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Evaluation of a collaborative project to develop sustainable healthcare education in eight UK medical schools



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ABSTRACT

Introduction: Environmental change poses pressing challenges to public health and calls for profound and far-reaching changes to policy and practice across communities and health systems. Medical schools can act as a seedbed where knowledge, skills and innovation to address environmental challenges can be developed through innovative and collaborative approaches.

Objectives: The objectives of this study were to (1) explore drivers and challenges of collaboration for educational development between and within medical schools; (2) evaluate the effectiveness of a range of pedagogies for sustainable healthcare education; and (3) identify effective strategies to facilitate the renewal of medical curricula to address evolving health challenges.

Study design: Participatory action research.

Methods: Medical school teams participated in a nine-month collaborative project, including a one-day seminar to learn about sustainable healthcare education and develop a project plan. After the seminar, teams were supported to develop, deliver and evaluate new teaching at their medical school.

Results: New teaching was introduced at seven medical schools. A variety of pedagogies were represented. Collaboration between schools motivated and informed participants. The main challenges faced related to time pressures. Educators and students commented that new teaching was enjoyable and effective at improving knowledge and skills.

Conclusions: Collaborative working supported educators to develop and implement new teaching sessions rapidly and effectively. Collaboration can help to build educators' confidence and capacity in a new area of education development. Different forms of collaboration may be appropriate for different circumstances and at different stages of education development.

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Introduction

Anthropogenic environmental change, including climate change, is one of the greatest public health challenges of our era.¹ Actions to mitigate destruction of ecosystems, to improve the health and well-being of humans now and in the future, require judicious use of natural resources.^{2,3} The environmental impact of health services is substantial but can be reduced through joined-up services, good communication between healthcare providers and patients, selection of high-value interventions, focus on prevention and promotion of patient autonomy and person-centred care.⁴ Sustainable healthcare services provide high-quality care, without significantly impairing the ability of future generations to do the same.

Education in medical schools can help to ensure that future doctors are competent to inform, research and advocate about environmental determinants of health and to manage transition to provision of sustainable health care.⁵ We define sustainable healthcare education as teaching and learning which prepares future health professionals to promote sustainable health and deliver sustainable health care. Priority learning outcomes (PLOs) for sustainable health care (Fig. 1) can guide implementation of teaching.⁶

This study aimed to evaluate a collaborative education project which facilitated the design, implementation and evaluation of sustainable healthcare education in eight UK medical schools. Specific aims were to

1. explore drivers and challenges of collaboration for educational development between and within medical schools;
2. evaluate the effectiveness of a range of pedagogies for sustainable healthcare education; and
3. identify effective strategies to facilitate the renewal of medical curricula to address evolving health challenges.

Methods

Participatory action research (PAR) can be applied to the study of complex adaptive systems that are constantly evolving, are affected by external factors and comprise multiple and varied sites.⁷ We used PAR methods to stimulate reflection and learning during a collaborative educational project. PAR enabled learning about participants' experience of collaborative working and the impact of diverse local educational contexts (including factors internal and external to the project) on education development.

We solicited applications to join a nine-month project. We reviewed applications according to predefined selection criteria: (1) diversity and strength of team; (2) motivation to address sustainability; and (3) commitment to engagement and completion of project.

Participants were asked to study the teaching resources provided by the authors (including Fig. 1), meet with their team, identify sustainability initiatives and champions locally, discuss opportunities and strategies for implementation of new teaching and identify space for two new teaching sessions.

During a face-to-face seminar, participants received training on sustainable healthcare education, elucidated their goals for the project, met other teams, discussed pedagogies, planned and received feedback on a new teaching session or an adaptation of an existing session and discussed evaluation methods. Online participants joined via 'Skype'. We collected data via participant observation and paper and online ('SurveyMonkey') questionnaires.

We disseminated a pre-project survey about participants' needs and priorities. One month after seminar, we asked participants to complete an online questionnaire about their progress and reflections. We invited participants to video-conference to discuss progress and challenges one month and four months after seminar. We facilitated the videoconferences and noted the issues discussed. A post-project survey collected data about participants' perceptions of the project and reflections on drivers and barriers to curriculum development.

We developed student and educator evaluation forms to assess acceptability and effectiveness of teaching, invited educators' comments on the forms and adapted them based on feedback. After new teaching, evaluation forms were distributed to students and educators to explore the extent to which priority sustainability learning outcomes (Fig. 1 and Appendix 1) were attained. Educators were asked to consider variables affecting the teaching, such as characteristics of the medical school, student cohort or teaching environment and to judge which aspects of the teaching would be transferable to other settings. Teams were sent a copy of the collated results of their evaluation to verify.

Results

Eleven medical schools applied, and eight were accepted (Table 1). Opportunities identified by medical schools included senior support, strategic alignment, forthcoming curriculum/module reviews and availability of educators and/or curriculum space.

1. Describe how the environment and human health interact at different levels
2. Demonstrate the knowledge and skills needed to improve the environmental sustainability of health systems
3. Discuss how the duty of a doctor to protect and promote health is shaped by the dependence of human health on the local and global environment

Fig. 1 – Priority sustainability learning outcomes (PLOs) for medical students.⁵

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