

# Panorama Perspectives

## Conversations on Planetary Health

Planetary Health 101  
Information and Resources

Report I · September 2017



**PANORAMA**

The *Panorama Perspectives: Conversations on Planetary Health* report series aims to inspire new thinking, conversations, and engagement with planetary health and other integrated concepts. Collaboration and open knowledge sharing across sectors are necessary to solve the complex global health and development problems of today.

The *Conversations on Planetary Health* series is comprised of five reports:

- Planetary Health 101: Information and Resources
- The Planetary Health Landscape: From Concept to Action
- Global Policy Opportunities for Planetary Health: A Review of Existing Policy Frameworks
- Planetary Health Science and Policy Intersections
- The Funding Landscape for Integrating Health and Environment

These reports are intended as practical tools, presenting actionable opportunities to advance planetary health. Each report expands on knowledge gathered from many sources, including analysis of publicly available reports and data; forums and events; group discussions; and individual conversations. All content represents Panorama's opinion unless otherwise noted.

We welcome continued dialogue on the report topics. To receive the reports directly, please write to [info@panoramaglobal.org](mailto:info@panoramaglobal.org) or visit us at [panoramaglobal.org/planetary-health](http://panoramaglobal.org/planetary-health).

Panorama is an action tank working to solve global problems through audacious thinking and bold action. We bring together diverse perspectives to spark new ideas that create change. We partner with ambitious leaders to strengthen their organizations and achieve their goals, and we initiate projects when we see gaps that need to be filled. Our work on planetary health is supported by a grant from The Rockefeller Foundation.

# Planetary Health 101

## Information and Resources

### Overview

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Interest is growing in the nascent concept of planetary health, and a variety of information, resources, and opportunities for action now exist through the work of numerous projects and organizations. To help make this information more readily available and accessible, Panorama has compiled core elements into this report, as follows:

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This information serves as a starting point for people interested in learning about the concept of planetary health. For more comprehensive information, please refer to links and citations throughout.

### What is Planetary Health?

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Definition, related concepts, and key issues.

Planetary health is a nascent concept focused on the interdependence of human health, animal health, and the health of the environment. Defined as “the health of human civilization and the state of the natural systems on which it depends,<sup>1</sup>” planetary health calls urgent attention to the extensive degradation of our planet for human advancement. The concept focuses on reversing this trend by better balancing human needs with the preservation of the Earth to sustain the health and well-being of future generations. To accomplish this will require a multidisciplinary, cross-sector, and transborder approach to change mindsets and behaviors at every level, from global to local.

While the concept of planetary health is unique, it builds on and unites many similar concepts that address the intersections between health and the environment.

- EcoHealth
- Ecosystem services (biodiversity and health)
- Environmental Health
- GEOHealth (Global Environmental and Occupational Health)
- One Health
- Population Health and Environment

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<sup>1</sup>Sarah Whitmee et al. “[Safeguarding human health in the Anthropocene epoch: report of The Rockefeller Foundation-Lancet Commission on planetary health.](#)” *Lancet* 386, 10007 (2015).

As such, planetary health presents a new way to think about solving complex and interdependent global problems, such as those summarized here:<sup>2</sup>

Environmental impact areas	Public health impact areas
<ul style="list-style-type: none"> <li>• Changing abundance, composition, and distribution of species</li> <li>• Changing biogeochemical flows</li> <li>• Changing food systems</li> <li>• Changing land use and land cover</li> <li>• Climate change</li> <li>• Global pollution</li> <li>• Natural disasters</li> <li>• Urbanization</li> <li>• Water scarcity</li> </ul>	<ul style="list-style-type: none"> <li>• Civil strife and displacement</li> <li>• Infectious diseases</li> <li>• Mental health</li> <li>• Non-communicable diseases</li> <li>• Nutrition</li> <li>• Physical health</li> </ul>

## The Case for Planetary Health

An overarching narrative for planetary health and high-level proof points.<sup>3</sup>

### The Situation

Today, we live longer and more prosperous lives than ever before, due to the unparalleled public health, agricultural, industrial, and technological advancements of the 20<sup>th</sup> century.

