

Climate change: an urgent priority for health policy and systems research

Robert Marten^{1,*}, Sonam Yangchen¹, Diarmid Campbell-Lendrum²,
Elena Villalobos Prats², Maria Purificacion Neira² and Abdul Ghaffar¹

¹Alliance for Health Policy and Systems Research, World Health Organization, Avenue Appia 20, 1211 Geneva, Switzerland and

²Environment, Climate Change and Health Department, World Health Organization, Avenue Appia 20, 1211 Geneva, Switzerland

*Corresponding author. Alliance for Health Policy and Systems Research, World Health Organization, Avenue Appia 20, 1211 Geneva, Switzerland. E-mail: martenr@who.int

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Climate change is the defining global public health threat of the twenty-first century (Whitmee *et al.*, 2015; WHO, 2018; Watts *et al.*, 2019) and has profound implications for nearly every aspect of health. The ongoing COVID-19 crisis is causing unprecedented disruptions to health systems, but climate change will have even greater—much greater—consequences. Yet health policy and systems researchers largely continue to ignore and overlook climate change. This is a critical oversight. Countries with the greatest vulnerability to climate change have the least developed health systems (Salas and Jha, 2019), and climate change will further compound and exacerbate existing inequalities (Costello *et al.*, 2009). Health policy and systems research (HPSR) is well positioned to accelerate the needed response and transformation (Peters, 2018). HPSR could make countless contributions to address the climate challenge. We highlight three interlinked reasons, which should motivate the HPSR community to prioritize a focus on climate change.

First, HPSR is crucial to understanding the impact and implications of climate change. HPSR seeks to analyse how different actors interact in policy and implementation processes to improve health outcomes. It draws on a blend of public health, economics, sociology, anthropology, political science and epidemiology and can serve as a multidisciplinary bridge to these various fields. HPSR seeks to analyse how health systems respond and adapt to health policies, and how health policies can shape and be shaped by health systems and broader determinants of health like climate change (AHPSR, 2007). The interdisciplinary nature of HPSR makes it well positioned to tackle the complexity of climate change and can improve the analysis of linkages between health and climate. Until now, the climate change and health literature have focused on infectious diseases (Hosking and Campbell-Lendrum, 2012), along with deaths and injuries from extreme weather events, the adverse health effects of extreme heat (Hosking and Campbell-Lendrum, 2012), and risks of under-nutrition due to declines in food yields (Friel

et al., 2011; Hosking and Campbell-Lendrum, 2012; Xie *et al.*, 2018). These studies show how climate change affects health outcomes; HPSR could augment ongoing efforts and widen this understanding by applying a systems approach. There is an urgent need to take a broader health systems and health policies perspective; this is the role of the HPSR community. Researchers can help policymakers appreciate, anticipate and work to prevent the effects of climate change on human health and well-being. For example, most efforts to achieve primary health care (PHC) do not sufficiently consider the implications of the climate crisis (Kadandale *et al.*, 2020). There is a need to revise the discourse, policy and practice on efforts to achieve PHC, but also universal health coverage to include explicit consideration of climate change and its health effects.

Second, HPSR is essential to developing and designing both climate change mitigation and adaptation policies within the health sector. It can also help policymakers appreciate how to implement these policies. The emergent literature on health systems and climate change considers adaptation (Mayhew and Hanefeld, 2014), but there is comparatively limited work on mitigation, though these will vary by context, with mitigation policies needed urgently in high-income, high-emitting countries and adaptation policies needed in countries with relatively fewer emissions, both approaches are crucial. A 2019 World Health Organization (WHO) survey found that knowledge of the health implications of climate change is shaping policymaking, however, additional financial or human resources are not being allocated to meet the challenge (WHO, 2019). Adequate financial resources, including from climate change funding sources, have not shifted to health budgets. For example, the same survey identified financing as one the main barriers with only 9% of National Adaptation Plans for Health (H-NAP) being fully resourced (WHO, 2019).

