

Planetary health: a new science for exceptional action



"We have lived our lives by the assumption that what was good for us would be good for the world. We have been wrong. We must change our lives so that it will be possible to live by the contrary assumption, what is good for the world will be good for us. And that requires that we make the effort to know the world and learn what is good for it."

Wendell Berry, From *The Long-Legged House* (1969)

What is planetary health? In the final report of The Rockefeller Foundation–Lancet Commission on Planetary Health, we define it this way: "the achievement of the highest attainable standard of health, wellbeing, and equity worldwide through judicious attention to the human systems—political, economic, and social—that shape the future of humanity and the Earth's natural systems that define the safe environmental limits within which humanity can flourish. Put simply, planetary health is the health of human civilisation and the state of the natural systems on which it depends".¹

Why might the idea of planetary health be useful? There are two dimensions that planetary health seeks to bring to human health. First, it situates human health within human systems. The threats that our species faces are not abstract physical risks, such as disease, climate change, ocean acidification, or chemical pollution. The risks we face lie within ourselves and the societies we have created. When we consider climate change, the main metric of danger is greenhouse gas emissions. But that measure should also include the capacity of human systems to monitor the threat, understand its importance, and act on that knowledge. Second, planetary health concerns the natural systems within which our species exists—for example, the health and diversity of the biosphere. Human beings live within a safe operating space of planetary existence. If the boundaries of that space are breached, the conditions for our survival will be diminished. Currently, natural systems are being degraded to an extent unprecedented in history, with known and as yet unknown and unquantified effects on human health. For example, although evidence for causality between environmental change through deforestation and Ebola virus disease outbreaks is inconclusive, loss of forest land has brought people and wildlife into closer contact—with the inherent risks of zoonotic disease. There is surely an intergenerational responsibility to do no further harm

and to create the systems to allow future generations to thrive and prosper—mentally, physically, and materially.

We have previously tried to set out the minimum conditions for planetary health.^{2–4} As Stephen Boyden wrote in his book, *The Biology of Civilisation*, "While the main threats to humankind today are the consequence of the human aptitude for culture, our only hope for overcoming them lies in this aptitude".⁵ Human cultures contain both the threat and opportunity for human flourishing. Civilisations come and civilisations go, typically over 300–500 year cycles.⁶ One should not be surprised by this time-bound civilisational history. Our museums are replete with artifacts from once great and dominant human cultures. Why should our civilisation be any different from the Assyrians, Mesopotamians, or Mayans? But, as Karl Butzer notes in his survey of the science of civilisations, "Much of the current alarmist literature that claims to draw from historical experience is poorly focused, simplistic, and unhelpful...Undue attention to stressors risks underestimating the intricate interplay of environmental, political, and sociocultural resilience in limiting the damages of collapse or in facilitating reconstruction". Butzer prefers to focus instead on the importance of "leaders, elites, and ideology". In other words, governance and stewardship. Here is where human history meets current human predicaments.

What is abundantly clear today is that the dangers facing our species will demand "urgent collective action at both local and global levels".⁷ Cooperation will be indispensable

Published Online
July 16, 2015
[http://dx.doi.org/10.1016/S0140-6736\(15\)61038-8](http://dx.doi.org/10.1016/S0140-6736(15)61038-8)

This online publication has been corrected. The corrected version first appeared at thelancet.com on July 21, 2015

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See [The Lancet Commissions](#) page 1973



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for our survival. But every day we see the limits of our ability to collaborate with one another—conflict, nationalism, competition. One active area of research that is not obviously mainstream for global health, but which is core to the idea of planetary health, is understanding what helps or hinders human cooperation. Is it binding democratic voting?⁸ Or “mutual coercion, mutually agreed upon”?⁹ Or universal education?¹⁰ Or independent accountability? The recent *Lancet* Commission on Health and Climate Change will use an accountability mechanism over the next 15 years to track, support, and communicate progress and success in addressing the connections between health and climate.¹¹

The Rockefeller Foundation–*Lancet* Commission on Planetary Health first met in Bellagio, Italy, in July, 2014. Chaired by Andy Haines of the London School of Hygiene & Tropical Medicine, the Commission is a diverse group of global experts in environmental health, medicine, biodiversity, and ecology who reached a powerful consensus around key messages and the urgency of planetary health as an idea in jeopardy. The Commission’s report¹ outlines three challenges that must be addressed to enhance human health in the face of unprecedented environmental challenges. First, a conceptual challenge to account for the future health and environmental harms to development and prosperity that many countries face. Second, knowledge and information challenges, including lack of transdisciplinary research and a failure to identify the social and environmental drivers of ill health. Finally, governance challenges.

