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Short communication

Lessons learned from implementing a self-taught learning resource on sustainable healthcare for the UK medical curriculum

Maya Whittaker[a,*], Anastasia Martin[a], SanYuMay Tun[b]

[a] GKT School of Medical Education, King's College London, London, UK, Faculty of Life Sciences and Medicine, Henriette Raphael House, Guy's Campus, Great Maze Pond, London SE1 1UL, UK
[b] University of Oxford Medical School, Oxford, UK, Medical Sciences Divisional Office, University of Oxford, John Radcliffe Hospital, Level 3, Oxford OX3 9DU, UK

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Background

The climate crisis remains the greatest threat to human health in recent times [1], and healthcare systems are a significant contributor to the climate crisis [2,3]. Tackling either of these problems requires healthcare professionals to be informed about sustainable healthcare practices and their role in advocating for planetary health [4]. Progress has been made in some areas, such as sustainable healthcare becoming a mandatory learning outcome for UK medical schools [5]. However, in practice implementation has been inconsistent and data indicates that only 15% of global medical school curricula incorporate content on climate change [6]. The Planetary Health Report Card (PHRC), an international student-led initiative to measure medical school engagement with sustainability [7], found that medical schools did not perform well in the curriculum section, even if they otherwise scored highly in areas such as research efforts and campus sustainability. The reasons behind this are multifaceted, and partly due to educators having to learn this new subject themselves before teaching the material – the unfamiliarity of which can be daunting [8]. Collaborative efforts and shared learning between students and faculty have been suggested to overcome these challenges [9].

As medical students, we created an online learning package on planetary health and sustainable healthcare with the support of experts from the Centre for Sustainable Healthcare. The 20 minute resource was designed for students to work through independently. It covered definitions and background information on planetary health and sustainable healthcare, and explored the interaction between the climate crisis, human health and health inequalities. It also explained various ways the health system contributes to the climate crisis, and what the National Health Service (NHS) and associated institutions are doing to integrate sustainable healthcare principles and practice across hospitals and in policy decisions. Finally, we included actionable steps on how medical students can contribute to a more sustainable healthcare system. We pitched this resource to senior faculty members, who agreed to include it as a compulsory module in the final year of our medical curriculum. Following the rollout of the resource, we gathered qualitative student feedback through an anonymous structured online questionnaire.

In this short communication, we provide a first-hand perspective on the challenges and successes of students working with faculty for greater curriculum integration of Education for Sustainable Healthcare (ESH) in medical schools. We incorporated some of the participants' feedback to our initiative into a reflection on our lessons learned, and thereby aim to empower students and educators to undertake similar projects.

Lessons learned

Change is possible through student action

As medical students, we advocated for greater inclusion of sustainable healthcare in our medical curriculum over the course of a year. Communicating why we believed in the importance of the issue

* Corresponding author at: GKT School of Medical Education, King's College London, London, UK.
E-mail address: maya.whittaker@mft.nhs.uk (M. Whittaker).

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was key to successfully pitching our cause to stakeholders such as faculty and clinical educators. This involved preparation of proposals outlining the benefits of ESH, supported by examples of successfully piloted sustainable healthcare curriculum content.

A useful reference is the PHRC, which is a needs-assessment tool rich in global data about the current status of medical school Planetary Health curricula, and essential for highlighting gaps in sustainable healthcare education [7]. As we work to expand the use of our resource across other UK medical schools, the PHRC has helped to identify suitable areas for the material to feature. When presenting the self-taught resource to busy faculty members with multiple priorities competing for their attention, suggesting where it could specifically fit in the medical curriculum can provide for a low friction decision-making process.

There is demand for improving the medical curriculum

Following the rollout of the resource, feedback showed that students welcomed the inclusion of the topic and enjoyed the peer-to-peer component of learning. Feedback also highlighted that students felt motivated to action personal changes, the most common being tracking the carbon footprint of their electives and integrating sustainability outcomes into quality improvement projects. One student commented that it made them reflect on their elective choices, demonstrating the power of simple interventions to be thought-provoking and spark enthusiasm for action.

We asked for take home messages after students viewed the webinar. Students demonstrated an awareness of the importance of multilevel changes: “individuals have a day-to-day role to play and major changes are required from organisations and industries”. Other responses showed optimism: “we can make changes for the NHS to be more sustainable, and it is really important that we do”.