Addressing this requires strengthening health policymakers', health workers' and health institutions' capacities to adapt to and

address climate-induced health risks, but also to study and assess how the health sector can mitigate climate change by moving away from fossil-fuels and decarbonizing. For example, implementation research, a core approach in HPSR, could help improve and accelerate the development and roll-out of these policies (Peters *et al.*, 2013). It could also help codify, document and share lessons applicable for other countries. This could also help address climate justice (Pratt *et al.*, 2020). Linking health justice, social justice and climate justice is an integral part to addressing the climate crisis and is another place where HPSR could help foster deeper understanding of the needed policy changes (Rouf and Wainwright, 2020). In doing so, the HPSR community can play a catalytic role empowering researchers and communities to make informed decisions and influence political action (Theobald *et al.*, 2018).

Third, by helping transform the health sector in response to climate change, the HPSR community can demonstrate leadership and develop linkages both within and beyond the health sector to respond to climate change and create healthier populations (Healthier Societies for Healthy Populations Group, 2020). As the ongoing COVID-19 pandemic highlights, this is critical for a wider transformation towards a greater focus on sustainability. HPSR can deepen understandings of how to overcome policy obstacles both within and beyond the health sector, and how different actors are able to successfully (or unsuccessfully) pursue reforms. For example, an assessment found that efficiency gains from coherent multisectoral policies addressing energy use, health, climate change and air quality could save 40% of the total costs (International Institute for Applied Systems Analysis, 2012).

Researchers and policymakers are also beginning to recognize the connection between climate change, pollution, environmental risks and non-communicable diseases (NCDs) (Kim *et al.*, 2015; Campbell-Lendrum and Prüss-Ustün, 2019); HPSR could help expand these understandings. Equipping health sector actors to become strong advocates on climate change is critical given the many linkages across determinants of health—clean air, safe drinking water, enough food and secure shelter (Watts *et al.*, 2019). Until recently health has not featured prominently within the international climate change agenda (Workman *et al.*, 2018; Ossebaard and Lachman, 2020). HPSR can help the health sector contribute to improved governance developing coherent and sensitively designed, cross-sectoral policies and programmes, which could produce major co-benefits for people and planet (Xie *et al.*, 2018). For example, multisectoral collaboration and action for health are critical, but capacities for multisectoral action for health are underdeveloped and limited (Rasanathan *et al.*, 2017); this is especially the case for climate change.

The HPSR community must urgently consider and engage with climate change. As countries and policymakers continue to address the ongoing COVID-19 pandemic, the focus will be on ‘building back better’. As part of this, WHO’s manifesto for a healthy recovery from COVID-19 details six prescriptions to create a healthier society, more resilient to future outbreaks and epidemics (WHO, 2020). One of these is the need to focus on investing in essential health services. To make this happen, HPSR is critical. But more broadly as the HPSR community rethinks and reconsiders HPSR in the post-COVID era (Gilson *et al.*, 2020), thinking beyond the ‘six health systems building blocks’ and addressing climate change must be an integral part of the post-COVID-19 agenda.

