

## Cross-cutting principles for planetary health education



Since the 2015 launch of the Rockefeller Foundation *Lancet* Commission on planetary health,<sup>1</sup> an enormous groundswell of interest in planetary health education has emerged across many disciplines, institutions, and geographical regions. Advancing these global efforts in planetary health education will equip the next generation of scholars to address crucial questions in this emerging field and support the development of a community of practice. To provide a foundation for the growing interest and efforts in this field, the Planetary Health Alliance has facilitated the first attempt to create a set of principles for planetary health education that intersect education at all levels, across all scales, and in all regions of the world—ie, a set of cross-cutting principles.

These 12 cross-cutting principles (panel) are envisioned to be a set of core messages that every educator teaching planetary health at any level should strive to impart upon their students. These principles of planetary health education will act as overarching and wide ranging guiding themes for any educational setting, rather than as specific and measurable objectives that are audience dependent. These principles are intended to act as a base for curricular development and as a tool to guide education efforts in this emerging field; however, they should not be considered to be all-encompassing principles or equally important across all educational settings. Incorporating these principles into planetary health education efforts around the world should allow for a shared basis of

### Panel: 12 cross-cutting principles

#### 1 A planetary health lens

Many global challenges come into sharper focus when they are viewed with the idea of planetary health in mind. Equipping students with what we have called a planetary health lens will enable them to have an understanding and appreciation of the crucial linkages, cause–effect relationships, and feedback loops between environmental change and human health. Through this lens, students will be able to recognise and explore how human stewardship of the Earth is a primary determinant of future population health.

#### 2 Urgency and scale

The field of planetary health is driven by the scale of environmental change, its effects on human health, and the urgency with which the global population must respond. Students should be able to examine the complexity of interactions between the geographical scale, temporal scale, socioeconomic factors, and political and cultural context that shape specific challenges to and potential solutions for sustainable human health outcomes.

#### 3 Policy

Planetary health is intrinsically policy oriented. By quantifying the effect on human health effects of anthropogenic environmental changes and communicating them to stakeholders at many levels, collaborative work can be done across sectors to identify policies and practices, both local and global, to protect and improve the health of global populations. A familiarity with the evidence gaps and policy applications of planetary health research, and an appreciation for agencies at the individual and community level are key for a meaningful and context-specific translation of research into policy and action.

#### 4 Organising and movement building

Students should develop an understanding of the role that organising in the community and movement building has in the political process both locally and globally. They should have an appreciation for the influence of a so-called bottom-up approach to policy change, and that the capacity to mobilise and manage resources and people power is key when considering solutions to challenges in planetary health.<sup>2</sup>

#### 5 Communication

Challenges in planetary health are complex, spanning different disciplines, sectors, geographical regions, cultures, and scales; therefore, effective and meaningful communication across these arenas is needed, with a focus on translating planetary health science. Students should develop an understanding of the variety of communication methods available and how to select the best suite of tools as they work to convey the challenges and solutions of planetary health to diverse audiences. An appreciation for the importance of listening as a part of effective communication is vital.

#### 6 Systems thinking and transdisciplinary collaborations

An understanding of planetary health necessitates engaging with many disciplines and stakeholders to understand and propose solutions to complex challenges. Thus, the incorporation of systems thinking and knowledge integration into curricula is essential to better equip students to collaborate across disciplines and develop sustainable solutions for the challenges of planetary health that overcome existing gaps in research design and associated policy development.

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### 7 Inequality and inequity

Understanding the differences between equality and equity in theory and practice, and concepts of marginalisation, vulnerability, resilience, and who benefits and is harmed in a given scenario, is a core objective of planetary health teaching. Since the effects of environmental change on human health are heterogeneous and mediated by factors such as geographical scale, temporal scale, socioeconomic factors, and political and cultural context, students should think critically about whose health is at stake and how it is measured.

### 8 Bias

Students should be able to think critically about whether political, social, or economic dynamics could be driving the presentation and perceptions of environmental change and the resultant health effects. They must learn to identify potential biases in planetary health research and be aware of the vested interests of different stakeholders both in support of and against the factors that affect the connection between environmental change and human health.

### 9 Governance

Governance is the high-level strategy used by a leader or leadership team in their processes of decision making and implementation. It is the ability to turn capacity into action and generating the capacity when it does not exist. Governance requires dealing with institutional issues, managing political interests, and making leadership more effective. Students should understand and be able to provide some examples of how challenges in planetary health can be created or aggravated by the failures of governing bodies to cooperate across populations, regions, and boundaries, especially where effective cooperative mechanisms are not yet established.

### 10 Unintended consequences

Students should appreciate that surprising and unexpected consequences of environmental change, both positive and negative, are inevitable. Students should understand the role and predictive limitations of impact assessments and recognise that how the Earth's changing biophysical conditions affect human health will continue to be a surprise. This systemic uncertainty requires a shift in government, corporate, and community mindsets to allow for increased adaptive capacity, and an emphasis on programmes that increase socioecological competence, community resilience, and sustainability.

### 11 Global citizenship and cultural identity

A global citizen is someone who sees themselves as part of the international community and whose actions help define the community's values and practices. If students can realise their own cultural identities and recognise their inherent membership in both their local and global communities, they have the opportunity to help define the values and practices of the next generation to positively affect those communities.

### 12 Historical and current global values

An understanding of the past is necessary to solve the problems of the present. To grasp the necessity and urgency of planetary health, students need to be aware of the historical perspectives and milestones that have laid the foundation for the field, including those perspectives that have been historically marginalised or ignored. To identify opportunities for positive interventions, students must recognise patterns over time and appreciate current global context.

understanding across disciplines, geographical regions, and cultures teaching planetary health. The cross-cutting principles were established through a series of five interactive sessions with the 137 members of the Planetary Health Education Brainstorm Group who are from all over the world and involved in education efforts at the intersection of health and environmental change (appendix).

The continued growth and development of planetary health education will build upon these cross-cutting principles, identify core principles that might be missing, and will require future efforts to identify global standards that ensure quality and consistency in educational content for students learning about planetary health at all levels of education. We invite educators around the world to engage with this content, share their input and teaching resources, and connect

with the broader planetary health community as they work to bring planetary health into their classrooms.

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- 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 Ganz M. Leading change: leadership, organization, and social movements. In: Nohria N, Khurana R, eds. *Handbook of leadership theory and practice: a Harvard business school centennial colloquium*. Boston, MA: Harvard Business Press, 2010: 527–68.

See Online for appendix