

**Title: AMEE Consensus Statement: Planetary Health and Education for Sustainable Healthcare**

**Short title: Planetary Health Education: A consensus**

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# AMEE Consensus Statement: Planetary Health and Education for Sustainable Healthcare

## Purpose of the Consensus Statement

The purpose of this Consensus Statement is to provide a global, collaborative, representative and inclusive vision for educating an interprofessional healthcare workforce that can deliver sustainable healthcare and promote planetary health. It is intended to inform national and global accreditation standards, planning and action at the institutional level as well as highlight the role of individuals in transforming health professions education.

Many countries have agreed to ‘rapid, far-reaching and unprecedented changes’ to reduce greenhouse gas emissions by 45% within 10 years and achieve carbon neutrality by 2050, including in healthcare ([Intergovernmental Panel on Climate Change 2018](#)). Currently, however, health professions graduates are not prepared for their roles in achieving these changes. Thus, to reduce emissions and meet the 2030 [Sustainable Development Goals](#) (SDGs) (United Nations General Assembly 2015), health professions education must equip undergraduates, and those already qualified, with the knowledge, skills, values, competence and confidence they need to sustainably promote the health and well-being of current and future generations, as well as that of the planet.

The current imperative for action on environmental issues such as climate change requires health professionals to mobilize politically as they have before, becoming strong advocates for major environmental, social and economic change. A truly ethical relationship with our fellow citizens and the planet that we inhabit so precariously, and to guarantee a future for the generations which follow, demands nothing less of all health professionals.

This Consensus Statement outlines the changes required in health professions education, approaches to achieve these changes and a timeline for action linked to the internationally agreed SDGs. It represents the collective vision of health professionals, educators and students from various health professions, geographic locations and cultures. ‘Consensus’ implies broad agreement amongst all individuals engaged in discussion on a specific issue, which in this instance, is agreement by all signatories of this Statement developed under the auspices of the Association for Medical Education in Europe (AMEE).

To ensure a shared understanding and to accurately convey information, we outline key terms in a glossary which accompanies this Consensus Statement (Appendix 1). We acknowledge, however, that terms evolve and that different terms resonate variably depending on factors such as setting and audience. We define *education for sustainable healthcare* as the *process of equipping current and future health professionals with the knowledge, values, confidence and capacity to provide environmentally sustainable services through health professions education* (Walpole and Mortimer 2017) We define a *health professional* as a *person who has gained a professional qualification for work in the health system, whether in healthcare delivery, public health or a management or supporting role* and *education* as ‘*the system comprising structures, curricula, faculty and activities contributing to a learning process*’. This Statement is relevant to the full continuum of training – from undergraduate to postgraduate and continuing professional development.

## Introduction

For millions of years, the Earth has sustained a diversity of life on land and sea. Since the industrial revolution, human development has harnessed the power of fossil fuels and other natural resources and rapidly reshaped environments to meet our needs. The scale of urbanization, industrial agriculture and anthropogenic carbon emissions has, however, led to a range of global environmental changes, including deforestation, biodiversity loss, ocean acidification and air, water and soil pollution and climate change (Frumkin and Haines 2019; Barna et al. 2020) – collectively referred to in this Statement as *ecological crisis*.

Industrialization was generally enabled by Western nations exploiting the Global South, in the form of colonization, mass enslavement and even genocide (Lewis and Maslin 2015). Present-day ecological crises that undermine the health of people across the globe are rooted in the practices of colonialism and capitalism, in particular the 16<sup>th</sup> century colonization of the Americas, where the trans-Atlantic enslavement of people and the homogenization of agriculture gave birth to plantation economies and global trade (Sealey-Huggins 2017). Over the past four centuries, the beliefs justifying the superiority of some humans over others also justified the exploitation of the planet's natural systems. This violence lies at the foundations of contemporary global society and at the root of health inequality. As such, the global ecological crisis we face has its roots in, and perpetuates, deep ecological and social injustice. Furthermore, the ecological crisis will disproportionately impact vulnerable groups such as those in the Global South, Indigenous Peoples and people of color (Thomas et al. 2019). Thus, the ecological crisis is deeply intertwined with issues of inequity and human rights.