- Life expectancy increased more than 20 years in the past half century, jumping from 47 years in 1950-1955 to 69 years in 2005-2010.<sup>4</sup>
- Death rates in children under five years of age decreased from 214 per 1,000 live births in 2005 to 59 per 1,000 live births in 2010.<sup>5</sup>
- Despite an increase in the total population of low-income countries, the total number of people living in extreme poverty has fallen by 700 million over the past 30 years.<sup>6</sup>

To continue improving human health and well-being now and in the future, we must broaden our view of progress to account for the critical role of Earth’s natural systems, which provide us with sustenance, shelter, and energy.

We have dramatically altered our surroundings through our use and abuse of natural resources. These changes have profoundly negative impacts, both short- and long-term, on our health and well-being.

<sup>2</sup> Issues identified by the [Planetary Health Alliance](#)

<sup>3</sup> Originally developed by [KYNE](#), a health communications agency, through a grant from The Rockefeller Foundation.

<sup>4</sup> Danzhen You et al. [Levels and trends in child mortality](#), New York: United Nations, Inter-agency Group for Child Mortality Estimation, 2014

<sup>5</sup> United Nations Secretariat, Department of Economic and Social Affairs, Population Division. [World Population Prospects: The 2012 Revision](#), Working Paper No. ESA/P/WP.228, New York: United Nations, 2013.

<sup>6</sup> Pedro Olinto et al. [“The State of the Poor: Where Are the Poor, Where is Extreme Poverty Harder to End, and What Is the Current Profile of the World’s Poor?”](#), *Economic Premise*, no. 125, 2013.

- Pollution from landscape fires and the combustion of fossil and solid fuels results in respiratory diseases and millions of deaths, mostly among young children.
  - Household air pollution from burning of solid fuels (wood, charcoal, crop residues, dung, and sometimes coal) for cooking and energy caused an estimated 2.6 million to 4.4 million deaths in 2010, mainly in women and children.<sup>7</sup>
  - Pollution caused by landscape fires, mainly related to deforestation and land clearing for industry and agriculture, is estimated to cause more than 300,000 premature deaths worldwide annually.<sup>8</sup>
- Overfishing, warming, and acidification of water bodies are disrupting coral reefs and fish supplies, resulting in food insecurity, disease, and poverty.
  - Fish are an important source of protein and vitamins such as iron, zinc, and omega-3 fatty acids; in fact, approximately 2.9 billion people get 20 percent of their annual protein from fish.<sup>9</sup>
  - About 90 percent of monitored fisheries are harvested at, or beyond, maximum sustainable yield limits.<sup>10</sup>
  - Poor fish supply in Ghana, caused in part by overfishing, has led to food insecurity and an increase in bushmeat consumption, which increases opportunities for transmission of zoonotic diseases like HIV and Ebola.<sup>11,12</sup>
- Extreme weather events related to global environmental change are a significant cause of illness and death.
  - Monsoon rains across Pakistan in 2010 resulted in catastrophic flash floods, submerging a fifth of the country. The floods killed more than 1,900 people and displaced millions, leading to the consumption of unsafe drinking water and an increase in the incidence of waterborne disease.<sup>13</sup>
  - In response to extreme drought in Sao Paulo in 2015, residents turned to water hoarding, creating ideal breeding grounds for dengue-carrying mosquitos. This situation led to a 163 percent increase in dengue cases compared to the same period in 2014.<sup>14</sup>
- Carbon dioxide emissions caused by human activity are altering the nutritional content of key crops, including wheat, rice, barley, and soy. This puts hundreds of millions of people, mostly in Africa and South Asia, at risk for vitamin deficiencies.
  - Reductions in zinc content of food crops could put an additional 150 million people at risk for zinc deficiency, a key micronutrient for maternal and child health.<sup>15</sup>

<sup>7</sup> Stephen S Lim et al. ["A comparative risk assessment of burden of disease and injury attributable to 67 risk factors and risk factor clusters in 21 regions, 1990-2010: a systematic analysis for the Global Burden of Disease Study 2010,"](#) *Lancet* 380, 9859 (2012).

<sup>8</sup> Fay H Johnston et al. ["Estimated global mortality attributable to smoke from landscape fires,"](#) *Environ Health Perspect* 120, 5 (2012).

<sup>9</sup> Whitmee, "Safeguarding human health in the Anthropocene epoch."