Resources can be tailored to individual institutions

During the COVID-19 pandemic, setting up an online resource available on demand was the most accessible way to deliver this content. In the future, it could be considered whether delivering this resource in person would increase engagement. However, even with the return of face-to-face learning, online learning remains a popular and potentially more sustainable choice, by reducing commutes to campuses. It also allows wider accessibility and greater potential for dissemination to other medical school faculties.

We found that case studies and examples were useful to translate abstract definitions into clearer terms. For example, we incorporated a video clip showcasing the ‘War on Waste’ at a hospital in Brisbane to illustrate one facet of sustainable healthcare practices, and the National Institute for Health and Care Excellence (NICE) guidelines on sustainable prescribing of asthma pumps. We encourage the use of case studies embedded in resources such as these, as they make certain concepts more memorable and easier to relay to others. These can be drawn from local contexts to tailor the relevance of resources to individual institutions.

Barriers to implementation can be overcome

There were multiple barriers throughout the process of requesting learning on sustainable healthcare, including saturation of the medical curriculum, and a lack of pre-existing resources and staff willing or able to teach the subject. We navigated these challenges by being flexible in our approach, and in being prepared to deliver direct solutions by co-authoring the material ourselves.

Engaging stakeholders, from medical students to educators, was a continuous process. Bringing a student perspective was particularly useful in demonstrating first-hand that there is demand for the material.

Seeking mentorship is important

We had a strong preconception that we as medical students would not be knowledgeable enough to create a webinar suitable for the medical curriculum, but appropriate supervision and expert input made this possible. Not only was the support invaluable throughout the drafting process, but the collaboration with experts also added credibility to our final resource.

Co-creation of the resource with educators from the Centre for Sustainable Healthcare and other leaders in the field was also beneficial for our own learning and has put us in a stronger position to more fluently communicate to others the importance of these initiatives.

Feedback and evaluation should be routinely integrated

Feedback and evaluation are an essential part of the process of developing and implementing a new resource. The main limitation of our evaluation was the small number of responses received, from five students. The surveys were not compulsory and there was a delay between the availability of the resource and the distribution of the survey. We believe that these two factors affected our response rate, beyond the more general overload of feedback requests that students encounter. Despite this, the qualitative nature of the feedback allowed students to express insightful reflections from which we were able to draw a number of valuable conclusions. Feedback was unanimously positive and suggested that students’ confidence on the topic grew after engaging with the session. It emphasised that students felt inspired to consider the principles of sustainable healthcare in their practice as medical students, and in their future roles as junior doctors. Students might be persuaded to engage with feedback if the surveys are made immediately accessible, for example with a link at the end of the presentation.

There is potential for multidisciplinary application

We did not assess the introduction of our self-taught resource to the wider curricula, however the demand for improving sustainability across disciplines has been demonstrated by other initiatives. An example of this is the early drive to adapt the PHRC to nursing and pharmacy degrees. Once developed, novel curriculum material on sustainable healthcare and planetary health can readily be applied across other healthcare disciplines. For example, prescribing and pharmaceuticals make up the highest proportion of healthcare emissions in the UK [10]. Multilevel education could strengthen stewardship, with healthcare professionals engaging critically with the need to consider the principles of sustainable healthcare in their prescribing practices.

Conclusion

Our experience demonstrates that students and faculty are receptive to the inclusion of sustainable healthcare and planetary health in the medical curriculum. The integration of a self-taught resource provides a flexible step toward ensuring that medical schools are meeting regulatory curriculum requirements, such as those set out by the General Medical Council in the UK. However, the trade-off for this convenience is its limited contribution to the integration of sustainable healthcare as a cross-cutting theme throughout all aspects of learning in the medical curricula.

We found that change is possible through student-driven action, and there are a growing number of resources available to navigate the barriers to implementation. These include online learning materials with potential for cross-institutional sharing, such as our self-taught module. Furthermore, data from initiatives such as the PHRC can highlight institutional areas of weakness and strengthen the argument for expanding ESH. We hope that this account inspires others to undertake their own initiatives around sustainability in

their education systems. Only once this gap is addressed can the next generation of healthcare professionals be equipped to lead the solutions required to realise sustainability in healthcare.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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