

## BRIEF REPORT

# Planetary health pedagogy: Preparing health promoters for 21st-century environmental challenges

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Email: [teresa.capetola@deakin.edu.au](mailto:teresa.capetola@deakin.edu.au)**Handling editor:** Sue Devine**Abstract**

**Issue addressed:** Multiple interconnected drivers threaten the health and wellbeing of humans and the environment, including biodiversity loss, climate change, pollution, rapid urbanisation and displacement. This requires enhanced literacy on health of the environment and innovation in problem conceptualisation and cross-sectoral solutions. Contemporary mandates (eg, Ottawa Charter) task health promoters to tackle the human and environmental health crisis. To address the complex determinants across multiple settings, health promotion graduates require competencies in interdisciplinary collaboration grounded in systems thinking. They also require knowledge and agility to leverage multiple gains from health promotion action that benefits people and planet. Similarly, health promotion practitioners are currently aware of the need for skills to deliver co-benefits to people and planet. Planetary health, as theory and framework, provides a socio-ecological focus, systems thinking approach, co-benefits framework for action and foundational basis to enhance health promotion graduates' skills and competencies to address multiple health and planetary challenges. To date, there have been limited practical attempts to address these challenges.

**Method:** A desktop review and synthesis of teaching and learning scholarship in planetary health were coupled with iterative critical reflections of teaching practice, and the use of two case studies, to illuminate innovations in health promotion competencies.

**Results:** Two examples of how planetary health promotion challenges are addressed through teaching and learning scholarship are presented to illustrate the use of a tailored sustainability tool and a deliberative interdisciplinary approach to collaboration, delivered within a course that constructively aligns curriculum content and assessment.

**Conclusion:** A bespoke model, the Sustainability Wheel of Fortune, combined with constructive interactive teaching approaches, adds interdisciplinary collaboration and systems thinking approaches to the knowledge and practice of planetary health.

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A postgraduate microcredential fast-tracks knowledge and skills acquisition for recent graduates and established practitioners interested in upskilling for planning planet and population health co-benefits.

**So what?:** The Sustainability Wheel of Fortune provides health promotion students with a model for understanding, and addressing, complex global and local challenges. The microcredential builds on health promotion competencies to develop interdisciplinary and systems-based approaches to planetary health challenges.

#### KEYWORDS

climate change, health promotion, higher education, pedagogy, planetary health, sustainability

## 1 | CLIMATE, ENVIRONMENT AND HEALTH

Climate change, environmental degradation, biodiversity and habitat loss, natural resources exploitation and pollution, are major environmental issues impacting the health of people and the planet.<sup>1</sup> They also contribute to zoonotic diseases, including the current COVID-19 pandemic, linking human activity, such as habitat destruction, with both emergence and re-emergence of infectious diseases.<sup>2,3</sup> Combined, these are significant global health challenges, and opportunities, for the 21st century.<sup>4</sup> Australia is vulnerable to climatic changes, as witnessed by recent, extensive and devastating droughts, bushfires, floods and extreme weather events.<sup>4</sup> This has led to unprecedented loss of human and animal life, destruction of homes, civic and rural infrastructure and devastation of the natural environment.<sup>5,6</sup> Specific physical health implications include respiratory illness<sup>7</sup> as well as mental health impacts.<sup>8</sup> Preconditions for good health, such as food, water, air, shelter and peace, the ecological determinants of health<sup>9</sup> are impacted by environmental disruptions and have direct and indirect consequences for human health in the immediate and longer term. The aim of this paper is to offer two case studies for augmenting health promotion skills and competencies to meet ecologically mediated health challenges in the 21st century: the Sustainability Wheel of Fortune (Wheel) and a postgraduate microcredential on planetary health.

## 2 | PLANETARY HEALTH

Planetary health is a contemporary transdisciplinary field connecting the viability of Earth's natural systems with the health of its inhabitants.<sup>10</sup> Planetary Health ensures the health of present and future generations through intergenerational and intragenerational equity and justice.<sup>11</sup> It values Indigenous and local knowledges, as demonstrated by the International Union for Health Promotion Education's recognition of the Waiora Indigenous People's Statement for Planetary Health and Sustainable Development.<sup>10,12</sup> Health promotion, as practice and a conceptual model for population well-being congruent with the natural world, is aligned to a planetary health approach.