<sup>10</sup> Ibid.

<sup>11</sup> Justin S Brashares et al. ["Bushmeat hunting, wildlife declines, and fish supply in West Africa,"](#) *Science* 306, 5699 (2004).

<sup>12</sup> William B Karesh and Eric Noble. ["The bushmeat trade: increased opportunities for transmission of zoonotic diseases,"](#) *Mt Sinai J Med* 76, 5 (2009).

<sup>13</sup> Whitmee, "Safeguarding human health in the Anthropocene epoch."

<sup>14</sup> Jelmayer, Rogerio; Chao, Loretta. ["Drought-Stricken São Paulo Battles Dengue Fever Outbreak,"](#) *The Wall Street Journal*, March 3, 2015.

<sup>15</sup> Whitmee, "Safeguarding human health in the Anthropocene epoch."

## The Opportunity

With a broader view of health that accounts for the interconnections between people and the planet, we have the opportunity to course-correct and improve the lives of individuals, families, and communities around the world, today and in the future.

Planetary health is a concept that encourages evidence-based policies to promote human health and prosperity while preserving the environment that allows us to thrive.

- The concept harnesses expertise from across disciplines, including human health, animal health, environment, and development, to generate scientific evidence and models on the complex links between human health and the natural systems on which it depends.
- Moving planetary health from concept to action supports the achievement of global goals such as the Convention on Biological Diversity Aichi Biodiversity Targets, the Paris Climate Agreement, and the Sustainable Development Goals, all of which recognize the importance of regional and global coordination to solve complex challenges.

Collective efforts of people worldwide are needed to generate knowledge, and educate about, advocate for, and enact policies that promote a balance between human health and the health of the planet.

- Researchers can pursue, and funders can support, interdisciplinary work to further develop evidence on the health effects of environmental change; assess the efficacy of global, national, and local policies to reduce environmental damage and improve health; and improve risk communication to governments and the public.
- Health professionals can help educate communities about the health effects of global environmental change and advocate for policies that integrate health care and environmental care at the primary level.
- Multilaterals within the United Nations system can help define metrics to monitor planetary health, update their use of integrated environmental and health assessment methods, and advocate for global and national reforms of tax, subsidy, and trade policies that support planetary health.
- Governments can best serve their constituents by enacting evidence-based policies throughout society that promote human health and prosperity while preserving the environment that allows us to thrive.
- The business community can demonstrate leadership by updating their sustainability practices and metrics, and advocating for reforms throughout the global economy.
- Civil society organizations can help by developing a broad public movement for social change, ultimately pressuring decision makers to implement needed policies and sustainable practices.

## Planetary Health Information & Resources

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Select information and resources to learn more about the concept of planetary health.

### Seminal planetary health articles and reports

- *GeoHealth*, [A Case for Planetary Health/GeoHealth](#) 2017
- *The Environmentalist Papers*, [Preventive Medicine for the Planet and Its Peoples](#) 2017
- *The Lancet*, [Safeguarding Human Health in the Anthropocene Epoch](#) 2015
- *The Lancet*, [From Public to Planetary Health: A Manifesto](#) 2014
- *The Economist*, [Special Edition on Planetary Health](#) 2014
- *Proceedings of the National Academy of Sciences (PNAS)*, [Human Health Impacts of Ecosystem Alteration](#) 2013

### Key planetary health-related resources

- United Nations Development Programme (UNDP), [Issue Brief on Planetary Health](#) 2017
- World Bank, [Approach and Action Plan for Climate Change and Health](#) 2017
- World Health Organization (WHO), [A Global Health Guardian: Climate Change, Air Pollution, and Antimicrobial Resistance](#) 2017
- WHO, [Preventing Disease Through Healthy Environments: A Global Assessment of the Burden of Disease and Environmental Risks](#) 2017
- Convention on Biological Diversity (CBD), [Connecting Global Priorities: Biodiversity and Health, A State of Knowledge Review](#) 2015

