Bringing global issues to medical teaching

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Globalisation is accelerating and is forcing us all to realise that we cannot isolate ourselves from international issues. For many, the true meaning of globalisation hit home very acutely after the terrorist attacks in the USA on Sept 11. The interconnectedness of the world and the implications it has for all became very real. The health sector, too, is profoundly affected by changing global processes. From the horror of the HIV/AIDS pandemic, to the increasing rates of refugees and migrants; from the controversy over global pharmaceutical patents to the health implications of the World Trade Organisation; the issues of the day all affect the work of a doctor. It is no longer enough for medical curricula to teach about national medicine; our new doctors want, and need, more.

Medical students are leading this transformation. Through involvement in the International Federation of Medical Students Associations (IFMSA), they have for many years been organising projects and workshops, forming networks, and taking part in exchanges. The organisation is run entirely by the students themselves, including all the necessary fundraising. Revealing a strong desire to improve global health, they actively train themselves to understand and participate in the international debate. Twice a year, up to 500 medical students gather from over 50 countries, including comfortable, rich countries as well as poor nations and countries at war. All are united in the need to understand the deep effect of interacting global and local forces on health, and are now calling on medical curricula to address these issues. The authors of this article met as students involved in IFMSA and now, as junior doctors in various parts of Europe, they still see that global health issues hold vital educational importance for health professionals.

Many leading academics are also demanding research into current global processes, their impact on health, and what the response from the medical profession should be. Andy Haines, Dean of the London School of Hygiene and Tropical Medicine, UK, said that it was time to “get to grips” with the public health implications of global trade, demographic trends, overconsumption, pollution, biotechnology, and climate change.1 “We are a long way from understanding the complex implications these have for health”, he said. To aid this understanding, the Centre on Globalisation, Environmental Change and Health has recently been opened in London. The new understanding gained from this type of research needs also to be incorporated into medical training.

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Why is it so important?

The emphasis of medical-school curricula tends to be on training doctors to work in their national situations. The importance of learning about the determinants of health is increasingly recognised. The UK General Medical Council, in the 1993 document on medical education, Tomorrow’s doctors,2 stated that a priority is understanding “the wide range of cultural, environmental and ethical issues that will increasingly impinge on the problems of health”. In the modern world, with accelerating globalisation, these health determinants are global as well as local. The following sections will outline a number of issues that have important global health implications. Their relevance for training doctors are educational, in that they are among the most influential health determinants worldwide, and practical, since they affect the health of patients doctors deal with, whether at home or abroad.

Globalisation

Whether it is a new phenomenon or the acceleration of an existing trend, globalisation has major implications for doctors. The health of populations and the delivery of health care are being affected by the social and political-economic dimensions of globalisation.

The social and cultural dimension of globalisation is one of increased interconnection with people, goods, and ideas. Populations become more multicultural, and health professionals will treat patients from many different countries. More people are travelling, making it necessary for doctors to be able to respond to the demand for travel-health information. Borders are traversed more easily by wars and diseases, complicating the control of infectious diseases such as tuberculosis, and doctors are more likely to encounter refugees, with their specific mental and physical health problems. Information now spreads very rapidly, and understanding of how research agendas are shaped by global priorities is becoming important. The results of scientific studies are frequently quoted far away from their source country, and an understanding of a population’s genetic, cultural, and environmental differences are vital before conclusions can be drawn.

Gro Harlem Brundtland, Director General of WHO, recently said: “In the past, desperate conditions on another continent might cynically be written out of one’s memory. The process of globalisation has already made such an option impossible. In the modern world, bacteria and viruses travel almost as fast as money. With globalisation, a single microbial sea washes all of humankind. The separation between domestic and international health problems is no longer useful.”

