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EDITORIAL

Educating for planetary health and environmentally sustainable health care: Responding with urgency

Michelle McLean[a], Trevor Gibbs[b] and Judy McKimm[c]

[a]Faculty of Health Sciences & Medicine, Bond University, Gold Coast, Australia; [b]AMEE, Dundee, United Kingdom of Great Britain and Northern Ireland; [c]Program Director, MSc Leadership for the Health Profession, Swansea Medical School, Swansea, Wales

There is little doubt that 2019 was a defining year on many fronts for the environment. The repercussions of the climate emergency were experienced across the globe, with floods, devastating wildfires, and unprecedented melting of polar ice sheets and glaciers. While the new decade began with the Australian bushfires still raging after the hottest and driest year on record, the world was soon (and still is) in the grip of the COVID-19 pandemic. The research indicates that this virus has mutated from its animal intermediate host and has been able to infect humans, ostensibly from exposure during capture, breeding, and trading of wild animals. As we write this editorial (early July), severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infections have surpassed 11 million, with more than half a million deaths. Although some countries are starting to emerge from months of lockdown in a bid to stimulate faltering economies, the infection rates continue to rise in many parts of the global South and the US. Health systems across the world have been and are still being challenged, raising concerns about the health consequences of weakening public health containment strategies whilst universities and training institutions are struggling to train and graduate the health professionals of the future due to extraordinary pressures in the clinical workplace.

We live in a rapidly changing, complex and uncertain world. What happens in one country or region has repercussions for others. Of great concern to environmentalists, economists, health organisations, and the public, is the threat of the global environmental changes (GECs) such as climate change, biodiversity loss, deforestation, decreasing water, and air quality, on human health, well-being, and even our continued existence (Gupta et al. 2019; Frumkin and Haines 2019). This year (2020) should have been the year of collective action, particularly considering the November 2019 *Lancet* Countdown conclusion: 'Bold new approaches to policy making, research, and business are needed in order to change course. An unprecedented challenge demands an unprecedented response, and it will take the work of the 7.5 billion people currently alive to ensure that the health of a child born today is not defined by a changing climate' (Watts et al. 2019; p. 1838). We should be concerned. In Höhne et al.'s (2020) opinion, our inaction on climate change over the past decade has cost us dearly, shrinking the time left for action to limit global warming by two-thirds or increasing the work required four-fold.

The health professions need to respond with urgency for three reasons. First, health care contributes 4.4% of global greenhouse gas (GHG) emissions (Health Care Without Harm 2019). Second, health care workers will be at the forefront of dealing with the social and health impacts of increasing global GHGs which include respiratory and cardiac problems due to air pollution, as well as poverty, starvation, the resurgence of previously managed infectious diseases, mass dispossession of populations, and increasing cancers due to carcinogenic pollutants. The third reason is that health systems will be disrupted by extreme events, challenging their capacity to deliver services at critical times.

In many countries, as some groups and populations are disproportionally affected by such health impacts, many professionals' roles will need to include diplomacy, mitigation, advocacy, and activism, in addition to clinical, technical, and professional skills (McKimm and McLean 2020). Otto et al. (2020) recently described the *social tipping dynamics* for stabilising the Earth's climate by 2050, identifying *education as a social tipping element* where a disruptive change can lead to a reduction in anthropogenic GHG emissions. Led by educators and the younger generations, the estimated time for education to trigger tipping is 10–20 years. Considering that we have only 10 years to halve our GHG emissions (Höhne et al. 2020), the clock is consciously ticking.

Many national and international health professional organisations have responded to this urgency, declaring a climate emergency and/or publishing environmental sustainability and resource stewardship position statements (e.g. Crowley 2016; Australian Medical Association 2019). The UK's General Medical Council, the regulatory body for undergraduate medical programmes has embedded sustainability in its graduate outcomes (GMC 2018). The Association for Medical Education in Europe (AMEE), a leading health professions organisation, has also responded. Future conferences are planned to be in a blended format to reduce the travel footprint, with attendees being asked to donate towards tree-planting. Paper and plastic will be reduced, and catering will be environmentally sustainable. To engage the health professional community, the virtual 2020 AMEE Conference in September has a sustainable health care education theme. In conjunction, the

CONTACT Michelle McLean mimclean@bond.edu.au Faculty of Health Sciences & Medicine, Bond University, Gold Coast, Australia
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Association has commissioned this interactive Special Issue of *Medical Teacher* and is supporting the development of a Consensus Statement on Sustainable Healthcare Education due for release in early 2021. In addition the AMEE ASPIRE to Excellence in Social Accountability Award now incorporates environmental sustainability criteria.