Humanity now faces an ecological crisis that threatens the ecosystems on which we rely. The human population is expected to increase to 8.6 billion people by 2030 and nearly 10 billion by 2050 (United Nations 2017), with concomitant social and economic development increasing demand on natural resources. We have been “mortgaging the health of future generations” (Whitmee et al. 2015; p.1973), expending resources at a far greater rate than they can be replenished in nature, bringing us to a present which has been termed the Anthropocene (Lewis and Maslin 2015; Weidmann et al. 2020).

To limit global warming to 1.5 °C, as *per* [the Paris Agreement \(United Nations 2015\)](#), greenhouse gas emissions must be reduced by 45% (from 2010 levels) by 2030 and to net zero by 2050 ([IPCC 2018](#)). A 0.5 °C of warming (i.e. from 1.5 °C to 2.0 °C) is expected to result in increased risks to health, food security, water supply, human security and livelihoods. Climate change can increase the frequency of flooding, heat waves and natural disasters, all of which cause injury and disease and may directly impact healthcare facilities. For Höhne and colleagues (2020), a wasted decade has shortened the timeframe to act: “*In 2010, the world thought that it had 30 years to halve global emissions of greenhouse gases. Today, we know that this must happen in ten years to minimize the effects of climate change*” (p. 25).

Health systems are responsible for about 4.4% of the world's greenhouse gas emissions (Health Care Without Harm 2019). Healthcare is also responsible for a broader environmental impact of between 1% and 5% of the total global impact and more than 5% for some national impacts (Lenzen et al. 2020). Healthcare thus contributes to ill-health through emissions, which cause climate change and other environmental impacts including air pollution (e.g. through waste incineration) and water pollution (e.g. through pharmaceutical waste) (Eckleman and Sherman 2018; Health Without Harm 2019; Lenzen et al. 2020). The health professions

therefore have a moral obligation to take action to reduce the environmental impacts of healthcare provision. As well as working to mitigate further environmental degradation, health professionals will need to develop climate resilient healthcare facilities (WHO 2020) – equipped to anticipate, respond to and adapt to climate impacts already underway such as altered patterns of disease, threats to infrastructure due to changing weather patterns and psychological impacts. These will require ambitious and clear plans, with flexibility to monitor progress and adapt as circumstances change.

### *Planetary health solutions*

There are many cultural models for living in harmony with the Earth, whilst also meeting humanity's needs. Indigenous People across the world have long acted as custodians of the environment, recognizing the interconnectedness of all living things, including the impact of all elements of the planet on well-being, health and spirituality. Western medical practice, often focused on the biomedical model, has neglected this traditional Indigenous wisdom, wisdom which can enhance our ability to promote planetary health and ability to deliver education for sustainable healthcare. Planetary health pertains to the interdependent vitality of human and earth systems, both biological and socially constructed. Education for sustainable healthcare necessarily incorporates planetary health principles. Indigenous populations have long held conceptions of planetary health (*Indigenous traditional knowledge*) and the interconnectedness of all beings on the planet (Redvers et al. 2020). Planetary health is inclusive of all species and environments and emphasizes equally 'all that is known about the world around us and how to apply that knowledge in relation to those beings that share the world' (Bennett et al. [2014](#), p. 301)

Whilst each country has a unique context with regard to Indigenous Peoples and colonialist history, an increased focus on the interdependence of all life on Earth has application to health professionals across the world. This focus ensures a health workforce that is informed about the interdependence of ecosystems and health, prepared to tackle social and ecological injustice and inequities and possesses the skills, values and capabilities to respond.

