

Accelerating the implementation of planetary health medical curricula to prepare future physicians to work in a climate crisis

Accélération de la mise en œuvre de cursus d'études médicales en santé planétaire afin de préparer les futurs médecins à travailler dans un contexte de crise climatique

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Introduction

Climate change poses a significant global health threat to current and future populations as changes in global weather patterns drive a myriad of adverse downstream health effects.¹ We believe the clear connection between climate change and health requires health professionals to communicate the need for climate action, safeguard patients from the harmful effects of climate change, and build climate resilient health systems.^{2,3} Medical institutions are therefore responsible for preparing the next generation of physicians to practice in the context of a changing climate.^{4,5}

The Canadian Federation of Medical Students - Health and Environment Adaptive Response Taskforce (CFMS HEART) 2019 National Report on Planetary Health Education identified that Canadian medical schools have not adequately integrated planetary health teaching into their curricula.⁶ The 2019 survey results showed varying levels of coverage of planetary health topics in the curriculum, with six out of 17 schools reporting no learning objectives related to planetary health. Following this report, medical students across Canada called upon their institutions to embed planetary health into curricula. A cross-sectional re-

evaluation conducted in 2021 surveyed medical students and faculty at all 17 Canadian medical schools about the current state of their planetary health education.⁷ We observe a shift in the Canadian undergraduate medical curriculum as future physicians are now becoming prepared to practice in the climate crisis.

What changes in Canadian medical education have occurred?

Canadian medical schools have demonstrated a variety of approaches to incorporating planetary health principles into curricula. Faculty and students from five out of 17 Canadian medical schools have integrated new planetary health teachings in 2020, as identified in the 2021 Canadian Report on Planetary Health Education. Specifically, the new curricular teachings reported by students are: three lectures on climate change and health, an online planetary health learning module, and an optional course exploring climate change and health-related topics, alongside numerous extra-curricular learning opportunities. Additionally, the virtualization of undergraduate medical education in 2020-2021 resulted in students reporting increased access to planetary health-related sessions delivered across Canada. Another positive stride for

planetary health education is that three faculties of medicine have reported working towards integrating core competencies in planetary health into their strategic plans. Institutional commitment is a necessary step towards building long-lasting infrastructure for planetary health education in the medical curriculum.

What's next for planetary health education in Canadian medical schools?

Curricular changes are still needed to effectively train the next generation of physicians. Student respondents identified the need for planetary health curriculum to emphasize the intersectional links between the environmental and social determinants of health. It is critical that physicians understand the concept of environmental justice and recognize that some populations are disproportionately burdened by the impacts of climate change and resource exploitation, to identify those most vulnerable and provide tailored care.¹ Additionally, students from nine of the 17 Canadian medical schools identified sustainable healthcare as an area of opportunity for planetary health education improvement. As the Canadian healthcare system is responsible for 4.6% of the total national emissions,⁸ this is a crucial area for education to ensure that future physicians are prepared to practice low-carbon care, and advocate for health sector sustainability.

While 16 out of 17 medical schools have now initiated an introductory climate change lecture within the preclinical curriculum, the multitude of climate change-related health impacts and opportunities for integrating planetary health principles into clinical practice cannot be taught by a single lecture. In addition, only three schools reported planetary health education spanning the pre-clinical and clinical training years. There is a clear opportunity for continued integration of planetary health education within the later clinical years. This longitudinal integration into clinical education would provide the opportunity for skill-based teaching to close the 'know'-'do' gap between climate change knowledge and a climate-conscious approach to clinical practice.⁹

Collaboration between institutions, educators, and students is integral to the development of high-quality planetary health curricula. The diverse range of initiatives underway across Canada and internationally highlights the opportunity for universities to collaborate, share resources, and look towards evidence-based frameworks to lessen the burden of creating original educational

material.^{2,3,10} HEART's 2021 report adds to the body of available resources and reaffirms that medical student leaders are spearheading the implementation of planetary health medical education. Though students are pivotal in advocating for planetary health education, faculty leadership and commitment are vital in the integration of long-lasting planetary health material in medical curricula.

Conclusion

While Canadian medical schools are making some degree of progress towards integrating planetary health education into curriculum, most changes that have been made are student-driven. These efforts should be celebrated; however, in order to ensure enduring and meaningful curricular change, planetary health must be incorporated into universities' strategic plans and longitudinal core competencies. This recent progress highlights the scale and speed of adaptation possible within the medical curricula when curricular leaders collaborate with student advocates. We must use this momentum to build towards a medical education system that prepares future physicians to provide environmentally conscious care for patients that adapts to and mitigates the growing health impacts of climate change.

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