

Opening Editorial Special Issue: *Medical Teacher*

Educating for planetary health and environmentally sustainable health care:

Responding with urgency

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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 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 and colleagues’ (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). Secondly, health care workers will be at the forefront of dealing with the social and health impacts of an increase in global GHGs which include respiratory and cardiac problems due to air pollution, 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 disproportionately 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 and co-authors (2020) recently described the *social tipping dynamics* for stabilizing 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 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. 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 and colleagues (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 and colleagues’ (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 and co-authors (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 and colleagues’ (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 (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 just over 100 countries have included the health effects of climate change. 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/airpollution/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 #schoolstrike4climate movement, many educators would welcome guidance. In their article, Tun, Wellbery and Teharani (2020) not only describe the importance of faculty development for sustainable health care education, but also provide examples where students have added or can add 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 and colleagues (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 and co-authors (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.

Acknowledgement

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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 (rapid - hours), emission information disclosure of products (a few years) and carbon-neutral cities (± 10 years).

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