Recognizing that development must protect and promote human rights and be equitable and environmentally sustainable, the United Nation's 2030 Sustainable Development Goals (SDGs) provide a framework for action at all levels – global, national, institutional and individual. As the 'Accelerating Education for the SDGs' Report describes, universities play a vital role in helping society to meet the 2030 target (Sustainable Development Solutions Network 2020). Universities can facilitate 'Education for the SDGs' by equipping students with the knowledge, skills and motivation necessary to tackle complex problems that we face as a society, such as the ecological crisis. They can also motivate learners to become active agents in working towards a sustainable future (Box 1).

### **INSERT BOX 1 HERE**

To ensure a sustainable existence, we must address inequalities, respect human rights and become stewards of our planet's limited resources. Raworth's (2017) 'Doughnut model' is useful for depicting the social and ecological boundaries that encompass human well-being which need to be preserved to promote 'a safe and just space for humanity' (Figure 1). This

requires us to challenge existing power structures that often perpetuate overuse of resources and exacerbate inequalities. For health professionals specifically, the values enshrined in the human rights discourse have the potential to lead the way within the social foundation necessary for the health of our planet.

**INSERT FIGURE 1 HERE**

### *Role of health professionals*

There is a growing recognition among health professionals that the current ecological crisis poses a major threat to human health and well-being. Many health professional bodies have responded by declaring a climate crisis or emergency (e.g. [WONCA World Organization of Family Doctors](#), [Environmental Physiotherapy Association](#) and [International Council of Nurses](#)) and calling for environmental sustainability and resource stewardship in healthcare (e.g. the [World Medical Association](#) and the [Australian Medical Association](#)). Many health professionals and their organizations are calling for action, including developing the evidence base on the interactions between environmental change and health, reducing negative environmental and health impacts of health systems, educating professionals, educating the public, lobbying policymakers and preparing health systems to manage the direct impacts of the ecological crisis (e.g. [the WHO 2020 Guidance for Climate Resilient and Environmentally Sustainable Health Care Facilities document](#)).

Health professionals can drive social and policy change (Haines and Ebi 2019) as they are generally highly trusted ([Gallup poll 2019](#)) and have influence at all levels of society. With trust comes responsibility to influence wisely and lead effectively, which requires collaborative engagement beyond individual actions, thus “*Health professionals will be called on to engage as humble, informed, and trusted partners in the collective, boundary-crossing effort of transforming practices and structures to better sustain the health and well-being of all life, including our own*” (Parkes et al. 2020; p. 4).

Education has been identified as having an essential role in attaining the Sustainable Development Goals and stabilizing the Earth’s climate by 2050 (Otto et al. 2020). Consequently, we must rapidly mobilize health professions educators to deliver education for sustainable healthcare. Setting targets, developing indicators, and measuring and monitoring progress can help achieve change across the sector.

This Consensus Statement explores how the health professions can and must prepare the health workforce, including healthcare leaders, to deliver on this agenda. In a recent survey of the inclusion of climate change and air pollution in the medical curricula in more than 100 countries, only 15% of medical schools had included climate change and even fewer had incorporated air pollution (El Omrani et al. 2020). These omissions further highlight the urgency as education is considered one of the important tipping points for action (Otto et al 2020; McLean et al. 2020).

### **Vision for education for sustainable healthcare**

*The “responsibility for planetary health requires us to relinquish conventional professional, societal, and cultural partitions and to develop contextual coalitions based both on science and broader cultural narratives” (Prescott and Logan 2018; p. 3).*

The overarching education for sustainable healthcare vision is one in which positive changes to education, healthcare, public health and planetary health are achieved through collective, collaborative, non-hierarchical and inclusive commitment and action. Our vision for education for sustainable healthcare emphasizes ecological accountability through environmental stewardship - (care-taking) of the living planet - by health professionals and health and education institutions. It respects Indigenous knowledge in terms of the link between people and the planet. Education for sustainable healthcare needs to ensure a health workforce that is informed about the interdependence of the ecosystems and health, possesses the skills, values and capabilities to drive change and is mobilized and motivated to foster change.