This Special Issue, written by health professional educators and students from across the globe, provides readers with the Why? What? and How? of educating for environmentally sustainable healthcare education. Drawing on Tun's (2019) definition of sustainable healthcare which 'focuses on the improvement of health and better delivery of healthcare, rather than late intervention in disease, with resulting benefits to patients and to the environment on which human health depends, thus serving to provide high-quality healthcare now without compromising the ability to meet the health needs of the future' (p. 1168), the articles provide international and transdisciplinary perspectives on a range of topics relating to the urgent need to educate current and future health professionals to deal with the complex and 'wicked' problems that our planet is facing and will continue to face if, individually and collectively, we fail to take responsibility for mitigating further degradation.

In the first article, Barna et al. (2020) identify the environmental problems our planet faces and provides recommendations how healthcare can reduce its environmental footprint through planetary health and sustainable health care education. Redvers et al.'s (2020) Indigenous perspective provides a broader conceptualisation of planetary health and health education based on traditional knowledge systems. The historical 'medical model' does not take into consideration other conceptualisations of health and has certainly not considered the intimate relationship humans should have with our natural world. Their message in this time of environmental crisis highlights the need for a less anthropocentric and a more eco-centric view of health and well-being. To achieve this and more inclusive education, Indigenous peoples need to have a 'voice.'

With the scene set, Huss et al. (2020) offer several examples of how to embed sustainable health care education into health professions curricula, including humanistic learning principles, the need for learners to develop self-awareness and how clinicians can bridge the transition from theory to practice in health care. Schwerdtle et al.'s (2020) commentary advocates for transdisciplinary learning in educating for sustainable health care. By collaborating across professions, we can potentially support each other to make the urgent changes that are required.

The next generation of health professionals is acutely aware of what awaits them in clinical practice. Many students have been proactive in advocating for issues around climate (and other environmental) changes to be included in the curriculum. In this issue of *Medical Teacher*, the International Federation of Medical Students Association (IFMSA) summarises its recent research in terms of where climate change and air pollution have been introduced and/or integrated into medical curricula internationally (El Omrani et al. 2020). Their findings are concerning as only about 15% of medical schools across 100 countries have included the health effects of climate change in the curriculum. Even fewer schools have included air pollution in the curriculum, despite 91% of the world's population living in places where air quality exceeds the World Health Organization's (WHO) guidelines (http://origin.who.int/air-pollution/en/).

While many health professions students are well-versed with the consequences of our changing climate, with some being inspired by Greta Thunberg and the #schoolstrike4-climate movement, many educators would welcome guidance. In their article, Tun et al. (2020) not only describe the importance of faculty development for sustainable health care education, but also provide examples where students have added value to faculty development activities.

As educators, our goal is to rapidly expand planetary health and environmentally sustainable health care education globally. Currently, however, we have no means of knowing if we are successful in achieving this goal. Madden et al. (2020) describe how the development of indicators may assist and offer suggestions about what we might measure and monitor.

To wrap up the Special Issue, McKimm et al. (2020) offer their insights on how we might 'get from here to there'. Their commentary builds on the concept of adaptive, collective, and eco-ethical leadership that McKimm and McLean (2020) suggest is needed and explores some of the approaches to steer urgent change in this complex and volatile environment.

As editors of this Special Issue, we hope that *Medical Teacher* readers are inspired to become environmental champions at their institution or in their workplace. We cannot *emphasise* the urgency of the situation and reiterate the words of Watt and colleagues (2019): '…it will take the work of the 7.5 billion people currently alive to ensure that the health of a child born today is not defined by a changing climate'. (p. 1838). Getting this right will involve our collective action as global citizens in an interconnected and ever-changing world.

Disclosure statement

The authors report no conflicts of interest. The authors alone are responsible for the content and writing of the article.

Glossary

Social tipping dynamics: A non-linear mechanism behind disruptive system (natural, socio-ecological, and socio-economic) changes. *Social tipping elements* (e.g. education) can initiate *social tipping interventions* (e.g. incorporating climate change education and engagement in the curriculum). This 'disruption' can then lead to, for example, a reduction in energy and resource consumption patterns in households, institutions, or workplaces. It can also encourage activism around climate change policy. Other social tipping interventions include divestment from fossil fuels (hours), emission information disclosure of products (a few years), and carbon-neutral cities (±10 years).

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commitment and passion have ensured a collection of scholarly articles offering *Medical Teacher* readers practical advice for integrating planetary health and sustainable health care in the curriculum. We would also add to acknowledge Professor Bob Woollard and Dr. Judith Singleton for their assistance with reviewing.

Notes on contributors

Michelle McLean, Ph.D., M.Ed, FAMEE, is a Professor of Medical Education in the Medical Program at Bond University, Gold Coast, Australia. She is currently involved in integrating planetary health across the five years of the MD Program.

Trevor Gibbs, MD, SFHEA, DA. FAcadMED, MMedSc, FRCGP, FAMEE, is a Professor and President of AMEE. His interests lie in curriculum and faculty development, particularly in resource-constrained countries.

