
From resilient to transilient health systems: the deep transformation of health systems in response to the COVID-19 pandemic

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As countries confront and adapt to the impact of COVID-19, policy-makers, public health officials and political leaders have rallied around one word: resilience. Resilience often narrowly focuses on ‘bouncing back’ to normal as quickly as possible, without critically assessing whether the pre-shock normal should be aspired to (Ebi and Semenza, 2008; Houston, 2015). We argue that the COVID-19 pandemic presents an opportunity for health systems to address the long-standing structural inequalities it reinforces, and the environmental sustainability it undermines, to work towards transformative resilience, or ‘transilience’ (Pelling, 2010).

Health systems resilience is an emerging concept that is generally understood as ‘the capacity of health actors, institutions, and populations to prepare for and effectively respond to crises; maintain core functions when a crisis hits; and, informed by lessons learnt during the crisis, reorganise if conditions require it’ (Kruk *et al.*, 2015). To date, health systems have largely been characterized as being ‘resilient’ if they are able to continue to deliver services during and in the aftermath of shock events. Health systems worldwide are demonstrating, to varying degrees, aspects of resilience as they draw on available resources to adapt, coordinate, track and minimize disruption, while providing safe and quality care to their citizens. The concept of health systems resilience, however, must be extended to engage with the social and environmental inequalities that health systems both contribute to and shield against.

Transilience has been defined as the need to account for issues of social vulnerability and differential access to power, knowledge, and resources (Matin *et al.*, 2018). A transilient health system is one that recognizes the role of healthcare in the human-ecological system and responds to crises in such a way as to avoid future imbalances in power, access to care and health outcomes. Currently, health systems globally perpetuate many social and ecological harms which impact both those who deliver and receive care. We explore two key and interrelated examples, the gendered and environmental impacts of delivering care in COVID-19, which

can be viewed through a transilience lens as a foothold towards deep transformation.

Globally, women comprise 70% of workers in the health and social sector and thus have been instrumental in emerging infectious disease responses (Boniol *et al.*, 2019). For example, during the 2012 Ebola outbreak in the Democratic Republic of Congo, local women were supported to offer hygiene and infection prevention education in their communities, and were hailed by the WHO as key leaders in the outbreak response (World Health Organization, 2019). However, while directly contributing to health systems functioning and provision of quality care, women globally are also subject to an increasing gender wage gap while occupying fewer positions of leadership and holding more unskilled or unpaid positions (Shannon *et al.*, 2019). The risks borne by women during the COVID-19 pandemic are multiple and extend beyond the non-trivial risks of infection, psychological and physical stress to the physical, social and economic costs of stigma experienced by health workers in their communities (Bagcchi, 2020). To work towards transilience, the COVID-19 response must be an opportunity for health systems to extend into the community through trusted channels, such as community health workers, that empower community members while actively protecting the health, safety and security (both economic and social) of the largely female healthcare workforce. The goal of this engagement must be to ‘reorder gender systems’ and dismantle barriers to care, while creating enduring links between marginalized community members and accessible, affordable and appropriate health system entry points both during and after biological or environmental crises (King *et al.*, 2020).

However, our health systems are major contributors to the climate-mediated shocks we require them to be resilient to. These shocks act as risk-multipliers that most impact those with the fewest resources to respond, particularly women and marginalized groups in low- and middle-income countries (LMIC) (van Daalen *et al.*, 2020). The healthcare sector is the fifth largest source of emissions

globally and a direct contributor to climate change (Healthcare Without Harm, 2019). The habitat loss and increased human–animal interaction linked to climate change fuels emerging infectious disease outbreaks (Watts *et al.*, 2019). In turn, emerging diseases increase the consumption of health services and require intensive resource use to meet the necessary healthcare demands of pandemics. The infection prevention and control demands of COVID-19 have particularly impacted LMIC health systems with under-resourced and under-regulated medical waste management and processing capacity. Reports from Bangladesh estimate that in April 2020 alone 14 500 tons of waste was produced, putting 40 000 informal waste collectors at risk of contracting and spreading COVID-19 due to gaps in health systems waste management (Rahman *et al.*, 2020). Informal waste collectors worldwide are at similar risk, further exacerbated by pre-existing poor health, lack of access to housing, food, sanitation and public services, as well as living in crowded and informal settlements (Uddin *et al.*, 2020). Providing care for these workers and communities must attend to both the social and power inequities which multiply their risk of poor health, but also the upstream health systems factors, which directly produce their unsafe working and living conditions. Transilient responses must make equal effort to address the ecological harms perpetuated by health systems through transformative policy measures towards sustainable healthcare and a waste management ecosystem that protects the health of people and the planet. This must be coupled with a commitment to active and rapid decarbonization of health systems worldwide to prevent further ecological harms resulting from the provision of care (NHS England, 2020).

Given that COVID-19 is not just a health crisis, but rather has deep social and ecological components, a transilient response has a strong potential to accelerate fundamental changes to health systems that to date were incremental rather than transformative in nature. However, working towards transilience requires a fundamental transportation in how health systems interact with their communities and the environment. A transilient health system is not something that happens solely from the top-down; it is an emergent, bottom-up, and ongoing process that reflects the ongoing experiences and impacts on both human and non-human components of the system.

The COVID-19 pandemic is a critical opportunity for LMICs to lead a deep-transition towards more sustainable and equitable health systems (Schot and Kanger, 2018). It is imperative that health systems globally leverage the pandemic to bounce forward to not only respond to current shocks, but to actively prevent future crises. The concept of transilience is an important addition to the health systems discourse and is crucial to preserving the health and well-being of future generations. Without it, there is a risk that the pandemic will lead to a doubling down of pre-pandemic health system inequalities and corresponding ecological catastrophe; we must not let it.

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