In this Consensus Statement, we affirm the duty of all health professionals to protect and promote health of both the planet and all of its inhabitants in the context of humanity’s complete dependence on the ecosystems within which we live (Prescott et al. 2018). We support learning that equips health professionals to meet this duty. We acknowledge that Indigenous People across the world have long acted as custodians of the environment, recognizing the interconnectedness of all living things, including the impact of all elements of the planet on spirituality, well-being and health. In line with this approach, health professions educators need to highlight the complex challenges related to the ecological crisis and how human lives and well-being are directly dependent upon the natural world.

Education for sustainable healthcare practices are synergistic with promoting planetary health (Prescott et al. 2018). Shared, evidence-informed practices can advance health and environmental sustainability, reduce health inequalities, minimize the environmental footprint of health systems and strengthen populations’ resilience to environmental change, thereby contributing to overall wellness for our communities while ensuring the continued existence of all living organisms. For practitioners to be cognizant of and responsive to planetary health requires not only relevant knowledge and skills, but also values. Education for sustainable healthcare engenders these values, such as prioritization of health equity, human rights and respect for life and ecosystems. Figure 2 depicts the vision for education for sustainable healthcare where knowledge and values inform practices, informed by Indigenous perspectives and part of a wider planetary health paradigm.

**INSERT FIGURE 2 here**

This vision and Consensus Statement are guided by Indigenous traditional wisdom and connection to nature, informed by evidence on the safe operating space for humanity and Raworth’s doughnut (Figure 1) and shaped to align with the internationally agreed SDGs (Box 1). This developing education for sustainable healthcare vision is part of a growing positive response to the ecological crisis that we are currently experiencing. It outlines some important directions for healthcare institutions. We have an increasing need for professionals, citizens and leaders—healers, if you will—who are able to adapt and move quickly to educate both



existing and emerging practitioners to address our collective future and the well-being of our shared home.

### *Enacting the vision*

Our vision for education for sustainable healthcare demands a shift from rhetoric to action. Action requires understanding, acceptance and strategies for leading a major culture change - from the glorification of consumption and economic growth to working towards health and sustainability for all. Education for sustainable healthcare leaders require understanding of organizational behavior and politics in the real world. Education for sustainable healthcare encompasses *environmental accountability* as defined by Pearson et al. (2015), the obligation to ensure that education and research contribute to active development, promotion and protection of environmentally and ecologically sustainable solutions (Boelen et al. 2016). It also aligns with *social accountability*, the responsibility of health education institutions to focus their considerable resources and capacity on the priority health concerns of the societies which they serve (Woollard 2006; Woollard and Boelen 2012; Boelen et al. 2016).

Health professions educators must aspire to *facilitate learning in a very different way* and to incorporate environmental and ecological sustainability into curricula (Walpole et al. 2017). Educators must also nurture transdisciplinary problem-solving to bring disciplines together to design curricula to promote the best possible outcomes for patients, communities and the planet (Schwerdtle et al. 2020). Nurturing knowledge, skill development and values can move learners and educators beyond despair to engagement (Walpole et al. 2015). Today's health professionals must be equipped to respond to local and global environmental changes as urgent threats and address wide-ranging health, healthcare and sustainability challenges (Sterling 2015; UNESCO 2014a). In such an emergency, eco-ethical leadership is required (McKimm and McLean 2020; McKimm et al. 2020).

### *Leadership in a complex world*

Health professionals work in multiple, overlapping, dynamic biological, social and ecological VUCA (*Volatile, Uncertain, Complex and Ambiguous*) systems (Mack et al. 2015), within a nested hierarchy of domains, ranging from the personal to the family, community and national and international levels. In many Indigenous communities, the responsibility to act as stewards for the planet is central (Greenleaf 2008) to pass it on in the best shape to generations who follow (McKimm and O'Sullivan 2016). This responsibility is not new but the current ecological crisis makes it urgent.

