

Viewpoint

Environmental and public health tracking to advance knowledge for planetary health

Over the last two centuries, the nature of healthcare and public health has evolved from infectious disease control and sanitation to issues surrounding the 7-fold population growth and the emerging threats associated with chronic non-communicable diseases (NCDs), global climate change, pollution and diminishing resources.¹

Knowledge is needed to support a range of sectors that contribute to the prevention and management of NCDs, such as transportation, housing, energy, waste management, land use and climate change. The physical environment has negative (e.g. air pollution) as well as positive impacts on lifestyle and health (e.g. availability of footpaths and cycle lanes, green areas).

'Planetary health', described by The Rockefeller Foundation–Lancet Commission on Planetary Health,¹ and the related concept of 'ecological public health'² may be the ultimate 'wicked problems' of our time. Environmental health problems have often been successfully addressed by controlling a single source of pollutant or exposure. However, today's problems are more complex. Not only do we face the challenge of how to express and analyse exposure to multiple and cumulative sources but also the traditional, predominantly hazard-focused and compartmentalised approach to environmental health may not fully address the interconnected and interdependent issues. Despite the apparent paradox of improved human health and the deterioration of the Earth's natural systems in recent history,¹ and the difficulty to quantify the impact of global environmental change, there is an increasing body of evidence on the costs of inaction.³

To facilitate the development of knowledge and intelligence for effective public health actions and population-based approaches to healthcare, one strategy is to integrate the wealth of available data from a range of sectors (e.g. transportation, housing, energy, waste management, land use and climate change), with health data. The approach is called Environmental Public Health Tracking (EPHT), defined as 'the ongoing collection, integration, analysis and interpretation of data about environmental hazards, exposure to environmental hazards, human health effects potentially related to exposure to environmental hazards. It includes dissemination of information learned from these data and implementation of strategies and actions to improve and protect public health'.⁴

A key distinction between EPHT and traditional surveillance is the emphasis on data integration across hazard, exposure and health information systems. We could call it 'risk tracking', which involves quantifying and monitoring, at the population level, trends in the relationship between hazard, exposure and health indicators. By effectively linking environmental health data and translating it into meaningful information, EPHT can help protect the health of the public as well as the ecosystem. Thus, EPHT contributes to proactive planetary health protection and guidance for action. EPHT addresses knowledge failures associated with ignoring the social and environmental contexts, one of the main challenges to achieving planetary health.¹

The EPHT approach requires strong governance and leadership, which must be multi-sectoral, multi-level and multi-institutional, but with unity of purpose and harmonised, complementary strategies.⁴ Responsibility must go beyond the core healthcare and public health workforce and also address behavioural lifestyle choices that promote health and reduce environmental impact. All stakeholders need to join forces using an integrated, coherent approach based on sound conceptual models such as the ecosystems-enriched drivers, pressures, state, exposure, effects, actions or 'eDPSEEA' model.⁵

A new International Network on Public Health and Environment Tracking (INPHET; <http://www.epiprev.it/INPHET/home>) has been created to support the development, implementation and evaluation of local, national and international EPHT initiatives. INPHET can facilitate planetary health by developing:

- (1) An established clearinghouse for environmental health data, methods and processes;
- (2) A resource with environmental decision support tools for policy and decision makers;
- (3) A source of evidence-based information and knowledge that can be used to guide public health actions in different settings, such as regional and national health departments;
- (4) A resource to increase comparability and cross-border surveillance capacity and
- (5) A reference point for public health agencies and scientific organisations.

Could a multi-sectoral, multi-level and multi-institutional approach, employing EPHT and conceptual models (e.g. 'eDPSEEA'), join forces through INPHET and be part of the 'wicked' solutions to the prevention and management of NCDs and protection and promotion of planetary health?

References

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Behrooz Behbod¹, Paolo Lauriola², Giovanni Leonardi¹, Helen Crabbe¹, Rebecca Close¹, Brigit Staatsen³, Lisbeth E. Knudsen⁴, Kees de Hoogh^{5,6}, Sylvia Medina⁷, Jan C. Semenza⁸, Tony Fletcher¹

¹ Public Health England, UK

² ARPA Emilia-Romagna, Italy

³ National Institute for Public Health and Environment, The Netherlands

⁴ University of Copenhagen, Denmark

⁵ Swiss Tropical and Public Health Institute, Switzerland

⁶ University of Basel, Switzerland

⁷ Santé publique France, France

⁸ European Centre for Disease Prevention and Control, Sweden

Correspondence: Behrooz Behbod, Centre for Radiation, Chemicals, and Environmental Hazards, Public Health England, Chilton, Didcot, Oxon OX11 0RQ, UK, Tel: +44-344-225-3861, e-mail: behrooz.behbod@phe.gov.uk

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