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References

- Alliance for Health Policy and Systems Research (AHPSR). 2007. *What Is Health Policy and Systems Research and Why Does It Matter?* <https://www.who.int/alliance-hpsr/resources/Alliance%20HPSR%20-%20Briefing%20Note%201.pdf?ua=1>, accessed 18 July 2020.
- Campbell-Lendrum D, Prüss-Ustün A. 2019. Climate change, air pollution and noncommunicable diseases. *Bulletin of the World Health Organization* 97: 160–1.
- Costello A, Abbas M, Allen A *et al.* 2009. Managing the health effects of climate change. *The Lancet* 373: 1693–733.
- Friel S, Bowen K, Campbell-Lendrum D *et al.* 2011. Climate change, noncommunicable diseases, and development: the relationships and common policy opportunities. *Annual Review of Public Health* 32: 133–47.
- Gilson L, Marchal B, Ayepong I *et al.* 2020. What role can health policy and systems research play in supporting responses to COVID-19 that strengthen socially just health systems? *Health Policy and Planning* 35: 1231–6.
- Healthier Societies for Healthy Populations Group. 2020. Healthier societies for healthy populations. *The Lancet* 395: 1747–9.
- Hosking J, Campbell-Lendrum D. 2012. How well does climate change and human health research match the demands of policymakers? A scoping review. *Environmental Health Perspectives* 120: 1076–82.
- International Institute for Applied Systems Analysis. 2012. *The Global Energy Assessment*. <https://iiasa.ac.at/web/home/research/Flagship-Projects/Global-Energy-Assessment/Home-GEA.en.html>, accessed 25 July 2020.
- Kadandale S, Marten R, Dalglish SL *et al.* 2020. Primary health care and the climate crisis. *Bulletin of the World Health Organization* 98: 818–20.
- Kim R, Costello A, Campbell-Lendrum D. 2015. Climate change and health in Pacific island states. *Bulletin of the World Health Organization* 93: 819.
- Mayhew S, Hanefeld J. 2014. Planning adaptive health systems: the climate challenge. *The Lancet Global Health* 2: e625–6. PMID: 25442681.
- Ossebaard HC, Lachman P. 2020. Climate change, environmental sustainability and health care quality. *International Journal of Quality in Health Care* 28: mzaa036.
- Peters DH. 2018. Health policy and systems research: the future of the field. *Health Research Policy and Systems* 16: 84.
- Peters DH, Adam T, Alonge O *et al.* 2013. Implementation research: what it is and how to do it. *BMJ* 347: f6753.
- Pratt B, Wild V, Barasa E *et al.* 2020. Justice: a key consideration in health policy and systems research ethics. *BMJ Global Health* 5: e001942.
- Rasanathan K, Bennett S, Atkins V *et al.* 2017. Governing multisectoral action for health in low- and middle-income countries. *PLoS Medicine* 14: e1002285.
- Rouf K, Wainwright T. 2020. Linking health justice, social justice, and climate justice. *The Lancet Planetary Health* 4: e131–2.
- Salas RN, Jha AK. 2019. Climate change threatens the achievement of effective universal healthcare. *BMJ* 366–7:4378.
- Theobald S, Brandes N, Gyaopong M *et al.* 2018. Implementation research: new imperatives and opportunities in global health. *The Lancet* 392: 2214–28.
- Watts N, Amann M, Arnell N *et al.* 2019. The 2019 report of the Lancet Countdown on health and climate change: ensuring that the health of a child born today is not defined by a changing climate. *The Lancet* 394: 1836–78.
- Whitmee S, Haines A, Beyrer C *et al.* 2015. Safeguarding human health in the Anthropocene epoch: report of the Rockefeller Foundation–Lancet Commission on planetary health. *The Lancet* 386: 1973–2028.
- Workman A, Blashki G, Bowen KJ *et al.* 2018. The political economy of health co-benefits: embedding health in the climate change agenda. *International Journal of Environmental Research and Public Health* 4: 674.
- World Health Organization (WHO). 2018. *Climate Change and Health*. <https://www.who.int/news-room/fact-sheets/detail/climate-change-and-health>, accessed 20 August 2020.

- World Health Organization (WHO). 2019. *WHO Health and Climate Change Survey*. <https://apps.who.int/iris/bitstream/handle/10665/329972/WHO-CED-PHE-EPE-19.11-eng.pdf?ua=1>, accessed 20 August 2020.
- World Health Organization (WHO). 2020. *WHO Manifesto for a Healthy Recovery from COVID-19*. <https://www.who.int/news-room/feature-stories/detail/who-manifesto-for-a-healthy-recovery-from-covid-19>, accessed 20 August 2020.
- Xie E, Barros E. D, Abelson A, Stein AT, Haines A. 2018. Challenges and opportunities in planetary health for primary care providers. *Lancet Planetary Health* 2 (5): 185–7.