

Integrating planetary health into clinical guidelines to sustainably transform health care

Alina Herrmann, Benedikt Lenzer, Beate S. Müller, Ina Danquah, Kari C. Nadeau, Cathleen Muche-Borowski, Claudia Traidl-Hoffmann

Angaben zur Veröffentlichung / Publication details:

Herrmann, Alina, Benedikt Lenzer, Beate S. Müller, Ina Danquah, Kari C. Nadeau, Cathleen Muche-Borowski, and Claudia Traidl-Hoffmann. 2022. "Integrating planetary health into clinical guidelines to sustainably transform health care." *The Lancet Planetary Health* 6 (3): e184–85. [https://doi.org/10.1016/s2542-5196\(22\)00041-9](https://doi.org/10.1016/s2542-5196(22)00041-9).

Integrating planetary health into clinical guidelines to sustainably transform health care



Climate change and other ecological crises threaten the health of humans and the natural systems on which humans depend.¹ However, such planetary health issues have not yet entered the core of evidence-based medicine—clinical guidelines. Globally, medical associations, research institutions, and universities have placed planetary health on their agenda and are starting to integrate it into medical education.^{2,3} The UK National Health Service (NHS) aims to be climate neutral by 2040,⁴ and more than 50 countries committed to climate-smart health care by 2030 at the 26th UN Climate Conference of the Parties in Glasgow, Scotland.⁵ Despite all this progress, planetary health principles have yet to be fully incorporated into clinical routines. To achieve this, we believe that clinical guidelines are crucial.

We screened a sample of 49 clinical guidelines from British, Chinese, Indian, Brazilian, Australian, European, German, and US-American medical associations and organisations (appendix pp 1–8). We selected guidelines dealing with a range of topics, which have apparent associations with planetary health issues, such as allergies, asthma, chronic obstructive pulmonary disease, cardiovascular disease, obesity, diabetes, dermatology, renal diseases, heat stroke, and colorectal cancer. We used the QDA Miner Lite programme (version 2.0.7; Provalis Research) to scan the guidelines for 30 keywords related to planetary health (eg, climate change, air pollution, and emissions; appendix pp 8–10). Most of the keywords were found in fewer than 5% of the guidelines. As an exception, “air pollution” was mentioned in 20%, and “environmental protection” and “emissions” in 10% of the scanned guidelines. If any of the 30 keywords were mentioned, they were frequently used in the context of disease aetiology or epidemiology and less often with regards to sustainable health services.

Notably, the scanned British clinical practice guidelines from the National Institute for Health and Care Excellence (NICE) include an introductory paragraph about responsibility to promote environmentally sustainable health care. The NICE guideline on the prevention of cardiovascular disease explicitly mentions

the environmental cobenefits of physically active travel and reduced intakes of animal-based saturated fats.⁶ The NICE strategy for 2021 to 2026 aims to develop a framework that aids in including environmental impact data in their guidelines to reduce the environmental footprint of health care.⁷

We argue that all medical associations and organisations who publish medical guidelines should include a strategy that systematically addresses planetary health issues in their guidelines. WHO has developed recommendations on how to incorporate equity, human rights, gender, and social determinants of health as cross-cutting issues into each step of WHO guideline development.⁸ Similarly, planetary health should become a mandatory dimension of clinical guideline development. The panel shows in what areas

See Online for appendix

Panel: Dimensions to consider when integrating planetary health into clinical guidelines

- 1 Prevention and cobenefits: emphasise prevention measures for the disease entity, which lowers the demand for health-care services, and outline possible cobenefits (eg, climate and health benefits of active travel)
- 2 Aetiology and epidemiology: describe the risks and effects of environmental factors such as climate change and biodiversity loss on the aetiology and epidemiology of diseases (eg, seasonal changes in allergies, infectious disease transmission, and UV radiation)
- 3 Adaptation: describe necessary measures that are needed to adapt to health issues driven by climate change or other environmental health impacts (eg, advice for patients with diabetes during heat waves and separate guidelines for prevention and treatment of heat stroke)
- 4 Environmental impacts: report environmental impacts (eg, greenhouse gas emissions) of diagnostic and therapeutic procedures and report lifecycle assessments of medical products; particularly provide guidance if environmental impacts differ between clinically equally effective procedures
- 5 Low-impact interventions: prominently consider health interventions with low environmental impacts, such as lifestyle interventions, psychosocial interventions, narrative medicine, nature-based solutions, or rehabilitation measures, and compare their efficacy with resource-intensive alternatives
- 6 Choosing wisely: include explicit recommendations on how to reduce overuse of health care in the tradition of choosing wisely initiatives;⁹ quantify the environmental benefits of reducing overuse of care, such as in terms of saved greenhouse gas emissions
- 7 Patient-centred care: provide guidance on how to involve patients in shared decision making about different therapeutic alternatives, including information on planetary health aspects; encourage community-led solutions on preserving planetary health
- 8 Performance measures and quality indicators: the implementation and impact of the guideline on health care can be assessed using clinical measures and quality indicators that address specific goals of planetary health

of guidelines the planetary health dimension should be considered. Developing separate guidelines on specific sustainable health care topics could also be useful—eg, administration of climate-friendly anaesthesia.