The Ottawa Charter for Health emphasises the fundamentals for good health.<sup>13</sup> Health promotion is grounded in principles of social justice and equity, understanding that disenfranchised and marginalised communities have compromised access to the foundations for well-being, are most exposed to deleterious health impacts and require focused action through *advocacy, mediation and enabling*.<sup>13</sup> These tenets are emphasised in recent declarations such as The Geneva Charter for Wellbeing,<sup>14</sup> and the 2030 Agenda for Sustainable Development.<sup>15</sup>

## 3 | HEALTH PROMOTION PROFESSIONAL STANDARDS AND CORE COMPETENCIES

Professional standards and core competencies for health promotion hold health promoters in good stead for a planetary health approach to sustainable development. The cyclical method of *Research, Needs Assessment, Planning, Implementation and Evaluation*<sup>16</sup> speaks to continuous and reflexive approaches to health promotion action, necessary for systems thinking. Moreover, *ethical values*<sup>16</sup> underpin the social justice and equity inherent in a planetary health framework. Health professionals *advocate, mediate and enable*,<sup>16</sup> crucial skills for transformation to a just and sustainable society and healthy planet.<sup>10</sup>

Despite the solid basis in health promotion principles, further skills and knowledge are required to meet the health and environmental issues of the 21st century within a planetary health framework. Global health care movements have asserted a need for health professionals to not only augment skills and knowledges for ecological-mediated challenges, but to politically mobilise through social, economic and environmental advocacy for urgent and major reforms.<sup>17</sup>

Health promoters require augmentation of their *health promotion knowledge base*<sup>16</sup> to emphasise environmental impacts on health, including biodiversity, climate change and pandemics. Co-benefits to people and planet of socio-ecological informed health programs need to be modelled.<sup>18</sup> Articulation of systems thinking in training and education is needed to enhance interdisciplinary thinking and collaboration for intersectoral action, and the capacity to adapt and respond to an increasingly volatile and unpredictable world.<sup>19</sup> These enhancements to health promotion competencies and skills call for

**FIGURE 1** The Sustainability Wheel of Fortune. A five-segmented visual representation of key knowledges and approaches required for transformative and interdisciplinary education for sustainability



transformative, integrative, interdisciplinary, systems-based and inclusive approaches to health promotion education.<sup>20</sup> The program outlined below provides the epistemological framework for thinking and action on planetary health while the microcredential supports an interactive platform for the pedagogical processes of planetary health.

#### 4 | PEDAGOGIES, TEACHING AND LEARNING APPROACHES

Universities are crucial in the transformation needed to address urgent climate change and other environmental challenges.<sup>19–22</sup> To build students' commitment to planetary health approaches requires pedagogical, learning and teaching approaches which engage students in active learning and reinforce the fundamental tenets of a transformative, interdisciplinary and systems-based paradigm, especially in a pandemic-influenced world. A posthumanistic education for sustainability inserts relational and constructive elements to knowledge acquisition and skill development, rather than privileging humans as its epistemological centre.<sup>23</sup> Following this pedagogy students should be encouraged to explore their interdependence, embeddedness and interconnections with the natural world.<sup>23</sup> Critical holistic pedagogical approaches demand interdisciplinarity when considering environmental factors,

such as how economic, historical, cultural and political issues influence the environment and health.<sup>24</sup> A constructivist pedagogy transcends the traditional passive learning model to promote active learning, engagement and solutions-driven assessment with real-world environmental issues.<sup>25</sup> This should be coupled with a social constructivist pedagogy which is teacher guided, enquiry-based and facilitates cooperative learning.<sup>25</sup> Interactive activities should also be designed to disrupt intractable assumptions and to inform curriculum development, assessment and teaching and learning styles.

#### 5 | SUSTAINABILITY WHEEL OF FORTUNE

To meet the above requirements, the Sustainability Wheel of Fortune (Wheel) (Capetola and Noy 2015)<sup>26</sup> was developed. The Wheel is a novel, bespoke resource supporting constructive alignment in teaching for transformative sustainability learning in higher education, as can be seen in Figure 1.<sup>26</sup> It is embedded in both an interdisciplinary undergraduate unit of study (Creating Sustainable Futures) and the postgraduate planetary health microcredential Promoting human and planetary health: tools for a sustainable future, at Deakin University.<sup>26</sup>