To achieve the education for sustainable healthcare vision, an '*eco-ethical*' leadership approach, integrated around environmental and ecological *sustainability, values, collaboration, justice, advocacy* and *activism*, designed to address issues in complex systems must be applied by health professions educators and incorporated in learning (McKimm and McLean 2020). Eco-ethical leadership facilitates meaningful and sustainable change through understanding of how people and systems work and interact to create change. Addressing sustainability issues can cause strong or overwhelming reactions in staff or students, which need to be recognized and directed to appropriate sources of support (Tun 2019). Eco-ethical leadership enables translation of policy and strategy into meaningful action and working with paradox, uncertainty and ambiguity whilst retaining moral purpose (Obolensky 2017).



Eco-ethical leadership must embrace an *inclusive* approach that welcomes diverse cultural views. From an Indigenous perspective, education for sustainable healthcare can be seen as being rooted in the land as a *medicine place*, i.e. a place that brings healing and greater overall well-being (Redvers 2018). Health professions education informed by Indigenous knowledge systems recognizes the interconnectivity of all life on the planet. This calls for inclusive *leadership* skills which cross existing boundaries and domains to foster innovation, effective engagement practices and inclusiveness, while utilizing the strengths of collective intelligence (Kuenkel 2016).

### Engaging faculty

To enact this vision, faculty engagement is essential. Faculty must recognize that addressing environmental and ecological issues is a matter of utmost urgency and should be a core priority for the health service as well as the duty of all health professionals. Sustainability literacy is essential if faculty are to educate for sustainable healthcare, yet environmental concepts may not be familiar to all health professions educators. Faculty development can help prepare and support faculty in assuming their new roles as sustainability educators. Key concepts in sustainability include causes of the ecological crisis, the health impacts and the ethical dimensions, sustainable healthcare delivery and clinical practice (Tun et al. 2020).

As health professional students may already be familiar with environmental issues, through knowledge acquired in their secondary school curriculum or the school Climate Change Strikes. Thus, they are ideally placed to partner with academics not only by helping to integrate sustainability concepts into curricula but also by contributing to faculty development. To this end, student organizations have created resources that can be used for curriculum planning and faculty development, such as the International Federation of Medical Students' Associations' [climate change short course](#) and the Canadian Federation of Medical Students' [planetary health competencies](#). In addition, Tun and colleagues' (2020) recent *Medical Teacher* Special Issue article provides case studies of student contributions to faculty development in planetary health and sustainable healthcare.

Institutional support is also essential. This can include offering continuing professional development and awards for innovation to incentivize progress. Those who develop best practice activities can be involved in training others. Institutions need to 'walk the sustainability talk' and, where possible, promote practices such as virtual and distance learning to reduce the environmental footprint of travel.

Developing a curriculum that incorporates planetary health and sustainable healthcare on campus, in the community and in healthcare settings can enhance faculty satisfaction and self-efficacy (Tun et al. 2020; Brand et al. 2020). Faculty development fosters in-depth learning and a sense of meaningful interaction with others, both of which may improve personal and professional well-being in the face of our climate emergency.

Next, the Consensus Statement explores how health professions education can be adapted to address the urgency of the ecological crisis we are currently facing. It outlines key knowledge, skills and values that health professionals will need to be able practice sustainable healthcare and suggests pedagogies and assessment strategies. We acknowledge, however, that the knowledge, skills and values required to practice sustainable healthcare will vary across the world and by profession.

## Sustainability literacy, skills and values

Drawing on the education for sustainable healthcare vision, this section describes what health professionals need to learn, be able to do and what values they should espouse. While we need to collaborate across health disciplines in line with clinical practice (Schwerdtle et al. 2020), we acknowledge that one size does not fit all and each institution needs to tailor the integration depending on its local needs – ‘think globally, act locally’. The learning outcomes in Table 1 have been adapted from the [Centre for Sustainable Healthcare](#) to include skills and values. Higher order activities, such as ‘apply’ and ‘evaluate’ are essential to ensure learners are prepared to make a difference in the real world (Adams 2015). While it is important for health professionals to acquire and apply knowledge and learn skills and appropriate professional behaviors, it is equally important that educators consider the role of values and emotions. Values-based education helps prepare health professionals to work towards the SDGs. The affective (emotion-based) components of learning and responses to learning (including eco-anxiety) must be supported (Burford et al. 2016; Huss et al. 2020). As the field is constantly evolving, professionals need to actively engage in continuing professional development to ensure life-long learning (Field 2010). Equity and human rights must be central to this framework. There must be an awareness of how the ecological crisis disproportionately affects certain populations, including Indigenous groups, communities of color, the elderly and the young, rural communities, people living with long-term conditions and disabilities and on low incomes.