Importantly, scientific evidence should build the basis of integrating planetary health into clinical guidelines; however, there are two main challenges for this integration. First, more evidence at the crossroads of planetary health and clinical medicine is needed. This fact is true for health impact assessment of climate change and environmental issues, for adapting health care to these impacts, and for research on minimising environmental effects of health care. In particular, implementation research is needed that supports health systems in matching health services to the actual demand and guides them on how to reduce emission from the supply of health services.¹⁰ Clinical trials should include new endpoints on environmental footprints as well as health outcomes. Research should also assess the long-term cobenefits for costs and health of the reduction of emissions and resources in health care.

Second, the integration of planetary health evidence requires interdisciplinary and transdisciplinary guideline committees. Integrating research about such diverse topics as impacts of climate change on disease aetiology, environmental impacts of lifestyle recommendations, and lifecycle assessments of medical products needs to be critically appraised by individuals with expertise that goes beyond the medical field. Thus, various experts, such as ecologists, engineers, economists, and allied health professionals need to be included in guideline committees.

The implementation of such planetary health guidelines requires the health workforce to be trained in planetary health and the political will to shape health systems supportive of those recommendations. Because clinical guidelines are instruments that can steer these

developments, the medical community should use their leadership in clinical guideline development to expand planetary health into the clinical setting to sustainably transform health care.

We declare no competing interests. AH and BL are joint first authors.

Copyright © 2022 The Author(s). Published by Elsevier Ltd. This is an Open Access article under the CC BY 4.0 license.

*Alina Herrmann, Benedikt Lenzer, Beate S Müller, Ina Danquah, Kari C Nadeau, Cathleen Muche-Borowski, Claudia Traidl-Hoffmann
alina.herrmann@uni-heidelberg.de

Heidelberg Institute of Global Health, Medical Faculty and University Hospital, Heidelberg University, Heidelberg, 69120, Germany (AH, ID); Hausarztlich-Internistisches Versorgungszentrum, Scharnweberstraße, Berlin, Germany (BL); Institute of General Practice, Goethe-University Frankfurt am Main, Frankfurt, Germany (BSM); Stanford University School of Medicine, Stanford, CA, USA (KCN); Department of General Practice and Primary Care, Medical Center Hamburg-Eppendorf - UKE, Hamburg, Germany (CM-B); Department of Environmental Medicine, Faculty of Medicine, University of Augsburg, Augsburg, Germany (CT-H)

- 1 Whitmee S, Haines A, Beyrer C, et al. Safeguarding human health in the Anthropocene epoch: report of The Rockefeller Foundation-Lancet Commission on planetary health. *Lancet* 2015; **386**: 1973–2028.
- 2 German College of General Practitioners and Family Physicians (DEGAM). Climate change is the biggest threat to global health in the 21st century – general practitioners need to take action. Position Paper. 2020. https://www.degam.de/files/Inhalte/Degam-Inhalte/Ueber_uns/Positionspapier/Positionspapier_Klimawandel_Gesundheit_final.pdf (accessed Feb 15, 2022; in German).
- 3 Guzmán CAF, Aguirre AA, Astle B, et al. A framework to guide planetary health education. *Lancet Planet Health* 2021; **5**: e253–55.
- 4 Kmietowicz Z. Healthcare and tech companies pledge to decarbonise NHS supply chain by 2045. *BMJ* 2021; **375**: n2696.
- 5 WHO. Countries commit to develop climate-smart health care at COP26 UN climate conference. World Health Organization, Nov 9, 2021. <https://www.who.int/news/item/09-11-2021-countries-commit-to-develop-climate-smart-health-care-at-cop26-un-climate-conference> (accessed Jan 13, 2022).
- 6 National Institute for Health and Care Excellence. Cardiovascular disease prevention: public health guideline [PH25]. <https://www.nice.org.uk/guidance/ph25> (accessed Jan 13, 2022).
- 7 National Institute for Health and Care Excellence. The NICE strategy 2021 to 2026: dynamic, collaborative, excellent. <https://www.nice.org.uk/about/who-we-are/corporate-publications/the-nice-strategy-2021-to-2026> (accessed Jan 13, 2022).
- 8 WHO. WHO handbook for guideline development, 2nd edn. Geneva: World Health Organization, 2014. <https://apps.who.int/iris/handle/10665/145714> (accessed Jan 13, 2022).
- 9 Good Stewardship Working Group. The “top 5” lists in primary care: meeting the responsibility of professionalism. *Arch Intern Med* 2011; **171**: 1385–90.
- 10 MacNeill AJ, McGain F, Sherman JD. Planetary health care: a framework for sustainable health systems. *Lancet Planet Health* 2021; **5**: e66–68.