



It's Time to Integrate Planetary Health into Medical Sciences Curriculums

Salime Goharinezhad^{1*}, Hamid Reza Baradaran², Seyed Kamran Soltani-Arabshahi³

Received: 5 Oct 2021

Published: 30 May 2022

Conflicts of Interest: None declared

Funding: None

***This work has been published under CC BY-NC-SA 1.0 license.**

Copyright© Iran University of Medical Sciences

Cite this article as: Goharinezhad S, Baradaran HR, Soltani-Arabshahi SK. It's Time to Integrate Planetary Health into Medical Sciences Curriculums. *Med J Islam Repub Iran.* 2022 (30 May);36:56. <https://doi.org/10.47176/mjiri.36.56>

All across the world, people are increasingly faced with profound challenges in their lives; these include environmental, social, and health disasters (1). The results of urbanization on a global scale, industrial agriculture, and the uncontrolled emission of carbon dioxide are evident in a wide range of global environmental issues, deforestation, biodiversity loss, ocean acidification, air and water pollution, soil contamination, and climate change (2, 3). The Covid-19 pandemic should serve as the latest wake-up call for human beings to shake off their ignorance and save the planet Earth from the aforementioned threats (1).

Studies show that health care systems around the world are responsible for 4.4% of greenhouse gas emissions. Furthermore, detrimental actions undertaken by countries' health sectors account for 1% to 5% of all negative environmental impacts on a global scale. Therefore, all medical professions have a moral duty to strive to minimize, as much as possible, their profession's negative impact on the environment (4, 5). In fact, medical professionals must be able to predict, respond, and adapt to the resulting climate effects on human beings, such as manipulation of disease patterns, the threatening of the infrastructure, and consequent psychological effects of such impacts (6). Thus, future generation health care workers are responsible not only for the treatment and well-being of patients but also for that of the ecosystem in which they live.

Health care personnel must try to minimize the negative health care footprint on the climate and safeguard the well-being of our planet Earth while providing and practicing sustainable services (1, 2). All these objectives call for an ambitious, cogent, and highly adaptive program to monitor and adapt to constant changes in the climate.

According to the World Health Organization, by the year 2030, a total of 250 000 deaths per year will be attributed to climate change. Evidence also shows that the impact of climate change is higher on slum dwellers, the homeless, the elderly, the disabled, the socially and economically impoverished people, minorities, and the people of color who usually have more limited access to health care services (7).

The concept and attitude of planetary health was formed to serve as a framework to better understand these interdependent relations as well as identify possible solutions for the challenges that nations face. The purpose of this statement is to reach a unanimous global, collaborative, and all-inclusive perspective that provides people with sustainable health care services and also promotes the earth's well-being (1). Many countries have already agreed, in a unanimous and swift move, to integrate these concepts and approaches into their health care systems and educational curricula; the goal is to reach a 45% reduction in greenhouse gas emissions in 10 years and to

Corresponding author: Dr Salime Goharinezhad, goharinezhad.s@iums.ac.ir

¹ Preventive Medicine and Public Health Research Center, Psychosocial Health Research Institute, Iran University of Medical Sciences, Tehran, Iran

² Endocrine Research Center, Institute of Endocrinology and Metabolism, Iran University of Medical Sciences, Tehran, Iran

³ Center for Educational Research in Medical Sciences (CERMS), Iran University of Medical Sciences, Tehran, Iran

↑What is “already known” in this topic:

Planetary Health is a newly emerging scientific field that aims to minimize our ecological footprint and improve our physical and mental wellbeing while on the planet.

→What this article adds:

Embedding a planetary health lens into medical science curricula can lead to a shift in health care professionals' knowledge, attitudes, and practices from the business as usual mindset toward being environmental advocates.

neutralize carbon emissions by the year 2050, especially in the health care sector (6).

Therefore, education and educational organizations play a key role in promoting a sustainable future and incorporating planetary health concepts into their programs, without which achieving sustainable development goals and reinforcing recovery and preservation practices to protect the planet Earth against any potential threat is impossible (8). Hence, integrating planetary health programs in the curricula of various fields of medical sciences and improving required qualifications to minimize the negative and destructive impacts of the health care system on the ecosystem is of vital importance. In addition, a review of the available documents suggests that the application of this approach in the general physiology course has been welcomed by many medical departments worldwide (9).

Given the distinguished and unique status of health care professionals among the general public, as well as their well-respected position on concerns about climate change's effects on daily living, they are well positioned to lead this movement. Moreover, in the 2020 report of the Lancet Countdown, it was stated that physicians, nurses, and medical professionals play an essential role in the face of such global emergencies. Thus, it is vital that health care professionals be well-acquainted with the main causes of diseases, in relation to the environment, to better provide environmentally conscious health care services (10).