### Recent news articles that illustrate the concept of planetary health

- *EcoWatch*, [U.S. Wind and Solar Boom Helped Prevent Up to 12,700 Deaths Between 2007-2015](#) 2017
- *TIME*, [Climate Change Will Make Parts of South Asia Unlivable by 2100, Study Says](#) 2017
- *Science*, [Bats Really Do Harbor More Dangerous Viruses Than Other Species](#) 2017
- *The New York Times*, [As Donald Trump Denies Climate Change, These Kids Die of It](#) 2017

### Key planetary health-related organizations and programs

- Columbia University Mailman School of Public Health, [Urban + Health Initiative](#)
- CBD, [Health and Biodiversity](#)
- Cornell University, [MPH Program in Planetary Health](#)
- [EcoHealth Alliance](#)
- Future Earth, [Health Knowledge-Action Network](#)
- [Planetary Health Alliance](#) (PHA)
- The Rockefeller Foundation, [Planetary Health](#)
- United Nations Framework Convention on Climate Change (UNFCCC), [Momentum for Change](#)
- University of California Global Health Institute, [Planetary Health Center of Expertise](#)
- University of Sydney, [Planetary Health Initiative](#)
- Wellcome Trust, [Our Planet Our Health](#)

## Recent & Upcoming Activities

Collaborations and activities connecting health, animal health, environment, and development sectors.

- The inaugural [Planetary Health / GeoHealth Annual Meeting](#) took place in Boston in April 2017. More than 400 individuals from diverse organizations interested in planetary health came together to share integrated research and learnings.
- Global agencies are combining efforts to share knowledge and meet common goals. The CBD and WHO have created an [Interagency Liaison Group on Biodiversity and Health](#), which held its first meeting in Geneva in May 2017, to enhance cooperation between the two agencies and strengthen knowledge and awareness of the connections between health and biodiversity.
- New tools are being developed to support and advance planetary health, as well as enable broader cross-sector collaboration.
  - The Bridge Collaborative is working to set common principles and guidance across the health, environment, and development sectors to better enable integrated efforts, to be announced in October 2017.
  - The Planetary Health Alliance is developing new curricula for planetary health studies at universities worldwide.
- Philanthropic leaders are considering ways to leverage resources for cross-sector research and projects to integrate health and the environment.
  - Some funders are beginning to consider new ways to leverage investments across sectors to make significant positive change for people and the planet, such as at the upcoming [Climate, Health, and Equity Funder Meeting](#) in Detroit in November 2017.
  - The Rockefeller Foundation has formed an [Economic Council on Planetary Health](#) to demonstrate the economic and policy cases for planetary health. The Council will be hosted by the Oxford Martin School and chaired by Ernesto Zedillo, the former President of Mexico and current Director of the Yale Center for the Study of Globalization.
- The topic of planetary health is increasingly incorporated in a variety of activities and events.
  - In October, UNFCCC Momentum for Change will recognize and showcase four [novel Planetary Health solutions](#) developed by communities, cities, companies, non-governmental organizations (NGOs), and other institutions that balance the need for healthy communities with stewardship of natural ecosystems.
  - In December 2017, The United Nations University's International Institute of Global Health will announce the annual [Planetary Health Film Prize](#) winner, which will focus on challenges to human health and natural systems, and clearly identify solutions that can be implemented at a local or global level.
  - In January 2018, the Smithsonian National Museum of Natural History will launch the "[Outbreak](#)" exhibit with the goal to raise awareness and understanding about the linkages between the health of humans, animals, and the environment.

## Ways to Get Involved

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Opportunities to engage with the planetary health community.

### Join or support planetary health-related networks and alliances:

- The [Bridge Collaborative](#) engages over 150 experts from the development, health, and environment communities, and works across these sectors to increase impact.
- Global Health Corps is looking for Planetary Health [Placement Organizations](#) for the 2018-2019 fellowship year. They seek partnerships with dynamic, innovative organizations that are committed to pursuing health equity, while improving health services delivery in the communities in which they work.
- Future Earth's [Health Knowledge-Action Network](#) brings together researchers from diverse fields and sectors to promote integrated research of the complex interactions between a changing global environment and the health of human beings.
- The [Planetary Health Alliance](#) joins together more than 70 universities, NGOs, government entities, and research institutes committed to advancing the concept of planetary health.

### Subscribe to, read, and share planetary health-related journals:

- [Anthropocene](#)
- [GeoHealth](#)
- [The Lancet Planetary Health](#)



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