

# Planetary health: a new standard for medical education

The Australian Medical Council (AMC) recently released updates to the National Framework for Prevocational (PGY1 and PGY2) Medical Training and the Standards for Assessment and Accreditation of Primary Medical Programs (medical school standards). Together, these cover all medical school programs in Australia and Aotearoa New Zealand and all accredited prevocational training programs in Australia.<sup>1,2</sup> In a significant development, the standards recognise the health impacts of climate change, the need for environmentally sustainable health practice,<sup>3</sup> and planetary health.<sup>4</sup> This welcome and necessary development comes as climate and environmental health indicators deteriorate. All medical education institutions should now integrate planetary health into curricula to ensure the profession is equipped to respond to the unfolding planetary health crisis and realise environmentally sustainable health care.

## The planetary health crisis

Climate change, biodiversity loss and pollution constitute the triple planetary health crisis that is having profound impacts on human health and wellbeing.<sup>5-7</sup> Adverse health impacts escalate with every increment of global heating.<sup>5,6</sup> The 2023 report from the Intergovernmental Panel on Climate Change declared “There is a rapidly closing window of opportunity to secure a liveable and sustainable future for all”.<sup>6</sup> In 2022, Beyond Blue and the Climate Council found that 80% of Australians reported experiencing an environmental disaster since 2019: 63% heatwaves, 47% flooding, 42% bushfires, 36% drought, and 29% destructive storms.<sup>8</sup> Increasingly severe extreme weather events also affect New Zealanders.<sup>9</sup> Beyond acute injuries and illness, bushfires, floods and storms can devastate communities and leave a longer term legacy of chronic health conditions, homelessness, financial distress, and psychological trauma.<sup>10</sup> Climate change increases inequities as those already experiencing disadvantage are disproportionately affected.<sup>6,10</sup> Extreme heat is responsible for more deaths in Australia than all other extreme weather events combined,<sup>11</sup> and is projected to increase mortality in Aotearoa NZ.<sup>9,10</sup> We are perilously close to the climate tipping points that could see collapse in food stocks and fresh water sources.<sup>6</sup> Biodiverse environments have the potential to mitigate some of these shifts, but ongoing losses are hastening these processes.<sup>7</sup> Pollution directly contributes to climate change and biodiversity loss, and is responsible for 9 million premature deaths globally every year.<sup>7</sup>

Climate change threatens to displace entire communities.<sup>5</sup> For Aboriginal and Torres Strait Islander and Māori peoples whose holistic conceptualisation of health is rooted in connection to Country, geographic dislocation and the loss

of culturally significant sites have profound implications.<sup>12,13</sup> Uncertainty about the future is pervasive, especially among young people who report widespread climate distress negatively impacting mental health.<sup>8</sup>

## Integrating planetary health perspectives: medicine fit for our time

It is time to reorientate the training and practice of medicine to engage with these challenges. We can no longer ignore the broader planetary context that influences the pathogenesis of disease and its prevention and management.<sup>14,15</sup> We must also acknowledge that health care is contributing to the problem. Health care contributes about 7% of Australia’s carbon footprint and generates enormous waste.<sup>16</sup> Simply avoiding health care that is low value or harmful could reduce the sector’s emissions by 40%, and prevent substantial iatrogenic harm.<sup>17</sup>

Planetary health recognises that human health is inextricably linked to the state of the climate and ecological systems, which are increasingly predicated on the actions of human populations.<sup>4</sup> This represents a progression from a biopsychosocial model to a biopsychosocial–ecological model that acknowledges the fundamental role of the environment in the teaching and practice of medicine.<sup>14</sup> It also provides a platform to embed Indigenous knowledges into medical education and practice. Indigenous knowledges provide powerful examples of integrated environmental health management and a basis for the decolonisation of health and health education.<sup>12,18</sup>

Health professionals, academic health institutions and health care services increasingly recognise their role in responding to the health impacts of climate change and environmentally unsustainable practices.<sup>19</sup> Doctors have responded by: providing emergency care following extreme weather events; contributing to disaster preparedness;<sup>20</sup> adapting models of health care to increase climate resilience and reduce emissions;<sup>17</sup> and advocating to government to implement the broader changes needed to secure a healthy and sustainable future.<sup>21</sup> As part of a larger movement of health professionals, these efforts have yielded broad recognition that climate change is a health issue, with ongoing development of a national strategy for climate change and health, adoption of more progressive energy policy, and establishment of Sustainable Healthcare Units in multiple jurisdictions. However, these measures remain piecemeal and insufficient.<sup>21</sup> The pace and scale at which comprehensive change can occur within health systems is limited by the knowledge and skills of the health workforce.<sup>20</sup>

Medical education can make an essential contribution. However, despite much commentary, the task of integrating planetary health into medical training

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largely remains incomplete.<sup>15,22</sup> To achieve the goal of net zero health care, ensure we are equipped to respond to emerging climate–health challenges, and realise the health co-benefits from sustainable living, we need to rapidly implement comprehensive planetary health education at all levels of medical training.