Judy McKimm, MBA, MA(Ed), BA(Hons), PGDip (HSW), CertED, FAMEE, SFHEA, FAoME, is Professor of Medical Education and Programme Director MSc Leadership for the Health Professions at Swansea University Medical School, Wales. She writes about leadership and education, runs leadership workshops, and speaks on leadership internationally.

ORCID

Michelle McLean http://orcid.org/0000-0002-9912-2483
Judy McKimm http://orcid.org/0000-0002-8949-5067

References

Australian Medical Association (AMA). 2019. Environmental sustainability in health care – 2019. https://ama.com.au/position-statement/environmental-sustainability-health-care-2019.

Barna S, Maric F, Simons J, Kumar S, McGovern C, Barrow C, Blankestijn P. 2020. Education for the Anthropocene: planetary health, sustainable health care and the health workforce. Med Teach. DOI:10.1080/0142159X.2020.1798914.

Crowley RA. 2016. Climate change and health: a position paper of the American College of Physicians. Ann Intern Med. 164(9):608–610. [accessed 2020 Jul 1]. DOI:10.7326/M15-2766.

El Omrani O, Dafallah A, Paniello B, Amaro B, Taneja S, Amzil M, Sajib M, Ezzine T. 2020. Envisioning planetary health in every medical curriculum: an international medical student organization's perspective. Med Teach. DOI:10.1080/0142159X.2020.1796949.

Frumkin H, Haines A. 2019. Global environmental change and noncommunicable disease risks. Annu Rev Public Health. 40(1):261–282.

General Medical Council (GMC). 2018. Outcomes for graduates 2018. GMC/OFG2018/0618. June 2018. [accessed 2020 May 19]. https://www.gmc-uk.org/-/media/documents/dc11326-outcomes-for-graduates-2018_pdf-75040796.pdf.

Gupta J, Hurley F, Grobicki A, Keating T, Stoett P, Baker E, Guhl A, Davies J, Ekins P. 2019. Communicating the health of the planet and its links to human health. Lancet Planet Health. 3(5):e204–e206.

Health Care Without Harm. 2019. Health care climate footprint report. https://noharm-global.org/documents/health-care-climate-footprint-report.

Höhne N, den Elzen M, Rogelj J, Metz B, Fransen T, Kuramochi T, Olhoff A, Alcamo J, Winkler H, Fu S, et al. 2020. Emissions: world has four times the work or one-third of the time. Nature. 579(7797):25–28.

Huss NM, Ikiugu M, Hackett F, Sheffield P, Palipane N, Groome J. 2020. Education for sustainable healthcare: from learning to professional practice. Med Teach. DOI:10.1080/0142159X.2020.1797998.

Madden DL, McLean M, Brennan M, Moore A. 2020. Why use indicators to measure and monitor the inclusion of climate change and environmental sustainability in health professions education?. Med Teach. DOI:10.1080/0142159X.2020.1795106.

McKimm J, McLean M. 2020. Rethinking health professions' education leadership: developing 'eco-ethical' leaders for a more sustainable world and future. Med Teach. DOI:10.1080/0142159X.2020.1748877.

McKimm J, Redvers N, El Omrani O, Parkes M, Elf M, Woollard R. 2020. Education for sustainable healthcare: leadership to get there from here. Med Teach. DOI:10.1080/0142159X.2020.1795104.

Otto IM, Donges JF, Cremades R, Bhowmik A, Hewitt RJ, Lucht W, Rockström J, Allerberger F, McCaffrey M, Doe SSP, et al. 2020. Social tipping dynamics for stabilizing Earth's climate by 2050. Proc Natl Acad Sci USA. 117(5):2354–2365.

Redvers N, Schultz C, Vera Prince MV, Cunningham M, Jones R, Blondin B. 2020. Indigenous perspectives on education for sustainable healthcare. Med Teach. DOI:10.1080/0142159X.2020.1791320.

Schwerdtle PN, Horton G, Kent F, Walker L, McLean M. 2020. Education for sustainable health care: a transdisciplinary approach to transversal environmental threats. Med Teach. DOI:10.1080/0142159X.2020.1795101.

Tun MS. 2019. Fulfilling a new obligation: teaching and learning of sustainable healthcare in the medical education curriculum. Med Teach. 41(10):1168–1177.

Tun S, Wellbery C, Teherani A. 2020. Faculty development and partnership with students to integrate sustainable healthcare into health professions' education. Med Teach. DOI:10.1080/0142159X.2020.1796950.

Watts N, Amann M, Arnell N, Ayeb-Karlsson S, Belesova K, Boykoff M, Byass P, Cai W, Campbell-Lendrum D, Capstick S, et al. 2019. The 2019 report of The Lancet Countdown on health and climate change: ensuring that the health of a child born today is not defined by a changing climate. Lancet. 394(10211):1836–1878.