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A planetary health curriculum for medicine

Needed yesterday; make it a reality today

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Undergraduate medical curriculums are notoriously packed and space for new content is hotly contested. But what if there was a way that medical schools could ensure that students graduate with enhanced clinical knowledge, skills and competence and a deep understanding of health, as well as disease, by adding just one new theme?

That theme is of course planetary health. Health educators have been advocating for the inclusion of climate and environmental education in medical and nursing curriculums for the past two decades.[1-6] In the UK, sustainable healthcare principles were included in the GMC's graduate outcomes in 2018,[7] but medical schools have been slow to respond, and planetary health remains on the periphery of most curriculums.

Now, as the generation that will experience the most severe health effects of climate change, students are demanding action.[8,9] This year a global study, led by students aiming to inspire engagement with planetary health, found that in 31 of the 33 UK medical schools, eight have no content related to planetary health, and a further five include only one lecture or session. No schools in the UK or Ireland scored above a B, using a consensus scoring system grading schools A+ to F- based on performance in five areas (planetary health curriculum, interdisciplinary research, university support, community outreach, and sustainability). Internationally, the picture is not much better: only two of the 26 medical schools in the US and Canada scored above a B.[10]

We have no more time to wait for things to improve. The rapid escalation of the climate crisis means that knowledge, attitudes, and skills must shift rapidly in order to implement the changes needed in clinical and educational practice[11] to reduce the climate impact of healthcare and improve health. Planetary health and sustainable healthcare show us the way, demonstrating the interdependence of health and ecosystems and giving us a framework for providing excellent healthcare both for individuals and for our ecosystem.[5,12]

New way of learning

There are also educational benefits. By applying a planetary health lens to all clinical subjects, actively looking for links between ecosystems and health, we start to think critically about the healthcare systems we work in and see opportunities for improvement. Finding academic staff willing to teach this "new" subject is seen by many as a challenge, but viewed in a different way it presents an opportunity to shift medical education away from a top down model towards a participatory model, with students and staff learning in partnership.[13,14]

Let's imagine a week of endocrinology teaching in a medical undergraduate course with a cross cutting theme of planetary health and sustainable healthcare. Students learn that type 2 diabetes is a serious public health problem associated with huge costs to physical and mental health, on which 12.5% of the medicines budget is spent.[15] The carbon cost of diabetes is also included, and students are reminded that medicines make up 25% of the NHS carbon footprint.[11] Students already familiar with the health consequences of global heating [16] now learn that people living with diabetes are particularly vulnerable to excessive heat and other climate change related threats.[17]

In a sociology session they learn about the disproportionate burden of diabetes and its complications on minoritised groups and those with higher levels of deprivation[18] and the potential for social prescribing to counter this.[19] They start to understand the social determinants of health—the "causes of the causes" of disease.[20] Students' discussion with the lecturer centres around climate justice in relation to diabetes.

Teaching communication skills focuses on the importance of behaviour change in the prevention and management of diabetes and how to facilitate that change.[21] The issue of "adherence" to medication is considered, and students learn that 30-50% of medicines prescribed for long term conditions are not taken as intended[22] and that in the UK £300m (€350m; $400m) is spent on unused medicines every year.[23] Applying the planetary health lens, the resulting harms to both people and planet of wasted medicines are explored. Students discuss the language around optimisation of medicines, preferring the term "concordance,"[24] and reflect that this approach is more likely to be successful in facilitating better diabetes control, which will in turn reduce waste and reduce environmental harm.

Finally, students attend a community diabetes clinic, and learn about managing diabetes from people with the condition. They write up a patient history and reflect on the relationship between diabetes, community, and environment. One student considers the climate impacts of causes of obesity, including diets rich in refined sugars, refined fats, oils, and meat[25] and car dependence causing physical inactivity and air pollution.[26-28] Learning from this is added to the curriculum content for the following year.

By applying a planetary health and sustainable healthcare lens to all learning, medical students gain vital clinical skills, an appreciation of the interdependence of human health, healthcare and the environment, and experience of critical and

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systems thinking—having also contributed to the learning of their peers and lecturers along the way.

While this curriculum remains a vision for the future, our health suffers. Let's stop imagining and make it a reality now.

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