Below, we offer suggestions and examples of curriculum planning and delivery of education interventions that can be adapted for local contexts. Sustainability should be integrated across all years of the curriculum rather than being a series of stand-alone or add-on elements. A first step to integration is to identify core education for sustainable healthcare learning outcomes and map these to local curricula, professional competencies or other relevant frameworks (NurSus Interim Report 2015; Lopez-Medina et al. 2019, Tun 2019; Table 1). Introducing practical learning experiences in sustainable healthcare early in training emphasizes these concepts and principles as core components of professional identity (Prescott et al. 2018). Given the complexity of the ecological crisis, a transdisciplinary approach to learning is essential (Schwerdtle et al. 2020). This transdisciplinary focus bridges traditional divides between disciplines to ensure collective vision, problem-solving and action.

### **INSERT TABLE 1 HERE**

We thus advocate experiential, transdisciplinary learning that engages individuals in activities that require critical thinking, communication, leadership and change management (Table 2). At its best, education for sustainable healthcare will draw on personal experiences, stimulate discovery, encourage problem-solving and be relevant to learners’ future health professional roles. Learning activities assist with progressing from understanding how the ecological crisis impacts health to creatively addressing problems, including local and global interventions that not only involve adaptation and development of resilience, but also reduce the environmental impact of healthcare through resource stewardship and education of patients on topics such as the co-benefits of exercise and plant-based diets.

## Assessment

Assessment can motivate students to learn (Miller 1990). Thus, to ensure that health professionals gain the essential knowledge and develop the appropriate skills and values to advance sustainable healthcare, assessment must not only be constructively aligned with education for sustainable healthcare learning outcomes, but must be authentic (Gulikers et al. 2004), acceptable, fair and cost-effective (Norcini et al. 2018).

Assessment must test competence in understanding and applying broad and complex planetary health concepts at a global and a local level. Competence in the cognitive (i.e. knowledge) and psychomotor (i.e. manual skills) domains can generally be ‘measured’ using standardized assessment instruments such as multiple-choice questions or Objective Structured Clinical Examinations (OSCEs). Assessment of the complex concepts and the affective domain is more difficult to assess and is generally considered more subjective (Smith et al. 2007). As the global community increasingly faces complex problems that impact on our health and well-being, e.g. ecosystem disruption, climate change, pollution and pandemics such as COVID-19, assessment of competency needs to accommodate creative solutions to these complex problems and differences in values or perspectives.

Thus, to educate fit-for-practice health professionals, assessment not only tests acquisition of knowledge but also its application. Learning is not only about knowing but also about ways of ‘being’. If the aim of assessment is to drive the appropriate learning, then reliability is only critical in ‘high stakes’ scenarios where there are progression implications. Assessment can be more developmental than judgmental (i.e. *for*, rather than *of*, learning). To develop skills and values to mitigate and address planetary health challenges, we need more authentic approaches that allow multiple views of a learner’s progress and also provide opportunities for individual creativity (Feltovich et al. 1993) while fostering the appropriate values (e.g. empathy and advocacy) and behavior (e.g. activism). Finally, assessment communicates what is valued by a profession (Boud 2000).

Professional bodies should include assessment of education for sustainable healthcare learning outcomes. Table 2 provides a range of assessment approaches with suggestions for ensuring students achieve the required competencies in education for sustainable healthcare.

