater visibility to the risks and embodied vulnerabilities that healthcare workers take in the course of their work, to deepen our understanding of the contributions that healthcare workers make to society and to the functioning of our health systems, and to bring deeper protections and empowerment to healthcare workers.

4. Conclusion. Health equity in a time of crisis

The global media has given significant attention to the tragic deaths of healthcare workers from COVID-19, and there has been an outpouring of public gratitude toward health professionals in recognition of the risks and sacrifices many are currently making. But as the pandemic increasingly impacts countries with weaker healthcare systems, we should become aware of the risks of the stratification of power and the differential levels of protection offered to different groups of healthcare workers, and take active steps to ensure the equitable distribution of equipment and resources both globally and within healthcare systems.

Even in an emergency, perhaps even more so, it is vital to keep health equity at the very centre of our attention. It is too often the case that infectious disease interventions succeed in containing an immediate health threat, while doing little to strengthen healthcare systems, bolster social resilience or bring longer term positive social change. It is not only possible but essential to make a shift in logic to see health and social justice as mutually supporting, and not opposing goals. Although resourcing health practitioners is a highly complex challenge facing many countries, it is possible and important that we seek solutions that are driven by a desire to create both immediate solutions and that also aim to lay the foundations for deeper forms of

health justice and the empowerment of healthcare workers for greater resilience in future pandemics.

The responses the global community brings to this pandemic have the potential either to deepen existing health inequalities, or to finally bring recognition to the vital importance of placing health justice as a central aim of health systems strengthening. The current circumstances show clearly that strong healthcare systems are made of more than bricks and mortar, flows of data and supply chains. It highlights that healthcare systems are made from highly skilled healthcare workers who are important members of communities, and healthcare systems alike. This is being recognised by the general public in its celebration of healthcare workers on social media around the world. But this is not always recognised by health systems strengthening programs, just as the differential levels of risk facing healthcare workers globally is rarely acknowledged. Protecting and empowering all healthcare workers will be essential for stopping the worst impacts of this pandemic and for laying the foundations for building deeper resilience into our healthcare systems. There is the real potential for COVID-19 interventions to either undermine or to build global solidarity, and the ways that we approach health equity in this time is likely to be a defining factor in the political worlds and global health futures that will emerge through this pandemic.

Acknowledgements

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