Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

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Short communication

Wildfires: A conflagration of climate-related impacts to health and health systems. Recommendations from 4 continents on how to manage climate-related planetary disasters

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The globe is struggling with concurrent planetary health emergencies: COVID-19 and wildfires worsened by human activity. Unfortunately, a lack of awareness of climate change as a health issue, as well as of the interconnections between biodiversity loss, habitat change, inequality, and zoonotic infections risks having decision makers and the health sector neglect opportunities that have the ability to reduce the risk of both in future years. A fundamental reorientation is required: we must move from ego to eco in order to improve our ability to thrive.

Here, as acute care specialists and planetary health researchers and policy workers from four continents we outline severe impacts from recent wildfires in each of our parts of the globe in order to urgently communicate recent lived experience of the Anthropocene. We follow with suggested priority investments that will set us up to better-weather the wildfires and infectious disease threats of a climate-changed century as we emerge from COVID-19.

Starting in the North, in 2014, two and a half months of wildfire smoke in a rapidly-warming part of the Canadian subarctic resulted in one of the longest and most severe smoke exposures in the global evidence base. Analysis showed a full doubling of emergency room visits for asthma, with the highest rates seen in Indigenous Dene people [1]. Two years later, 120 patients at the Northern Lights Hospital in Fort McMurray, Alberta, were evacuated in hours as a wildfire overwhelmed the city [2].

Moving southwards, 2020 marked record heat waves in Western United States culminating in one of the largest wildfire seasons in California's modern history. Large portions of the Western coast of the US were exposed to high levels of wildfire smoke for a prolonged period of time, precipitating asthma attacks, strokes, and heart attacks [3].

At the time of writing, wildfires were once more raging across much of Western North America subsequent to a record-breaking and deadly heat wave.

In Brazil, Amazonian deforestation from slash-and-burn practices often associated with unsustainable agricultural practices results in high levels of particulate matter and greenhouse gas emissions, with the 2019 fire season responsible for an estimated 4966 premature deaths [4]. Such habitat destruction is worrisome, given the carbon sequestering function of forests, and the fact that the vast majority of recent novel infectious diseases have originated at the human-animal-vector interface [5].

In Australia, the Black Summer bushfire smoke of 2019–2020 was responsible for >400 deaths and >4000 hospitalizations [6]. Alarmingly, in Australia, nearly three-quarters of respondents to a survey of the healthcare workforce in the Northern Territory felt that climate change is already causing, or is likely to cause, parts of the territory to become uninhabitable, and 34% are considering leaving [7].

In South Africa, wildfires occur regularly, threatening a grassland biome already severely strained by urbanization, mining, and farming [8]. A recent Cape Town wildfire caused extensive destruction to the University of Cape Town, damaging a priceless historical African studies collection [9].

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These overlapping crises demand not only a new plan, but a new outlook—the adoption of a planetary health lens and a large dose of humility is required to protect health and health systems moving forwards.

First—the reality that we are not at a "new normal" must move into our shared common vision of the future. It is known that the global mean surface temperature will continue to rise to mid-century given greenhouse gas emissions already in the atmosphere [10]. Unfortunately, a lack of education on planetary health within health professions means that current management does not take into account that both wildfires and infectious disease emergencies are likely to increase in duration, intensity and frequency. A desilo'd approach which allocates increased resources to disaster response capacity and which moves supply chain management from a culture of efficiency to one of resiliency is needed.

Next, forest management should be undertaken through a planetary health lens with enhanced collaboration put in service of solutions. As described in an upcoming paper from the Global Climate and Health Alliance report, the "Limits of Livability," [11] and as recommended by the 2020 Australian Bushfire Royal Commission, opportunities should be explored in the pairing of solutions from Western science with those from Indigenous communities who have tended the land for millennia in an attempt to decrease health-harming extreme wildfires. Additionally, international allyship can provide increased resources to support community-led solutions for sustainable livelihoods and agricultural practices. This can reduce forest loss related to the need for families to sustain themselves, thereby protecting carbon sinks and habitat and helping to reduce the possibility of zoonotic transmission of virus and future pandemics [12].

Finally, we must stop pouring gas on the fire. According to a coalition of organizations tracking public money in COVID-19-related recovery packages, 31 major economies have pledged USD 331 billion to fossil fuel-intensive sectors, 42% of all public money committed to energy-producing and consuming activities since the beginning of the pandemic [13]. This is not a strategy consistent with civilizational survival. Maximum pressure must be exerted by the health community worldwide to prevent further such expenditures.

In all efforts, coordination and allyship between high-income, middle-income, and low-income country health systems, as well as between Indigenous and Western knowledge systems is key consideration for future management of increasingly complex crisis and disasters that are occurring concurrently. We are weathering these storms in boats of deeply inequitable capacity, but share an essential dependence on one key vessel for survival—Planet Earth.

Contributors

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