Integration of topics and concepts regarding planetary health in the general physician curriculum prepares the students for their future duties as physicians. In recent years, we have witnessed an internationally collaborated attempt to encourage medical departments to take on the need for medical and planetary education. For instance, the International Federation of Medical Students' Associations, which has 1.3 million student members worldwide, has already officially recognized planetary health teachings in the form of extracurricular programs and also taken valuable steps to integrate these programs into the curricular activities in numerous medical university departments around the world (11).

The investigations performed by the author suggest that higher education institutions in Iran update their planetary health-related curriculum and educational programs very slowly. Despite the country's shocking ecosystem reports and statistics in recent years, the exchange of knowledge, discourse making, and collective measures in the academic community in regard to climate change have been neglected (1). This is against the 13th goal of the sustainable development goals program, which strongly urges immediate measures to be taken against climate change and its effects on the planet (12).

Consequently, our responsibility toward the future generations as well as our moral commitment urges all people around the world to urgently come together and strive for the creation, recovery, and preservation of healthy ecosystems for a more capable and affluent civilization. The planetary health program seeks to encourage active environmentally-friendly thinking; the teaching of such a program, along with its proper competencies and merits, puts

the medical students further exposed to such discourse concepts as sustainable development, planetary health, and climate change. Integration of planetary health programs into all fields of study and throughout all university levels allows students and alumni to participate in collaborative multidisciplinary activities to protect and recover planetary health and achieve sustainable development goals (1).

There was no comprehensive and specific framework for planetary health education prior to this movement. Therefore, a group of professionals in the fields of education and planetary health was formed, led by the Planetary Health Alliance, to create a unified and common framework for planetary health education in each place of learning. This was done based on the location's environmental and social characteristics, local prioritizations, available technologies, and resource availability (13). Institutes that take on the task of implementing this framework must break away from the old educational approach and replace it with a transdisciplinary teaching strategy centered on action and transformation.

Conflict of Interests

The authors declare that they have no competing interests.

References

1. Guzmán CAF, Aguirre AA, Astle B, Barros E, Bayles B, Chimbari M, et al. A framework to guide planetary health education. *Lancet Planet Health*. 2021;5(5):e253-e5.
2. Xie E, de Barros EF, Abelsohn A, Stein AT, Haines A. Challenges and opportunities in planetary health for primary care providers. *Lancet Planet Health*. 2018;2(5):e185-e7.
3. MacNeill AJ, McGain F, Sherman JD. Planetary health care: a framework for sustainable health systems. *Lancet Planet Health*. 2021;5(2):e66-e8.
4. McLean M, Gibbs T, McKimm J. Educating for planetary health and environmentally sustainable health care: responding with urgency. *Med Teach*. 2020;42(10):1082-4.
5. Bosurgi R. Climate crisis: healthcare is a major contributor, global report finds. *BMJ*. 2019.
6. Shaw E, Walpole S, McLean M, Alvarez-Nieto C, Barna S, Bazin K, et al. AMEE Consensus Statement: Planetary health and education for sustainable healthcare. *Med Teach*. 2021;43(3):272-86.
7. WHO. Quantitative risk assessment of the effects of climate change on selected causes of death, 2030s and 2050s. 2014.
8. Walpole SC, Barna S, Richardson J, Rother H-A. Sustainable healthcare education: integrating planetary health into clinical education. *Lancet Planet Health*. 2019;3(1):e6-e7.
9. Kalogirou MR, Dahlke S, Davidson S, Yamamoto S. Integrating planetary health into healthcare: A document analysis. *Health Policy*. 2021.
10. Wellbery C, Sheffield P, Timmireddy K, Sarfaty M, Teherani A, Fallar R. It's time for medical schools to introduce climate change into their curricula. *Acad Med*. 2018;93(12):1774.
11. Omrani OE, Dafallah A, Paniello Castillo B, Amaro BQRC, Taneja S, Amzil M, et al. Envisioning planetary health in every medical curriculum: an international medical student organization's perspective. *Med Teach*. 2020;42(10):1107-11.
12. Wersun A, Klatt J, Azmat F, Suri H, Hauser C, Bogie J, et al. Blueprint for SDG integration into curriculum, research and partnerships: Executive Summary. *Global Forum for Responsible Management Education-9th PRME Assembly 2021 Jun*.
13. Barna S, Maric F, Simons J, Kumar S, Blankestijn PJ. Education for the Anthropocene: Planetary health, sustainable health care, and the health workforce. *Med Teach*. 2020;42(10):1091-6.