**INSERT TABLE 2 HERE**

## Practical recommendations for implementing and evaluating education for sustainable healthcare

This section presents specific recommendations to enact the education for sustainable healthcare vision, including indicators to monitor progress and a road map for implementation, including specific, time-bound recommendations. Further resources to support implementation are available in Appendix 2.

## Proposed indicators for education for sustainable healthcare

Few targets and indicators for the inclusion of education for sustainable healthcare exist (Madden et al. 2020). Three SDGs include a target and a linked indicator relevant to

education for sustainability (Box 1). An international medical student initiative has recently produced a set of indicators to assess the progress of medical schools in incorporating planetary health (<https://phreportcard.org/our-metrics/>). Other examples of indicators address only one aspect (e.g. climate change) of many environmental changes that impact health and well-being. For example, in Australia, the *MJA Lancet* Countdown recently added a new indicator to monitor *The inclusion of health and climate change in medical curricula* (Beggs et al. 2019). Annual reporting will commence in 2021.

How can targets and indicators help? By measuring and monitoring what we do, we can identify whether strategies and interventions to create change are effective. Well-constructed indicators also provide a tool for communication about progress and can inform change. Indicators, where they exist, can also inform us whether institutions are meeting accreditation requirements for education for sustainable healthcare. Targets and indicators are best refined in consultation with the community of practice (Navi et al. 2017). There is thus a need for engagement of the health professional community to use existing indicators and develop robust indicators to measure and monitor progress.

### **Proposed targets for education for sustainable healthcare**

Table 3 provides recommendations for educators, health education institutions, health professions regulators and health professional organisations. For example, accreditation standards for the regulated health professions should reflect the environment and climate change as a determinant of health and the responsibility of health professionals to practice environmentally sustainable healthcare. Health professional organizations, from trade unions to international organizations such as AMEE, can play a role. Their scope, skills and mandate vary greatly and some or all of the recommendations may be applicable. When organizations develop and enact a plan to reduce the environmental impacts of healthcare, this models good practice and can be an aspect of eco-ethical leadership. ‘Eco-ethical’ leadership also involves embracing and welcoming diverse cultural views, advocacy and role modelling (McKimm and McLean 2020).

**INSERT TABLE 3 HERE**

### **Concluding comments**

Over the year-long development of this Consensus Statement, there has been wide and inclusive consultation across health professions, representing many countries, and reflecting the insights of Indigenous Peoples whose traditional knowledge and voices have largely been marginalized. This Consensus Statement reflects the current situation and is by no means exhaustive. Its primary purpose is to create an awareness of the important role of health professions educators and health professional institutions in advancing environmental accountability and to offer some direction for those who are new to this space. While this Consensus Statement focuses on education for sustainable healthcare, the broader lens of planetary health is particularly relevant to health professionals, to ensure an inclusive, respectful, collaborative, transdisciplinary response to address the ecological crisis currently impacting on our health and well-being as well as that of our planet.

Our health and well-being are dependent on a healthy planet. The window of opportunity to protect our ecosystems is fast disappearing, so urgent, collective, transdisciplinary action is required. The 2020s could be a decade in which we step up action on pressing issues such as a changing climate. While COVID-19 stopped us in our tracks, it has also been a wake-up call. Our relationship with nature is broken and with an increasing but unequal affluence over the past 50 years and our unsustainable impact on the planet's ecosystems, not only our health but also survival is at stake. Given the dependence of human health on ecosystems, there is a need for eco-ethical leaders who can inspire current and future generations of healthcare professionals to become environmental stewards who strive towards a safe and just space for humanity and all of Earth's inhabitants.

### Practice points

- Health professionals must be prepared to deliver system-wide changes to mitigate and adapt to the ecological crisis.
- Education for sustainable healthcare (ESH) includes mainstreaming planetary health as a transversal curricular theme.
- Faculty development, eco-ethical leadership and transdisciplinary and interdisciplinary planetary health action are urgently needed.
- ESH guidance plus ESH learning and assessment resources are already available
- ESH accreditation standards, indicators and progress monitoring are required.

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