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Short communication

Mobilizing COVID-19 level public health interventions for climate breakdown is necessary

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\textbf{A B S T R A C T}

The COVID-19 pandemic has proven that extraordinary public health measures can pivot every aspect of society. Norms, politics, economics, and business practices rapidly responded to coordinated simultaneous policies worldwide. This begs the question of why such advancements have not yet been similarly executed to reduce the short- and long-term morbidity and mortality due to environmental destruction and climate change. This article reviews various reasons explaining the discrepancy between the policies of these two health threats, using a terror management theory lens. Exploring how anthropogenic climate change potentiated the contagion and outcomes of COVID-19, the environmental determinants of health deserve increased attention in public discourse. The industry-driven response to COVID-19 also has exacerbated preexisting health inequalities and vulnerabilities, suggesting that a just transition for climate change must not repeat some of the same mistakes taken in global pandemic measures. Finally, addressing emergency health harms in ways that create increased environmental health harms is deemed iatrogenic, displacing rather than truly treating disease. Thus, a planetary health model focused on multisolving health issues is recommended for the basis of addressing COVID-19 and other health disasters.

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\textbf{Introduction}

During the COVID-19 pandemic the entire world ground to a halt. Travel was restricted, industries shut down. People were able to change their behavior in a very short time span, however inconvenient the effort. The effects of such measures were clear, and viral transmission was reduced [1]. What was striking to see, besides the adaptability of human behavior, were the environmental benefits. The canals in Venice became clear again, and smog reduction in China and India resulted in unprecedented visibility of the Himalaya mountains. By some calculations, shutting down Wuhan’s industry for two months saved over 77,000 lives due to reduced particulate matter pollution [2]. The dangers of climate change to our health and the planet’s have been known for a long time, and the harms of air pollution kill more people each year than COVID-19 did in 2020 and 2021 combined [3, 4]. How is it possible, then, that humanity is able to completely change our way of living for a viral pandemic, while similarly swift and drastic measures seem out of reach for the much more existential risks climate breakdown poses?

Terror management theory suggests we are evolutionarily primed to respond decisively to clear and present dangers we can see and sense, while the creeping harms of longer and slower acting but more disastrous threats are discounted and deprioritized [5]. Notwithstanding, in the three decades since the first 1990 Intergovernmental Panel on Climate Change (IPCC) report, humanity has emitted more CO\textsubscript{2} than in our entire prior history [6]. Not only did we fail to achieve the analog of wearing masks, quarantining, vaccinating, closing down our economy for the public health safety of all, and injecting untold trillions of dollars into our economy to fend off climate change - we knowingly courted danger. As public health pioneer Stanton Glantz often quips: “Mosquitos don’t have lobbyists” (nor does the coronavirus), while industries do.

This review explores the impossibility of justifying insufficient responses to climate change after witnessing the worldwide response to COVID-19. The asymmetric response to these health crises fails to account for how they also affect each other. Both crises, and their respective solutions, tend to be distributed inequitably. We conclude that to look up at the already occurring climate catastrophe, public health must grapple with the power relations of political...
The COVID-19 pandemic to delay, prevent or reverse regulations on single use plastics [36]. Yet, there is no evidence that single use plastics outside of medical materials prevent transmission better than reusables [27]. Gloves are often made of PVC or Nitrile which do not biodegrade and can be hazardous to dispose and manufacture [28]. PPE littered in the environment can cause problems for wildlife who eat them or get entangled [29].

Even PPE not treated with PFAS harm the environment. When disposed, these materials decompose into microplastics, entering the food chain and accumulating in organisms, humans included [30]. Microplastics act as carriers for other pollutants [31]. In the medical domain, designated disposal streams exist for hazardous medical waste, often resulting in incineration. Medical waste is notorious for producing toxins upon incineration, a process often outsourced to countries with weaker regulations [32].

On multiple occasions, the plastics industry used the pretext of the pandemic to delay, prevent or reverse regulations on single use plastics [33–36]. Yet, there is no evidence that single use plastics outside of medical materials prevent transmission better than reusables [36]. Worldwide, scientists have affirmed the safety of reusable materials for dealing with COVID-19 [37]. Trafton et al estimated that changing to reusable PPE could reduce medical waste by 75% [26]. Pandemic or not, sustainability always needs to be kept in mind in medicine.
The increase in waste due to PPE is not the only connection between the two crises. A recent systematic review concluded that exposure to air pollution can have a negative effect on both the incidence and mortality of COVID-19 [38]. The effects of climate change make the COVID-19 pandemic worse than it would have been without climate change, if it would have happened at all.