The five-segmented Wheel, developed to provide a dynamic infographic framework for conceptualising sustainability, embodies the

cyclical and interconnected nature of complex challenges and highlights key actions and conditions needed for sustainable futures. It challenges the dominance of static and tripartite definitions and frameworks such as Three Pillars (economic, environment, social) and is a visual prompt for cyclical, iterative and reflective practices and knowledge in planetary health education.<sup>26</sup> The Wheel echoes current health promotion competencies and professional standards but foregrounds interdisciplinary collaboration and systems thinking as fundamental to meeting current environmental challenges within a planetary health framework. Moreover, the Wheel provides students with concise and visual representations of key foci and processes required to develop visions and solutions to 21st-century health and environmental challenges. For example, *interdisciplinary collaboration* and *systems thinking* point to processes and thinking to drive socio-ecological solutions, while *social justice and equity* frames thinking within an epistemological context. *Limit climate change* and *ecosystem health* emphasise not only where action needs to occur but reinforce a planetary health perspective. While the Wheel contains distinct segments, they are mutually reinforcing, enabling learners with not only key processes and content, but a conceptual model of holistic, interconnected elements and approaches to tackle contemporary challenges.

The Wheel provides a focus for aligning curriculum content with assessable competencies, skills and knowledge. One segment of the Wheel is presented each week, introducing new content, using interactive class activities to consolidate learning. Assessment is grounded in both the Wheel's content and approaches, for example, interdisciplinary groups develop a vision for sustainable 2060 utilising system thinking approaches incorporating social justice and equity principles and demonstrable human and planetary health co-benefits. For many health students, the Wheel's emphasis on healthy ecosystems and biodiversity develops new knowledge that shifts their focus beyond climate change and resource overuse to a more sophisticated understanding of safeguarding the planet. For detailed information on the socio-ecological approach and key concepts of the Wheel segments, refer to Noy et al.,<sup>26</sup> table 1, pp. 861–862.

## 6 | PLANETARY HEALTH MICROCREDENTIAL

Microcredentials are increasingly popular, effective and efficient methods for facilitating rapid and timely professional development and capacity building for professionals in their field of work, as well as supporting career moves. For current health promotion practitioners dealing with escalating and intensifying impacts of environmental and climatic events to human health in a pandemic context, microcredentials are an ideal platform for planetary health education. The planetary health microcredential offers a flexible 6-week unit of study and utilises the Wheel to inform curriculum content and approach, culminating in a real-world assessment task. The learning objectives reflect the holistic Wheel approach, and include

*analysis of climate change and environmental degradation challenges for human health and opportunities for integrating health and nature in health promotion initiatives and development and application of models and analytical tools for human and planetary health co-benefits.* In an online environment, written responses to questions (comment board) and personal reflection are encouraged. Quizzes, activities and regular seminars and recordings with industry partners engender engagement. Personal reflection and weekly activities contribute to the assessment task.

Systems thinking and interdisciplinary collaboration are interlinked and central to both courses of study. In the face-to-face interdisciplinary classroom, students are encouraged to interrogate their own and others' disciplines and explore issues weekly in interdisciplinary teams. Online in the microcredential, students analyse their own and other disciplines; for their assessment task, they use this critical skill to identify the range of disciplinary skills and professional inputs needed for their project.

Students learn about systems thinking by working through case studies that demonstrate systems thinking, by understanding and being able to describe key elements of systems and systems thinking and engaging with complex sustainability problems. Appreciating multiple perspectives further develops systems thinking.

Continuous unit evaluation, including bespoke evaluation assessing interdisciplinary competencies, has shown positive findings.<sup>27</sup> Undergraduate students reported gaining confidence and skills to contribute to future interdisciplinary collaboration, as well as valuing the process and pedagogy used to promote interdisciplinary collaboration and awareness.<sup>27</sup> Preliminary feedback collected from microcredential students through a guided reflective assessment task and unsolicited communication indicates the unit has contributed to building their planetary health promotion practice.

## 7 | CONCLUSION

The Geneva Charter for Wellbeing is a recent and critical global mandate for the health sector and calls for present and future equitable health action while remaining within planetary boundaries.<sup>14</sup> Evidence from the sector demonstrates the multiple co-benefits of planetary health approaches. Health students and professionals grappling with complex problems are embracing tools to help them operationalise planetary health. Systems thinking underpins the concept of planetary health and interdisciplinary collaboration is vital to the action plan. Responsive, interactive pedagogy delivered through a variety of platforms which emphasise interdisciplinary action and systems thinking, will equip the sector to contribute to healthy people and a healthy planet, now and into the future.

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**CONFLICT OF INTEREST**

The authors declare no conflict of interest.

**DATA AVAILABILITY STATEMENT**

Data sharing is not applicable to this article as no new data were created or analysed in this study.

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