Planetary health is a new science that is only beginning to draw the coordinates of its interests and concerns. It demands new coalitions and partnerships across many different disciplines to meet the pervasive knowledge failures identified by this Commission. It demands new

attention to governance and implementation. And, perhaps most of all, it demands more creative imagination among scientists and practitioners working in health—redefining the meaning of human progress, rethinking the possibilities for human cooperation, and revitalising the prospects for the health of human civilisations.

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We thank The Rockefeller Foundation for their generous financial support to The Rockefeller Foundation–*Lancet* Commission on Planetary Health and for hosting meetings in Bellagio, Italy, and New York, USA. We thank Andy Haines for his chairing of the Commission and Sarah Whitmee for her lead authorship. We thank Tim Shorten for project management of the Commission and Micheline Kennedy of GMMB for leading communications around global launches. We thank Commissioners for their commitment to this Commission report and its dissemination, and peer reviewers for their thoughtful contributions to the process. We also thank the participants of The Rockefeller–*Economist* Visionaries Unbound Planetary Health workshop for providing Commissioners with a broad background discussion to focus the first Commissioners meeting.

- 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; published online July 16. [http://dx.doi.org/10.1016/S0140-6736\(15\)60901-1](http://dx.doi.org/10.1016/S0140-6736(15)60901-1).
- 2 Horton R. Offline: Planetary health—a new vision for the post-2015 era. *Lancet* 2013; **382**: 1012.
- 3 Horton R, Beaglehole R, Bonita R, Raeburn J, McKee M, Wall S. From public to planetary health: a manifesto. *Lancet* 2014; **383**: 847.
- 4 Horton R. Offline: Progress towards planetary health. *Lancet* 2015; **385**: 314.
- 5 Boyden S. The biology of civilisation. Sydney: University of New South Wales Press, 2004.
- 6 Butzer K. Collapse, environment, and society. *Proc Natl Acad Sci USA* 2012; **109**: 3632–39.
- 7 Dasgupta P, Ehrlich PR. Pervasive externalities at the population, consumption, and environment nexus. *Science* 2013; **340**: 324–28.
- 8 Hauser OP, Rand DG, Peysakhovich A, Nowak MA. Cooperating with the future. *Nature* 2014; **511**: 220–23.
- 9 Levin SA. Public goods in relation to competition, cooperation, and spite. *Proc Natl Acad Sci USA* 2014; **111** (suppl 3): 10838–45.
- 10 Lutz W, Muttarak R, Striessnig E. Universal education is key to enhanced climate adaption. *Science* 2014; **346**: 1061–62.
- 11 Watts N, Adger WN, Agnolucci P, et al. Health and climate change: policy responses to protect public health. *Lancet* 2015; published online June 23. [http://dx.doi.org/10.1016/S0140-6736\(15\)60854-62](http://dx.doi.org/10.1016/S0140-6736(15)60854-62).

Alcohol burden in low-income and middle-income countries

Published Online
September 17, 2015
[http://dx.doi.org/10.1016/S0140-6736\(15\)00236-6](http://dx.doi.org/10.1016/S0140-6736(15)00236-6)
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Alcohol use contributes to roughly 4% of the global burden of disease.¹ Episodic (binge) drinking and high average volume consumed both contribute to this burden in complex ways.¹ Episodic drinking increases risks of injury and cardiovascular disease; cancer risk increases with average volume; and low-moderate alcohol use is associated with a reduced risk of death from cardiovascular diseases.^{2,3} A major limitation of the

evidence is that most epidemiological studies of alcohol have been done in high-income and middle-income countries. Good epidemiological data for patterns of alcohol use and health outcomes among adults do not exist in low-income and middle-income countries, in which alcohol use is increasing as a result of growing affluence and increased promotional activities of the alcohol beverage industry.