### New standards for planetary health education

Following calls from the medical community including Doctors for the Environment Australia, medical educators, the Australian Medical Association and others,<sup>14,23,24</sup> the AMC has included elements of planetary health in its recent updates to the National Framework and medical school standards.<sup>1,2</sup> The updated medical school standards form the foundation in developing the continuum of planetary health education.<sup>1</sup> They apply the United Nations Brundtland Commission definition of sustainability, “meeting the needs of the present without compromising the ability of future generations to meet their own needs”,<sup>3</sup> and the 2015 Rockefeller Foundation–*Lancet* Commission definition of planetary health: “Put simply, planetary health is the health of human civilisation and the state of the natural systems on which it depends.”<sup>4</sup> The medical school standards definition of sustainability includes “consideration of the environmental, social and economic impacts of decisions about medical programs”, with a particular emphasis on the contribution of these decisions to climate change.<sup>2</sup> They mirror the prevocational standards in requiring sustainability to be considered when ordering investigations and prescribing.<sup>1,2</sup> They also stipulate that graduates should address environmental influences and needs in history taking and whole-of-person care, and attain an understanding of “how clinical decisions for individuals influence health equity and system sustainability”.<sup>2</sup> These standards extend the role of the graduate as a health advocate, beyond an appreciation for environmental health determinants, to include a commitment “to health advocacy to improve access and outcomes for individual patients, and to influence system-level change in a socially accountable and environmentally sustainable manner”.<sup>2</sup> Importantly, the new standards highlight the role of planetary health sciences and informatics in health care, alongside biological, clinical, social and behavioural frameworks. Beyond their intrinsic importance and value in culturally safe practice, the Aboriginal and Torres Strait Islander and Māori knowledges of wellbeing and health care recognised in the standards can also contribute to the realisation of more sustainable and holistic practices.<sup>12,15,18</sup>

The revised National Framework, scheduled for implementation in 2024, will inform how Prevocational Training Accreditation Authorities (PTAAs) accredit hospitals and other health services training doctors in their first two years of practice.<sup>1</sup> The AMC in turn accredits the PTAAs using the National Framework. These prevocational outcome statements stipulate that in their role as a professional and leader, the “Responsibilities of the doctor also include supporting

the health and wellbeing of individuals, communities and populations now and for future generations, teaching, and promoting the environmental and financial sustainability of the healthcare system”.<sup>1</sup> In addition, as health advocates, prevocational doctors should be able to recognise the tangible effects of health determinants on their patients, including climate change and other environmental determinants. There is now a requirement for sustainability and environmental costs to be considered in the rational use of investigations and prescribing, alongside financial cost considerations.<sup>1</sup>

The AMC Standards for Assessment and Accreditation of Specialist Medical Programs<sup>25</sup> have yet to be updated and do not include prescribed learning outcomes statements. However, the Criteria for AMC Accreditation of CPD Homes<sup>26</sup> stipulate that program-level requirements are aligned to the AMC code of conduct for doctors in Australia,<sup>27</sup> which outlines the responsibility to protect and advance the health of communities and populations and use health care resources wisely. Several medical colleges have also included elements of planetary health in their specialist training curricula, including the Royal Australian College of General Practitioners, the Australasian College for Emergency Medicine, the Australian College of Rural and Remote Medicine, and the Australian and New Zealand College of Anaesthetists. However, for both vocational trainees and specialists undertaking continuing professional development, more comprehensive offerings are required.

### Translation to practice: the key challenge

These updates highlight the important role of accreditation standards in responding to changes in society and evolving threats to the health of individuals and populations. These new requirements mean we can expect a sustained focus on reorienting curricula to increase environmentally sustainable practice within the health sector.

However, the pace and degree of implementation will be largely determined by educators and institutional leaders. While accreditation monitoring occurs at least biennially, full assessments of medical schools and PTAAs occur over multi-year cycles of up to ten years. The AMC also, appropriately, takes a non-prescriptive approach whereby the organisation being accredited has broad scope to implement locally appropriate training and demonstrate how it attains each standard. It therefore lies with educational providers to drive implementation. Barriers include the demand for content inclusion in already full curricula, and lack of familiarity among educators.<sup>14,15,22</sup> However, educators are experienced in adapting to the continuously evolving medical landscape. Integrated approaches can reduce pressure on curriculum content,<sup>14</sup> and resources are increasingly available to aid this transition.<sup>15,24</sup>

The International Association for Health Professions Education consensus statement on planetary health and education for sustainable health care provides model learning outcomes, objectives, domains,

activities and assessment approaches.<sup>28</sup> Navarrete-Welton and colleagues share their experience longitudinally implementing planetary health in Brown University's competency-based medical curriculum. Key insights include student leadership and utilising a taskforce of students, educators, administrators and environmental sciences faculty.<sup>29</sup> Columbia University hosts the Global Consortium on Climate Change and Health Education, which includes an extensive range of materials within its medical resource bank.<sup>30</sup> In Australia and Aotearoa NZ, medical educators have collaborated and published learning objectives that are aligned with the revised AMC graduate outcome statements and freely available.<sup>24</sup> Doctors for the Environment Australia has developed freely available curriculum materials for medical schools and prevocational training. This includes a curriculum map for the integration of climate change within organ-system based curricula, and teaching resources.<sup>31</sup>

### Conclusion

The inclusion of planetary health in the AMC standards for medical schools and prevocational training is a major development for medical education and contemporary medical practice in Australasia. All medical education institutions should move to rapidly ensure students, trainees and practitioners are prepared to respond to the unfolding planetary health crisis.

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