Collaborative curriculum development: preparing medical students to lead a sustainable healthcare system!

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Project summary

Academic and professional health bodies have expressed concern that climate change will pose the greatest risk to health of the 21st century. Yet education about the links between climate change, sustainability, health and healthcare in medical training is rare. This project enlisted medical students, academics and practitioners to explore and articulate priority learning outcomes and to develop educational materials for use in medical schools across the UK and abroad.

Student and faculty members of the Sustainable Healthcare Education Network surveyed existing teaching provision in UK medical schools, wrote up case studies of the educational approaches used in UK medical schools, produced consensus learning outcomes in a national consultation process, and compiled an open access repository of teaching materials. The priority learning objectives, which can be integrated into medical education without adding unduly to the curricular burden are:

1. To understand the impacts of environmental change on health
2. To understand the impacts of healthcare on the environment
3. To consider the ethical questions that arise from a duty to protect and promote the health of both current and future generations

The project also resulted in an expanded and more international network of medical education institutes committed to piloting and evaluating educational activities and links to other health professions. This in turn led to co-authorship of articles (nursing) and conference presentations (nursing, occupational therapy, interprofessional learning).

Aims and objectives

- To enlist medical students, academics and practitioners to articulate priority learning outcomes in relation to the links between climate change, sustainability, health and healthcare.
- To develop appropriate educational materials for use in medical schools across the UK and abroad.

Approach

Student and Faculty members of the Sustainable Healthcare Education network surveyed existing teaching provision in UK medical schools, wrote up case studies of all the educational approaches used in all active medical schools, produced learning objectives by consensus in a national consultation process, and compiled an open access repository of teaching materials.

The priority learning objectives, which it was felt can be integrated into medical education without adding unduly to the curricular burden are:

1. To understand the impacts of environmental change on health
2. To understand the impacts of healthcare on the environment
3. To consider the ethical questions that arise from a duty to protect and promote the health of both current and future generations
Outputs
All materials developed for this project are available freely online. [www.sustainablehealthcare.org.uk/education](http://www.sustainablehealthcare.org.uk/education) [Accessed December 2013]

Publications


Impacts
The project has had varied and interesting effects on student learning experience at Norwich Medical School (University of East Anglia), and several other medical schools in the Sustainable Healthcare Education Network. It has brought about more nuanced, specific ways of engaging students on the links between health and the environment, resulting in a genuine co-creation of interdisciplinary knowledge about an evolving field of study by teachers and students.

Within Norwich Medical School
The project expanded the number and type of learning opportunities on this subject across four years of the Bachelor of Medicine, Bachelor of Surgery degrees (MB/BS). A new lecture (‘Environment and Health’) was created; learning outcomes were inserted into related lectures and modules; triggers were written into problem-based learning scenarios. As a result of the higher profile of the topic in the School, six students (Year 1, 2 and 5) have become involved as interns and are designing learning and teaching activities. As a result of the higher profile of the topic, the project lead is developing a new BSc degree ‘Medical Sciences and the Environment’, which will be taught collaboratively between Medicine, Biological Sciences and Environmental Sciences.

Within medical schools generally
The project has led to increased communication and collaboration between medical schools in the UK. For example, a learning activity developed at Leicester medical school (student-directed ‘Dragon’s Den’ pitches for NHS sustainability projects) has been adopted for use at Cambridge medical school. Outlines and student examples were sent to two other medical schools to trial. Other medical schools, including one outside the UK, have been given assistance in reviewing their existing curriculum and Problem-Based Learning scenarios, to find suitable areas for inserting sustainability concepts.

Within the wider health community
Allied Health Professions: As a result of this grant, the project lead was invited to give a keynote lecture to final-year Occupational Therapy (OT) and Physiotherapy undergraduate students, an Employability workshop on skills for sustainable healthcare in the allied health professions, and a Knowledge Exchange seminar for post-graduates and academics in the Allied Health Professions. Each of these was delivered in collaboration with an MSc OT student. The collaboration has resulted in a draft proposal for a new model of Sustainable OT to be submitted for publication in 2014, and a pilot to integrate learning outcomes across the Occupational Therapy degree at UEA in 2014-15.

Overall, community enthusiasm for the project has been remarkable. The consultation meeting on learning outcomes was attended or contributed to by more than 50 medical students, practitioners and academics. An invitation to discuss applying for the Higher Education Academy Collaborative Teaching Grants galvanised twenty medical education institutions, who together contributed £180,000 in staff time, overheads and direct payments to support the further development of the project.
Implications for the student learning experience

Discipline implications for professionals, students, the wider HE community and the NHS?
No country currently operates within its resource limits. High carbon lifestyles have caused massive increases in chronic illness in rich and poor countries and health systems are a major contributor to carbon emissions, waste and pollution. There is no clear answer, model or solution, and the Education for Sustainability (EfS) literature suggests that sustainability is essentially a process of learning.

The next phase will be to integrate EfS principles into health training more directly and more broadly. This project has focussed on the links between health and global environmental change. Other parts of medical training look at the social determinants of health. New development work should be undertaken to explore how EfS principles can help medical students grow into well-rounded, observant and compassionate doctors.

Long-term management of outputs and innovations
All materials developed for this project will remain freely available online.
www.sustainablehealthcare.org.uk/education [Accessed December 2013]

Project collaborators (undergraduate students, MB/BS faculty members, and graduate trainees) are continuing to develop learning activities in their institutions and share the results through annual meetings at which a regular presence has been established: the Association for the Study of Medical Education, the Royal Colleges of Medicine, Public Health Educators in Medical Schools, NET educators in nursing and allied health professions.

References and other resources


NHS Carbon Reduction Strategy

http://www.heacademy.ac.uk/assets/documents/esd/Future_Fit_270412_1435.pdf [Accessed December 2013]