Harm displacement and just transitions

Not everyone in society is affected by climate change and COVID-19 equally. Burdens often fall disproportionately on those worst off. COVID-19 showed us the world could change; however, the response model sharply contravened commitments to a just transition. Global pandemic measures drove significant upticks in inequality and violence, related to unequal starting opportunities people had going into quarantining and lockdowns [39, 40]. This resulted in a horrifying 25% average increase in domestic violence [41]. Estimates suggest that the number of children exposed to violence due to COVID-19 rose somewhere between 20–32% [42].

COVID-19 has shown us what happens when social inequalities are exacerbated during crisis. People with good housing, financial means, etc., were able to deal with quarantine and home-schooling better than those without. In the United States, adults experiencing symptoms of depression tripled since the start of the pandemic, from 8.5% in 2019 to 27.8% in 2020. These burdens are highest among individuals with a household income lower than $20,000, the widowed or divorced, and those with high exposure to COVID-19 related stress [43]. The protection of individuals should not come at the cost of the vulnerable and dependent in our society. From the principle of solidarity we have a collective responsibility for the health of all [44].

The aforementioned measures, though effective against the virus, resulted in forms of harm displacement. Because of the specific methods deployed to prevent COVID-19 related harm, some harms were shifted to domestic violence, depression, increased medical waste, and pollution. Burdens and benefits of a transition should be distributed equitably. Vaccine hoarding by western countries is a prime example of inequitable policy, and ultimately, a self-undermining one. In treating urgent problems, we must also in the same gesture prevent exclusionary NIMBY (Not in My Back Yard) behavior further entrenching inequalities.

Why are we holding back?

A global pandemic enabled the world to change overnight, freeing up $17 trillion US in capital [46], making the impossible possible. Travel was banned, industries shut down, and countless public health and civil measures were implemented worldwide. How is this possible, in such a short time, for an infectious disease, while climate change, whose effects have been known for decades, spirals further out of control, costing trillions of dollars and tens of millions of lives a year? Such inaction is the equivalent of waiting years before masking up after a deadly infectious disease outbreak. We know the immediate health benefits of reducing air pollution. It is not an abstract, long-term issue anymore. So why are we holding back?

A first problem is that in the case of climate change measures, no country or company wants to be the first to change its policy. The first mover will be at a short-term economic disadvantage [47]. In the Netherlands, inaccurate financial incentives kept Schiphol airport open well into March 2020, despite it being a known gateway for spreading the coronavirus [48]. Political leaders often are not immediately affected by harm displacement caused by climate change. They are, however, just as susceptible as anyone else to COVID-19.

The second problem is exceptionalism. Infectious disease makes exceptionalism maladaptive. For a class of people habituated to bending the rules, infectious disease cuts through the traditional dispensations money and power provide. The more they pretend the dangers of the pandemic do not apply to them, the more susceptible they are to COVID-19 exposure. With climate change the idea still exists — however factually incorrect — that one can escape it; elites will move to Mars, or their bunkers in New Zealand. As we have seen with the example of the increase in medical waste, COVID-19 and climate change are not separate problems; climate change affects COVID-19 outcomes [38] and COVID-19 measures contribute to climate breakdown [25]. There is no magical solution to either of these problems. Even the COVID-19 vaccine, it turned out, did not end the pandemic. With industries pushing against environmental regulations, there will be no silver bullet for addressing climate change.

The only way out is by focusing upstream towards the source of the problem. Our current lifestyle, championed by extractive industries and implicitly by governments destructively measuring progress in GNP, is not sustainable. Public health needs to move beyond iatrogenic solutions towards deep health and planetary health [49, 50].

For both COVID-19 and climate change, globally coordinated approaches are needed. Oil and gas exploitation needs to stop the world over through implementing change at home and distributing leapfrogging technology to developed countries [51]. The pandemic has taught us that drastic change is possible, when the will is there. If the WHO can move mountains over an infectious disease, we can pivot towards a sustainable way of living, both for the planet as well as our own health. COVID-19 and climate change disproportionately harm those whose social determinants of health are most compromised. Addressing existential health threats must not merely displace harms onto marginalized others. We must work towards an equitable, sustainable way of living by multisolving different public health crises through regenerating wild areas and drawing down human interference in ecological processes. This requires regenerative public health interventions at a planetary level.

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Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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