A major force of globalisation is that of global economic liberalisation and a political commitment to introduce markets into all spheres of public life, including health services. Global bodies such as the World Trade Organisation and the World Bank, as well as western governments, argue that this process will be beneficial to all, but there is much evidence that the opposite is happening. The gap between rich and poor within and between
countries has increased, and poverty is the greatest threat to health worldwide, with more than 880 million people lacking access to basic health care.3

In many less-developed countries, health services are struggling to survive. They have a huge burden of disease and illness to cope with. More than 33 million men, women, and children are already affected with HIV worldwide, and more than 90% of them in less-developed countries.7 A similar situation exists for diseases such as malaria and tuberculosis. The resources needed to tackle the situation are scarce, especially because poor countries' financial difficulties are compounded by debt repayments to richer countries.7 This problem has far-reaching consequences: countries struggling to provide basic services cannot afford vital drugs, might be encouraged to bring in user fees which hit the poor, and lose valuable health workers as they migrate to other countries with better working conditions. The vicious cycle of poverty and ill-health, combined with ill-equipped health systems, produces unstable health situations in many parts of the world. In the words of Gro Harlem Brundtland: “A world in which only a privileged few have access to the fruits of the technological revolution is a world which will become ever more insecure.”8 Through our interdependence, instability in health services in one part of the world creates an unstable situation for the health of the whole world.

Increasingly, global forces are also having an effect on national health policy. The present negotiations around the General Agreement on Trade in Services at the World Trade Organisation will lead to an increase in the potential for trade in health services. Member states might be forced to remove barriers that prevent foreign participation in their health services. This event will affect the way in which individual countries can provide health care, as trade objectives are put first.9 The greater the impact of international bodies without mandates for protecting public health has on public-health policy, the stronger the need for international bodies without mandates for protecting public health worldwide, with more than 880 million people lacking access to basic health care.3

Training benefits
As well as being important for academic and clinical reasons, the inclusion of global health in the curriculum has other benefits for the training of health professionals. A practical consideration for doctors is the increased possibility and desire to travel and work abroad, for which some level of global-health knowledge will be important. Others may now choose international health as a vocational training path—a possibility that will be aided by some level of undergraduate exposure to the subject.

Medical training can often channel a student into specific modes of thinking and responding. Students who have undertaken special study modules in global health issues have commented that they have found having to think laterally refreshing, which helps to maintain their enthusiasm towards their training (panel). Exploring global health issues also aids the general development of a health professional. The ability to appreciate diversity, challenge prejudice, analyse change and the forces that shape society, and to be able to function in a range of circumstances, are important skills.10 A broad understanding of health throughout the world, for diverse populations, is essential if doctors are to be seen as experts in health. Other university disciplines embrace this concept: why else do British geography students learn about volcanoes? If health professionals are to have a strong voice in discussions on health, they must grasp the international dimensions of their subject.

Where is this already happening?
In a few medical schools around the world, teaching of global health has already begun. The following are examples from Sweden, the UK, and the Netherlands, based on the authors’ experience of working in these countries.

Sweden
In Sweden, some medical schools have already introduced global health into teaching. At the Karolinska Institute, Stockholm, global health has been a part of the medical curriculum since 1996. A 5-week full-time course is an option available to students twice a year, and has become the most popular elective course in the curriculum, taken by over half of the students. The aim is to teach how socioeconomic, cultural, and environmental factors determine the health of nations and how the global burden of disease and demographic patterns vary between and within countries.13 The last 2 weeks of the course are given in Tanzania, India, or Cuba, where the students are taught by local health professionals, and visit hospitals and health centres. This part encourages an understanding of cost-effectiveness, health care without advanced diagnostic techniques, and how health can be improved with few resources if a primary health-care strategy is optimally applied.

New, innovative ways of learning about global health are under development at the Karolinska Institute. The World Health Chart,14 a collaborative project with WHO, allows interactive graphic displays of global health statistics and
"I took the Global Health Course at the Karolinska Institute in 1998. It was actually the first time in one and a half years of medical school that I really enjoyed my studies. I suddenly remembered why I had chosen this path and gained new and necessary enthusiasm to pursue my studies. I had been looking forward to this course because one of my reasons for becoming a doctor was a desire to work with improving the level of health in poor and deprived areas. I found that the course gave me a good base and frame-work for understanding health problems in various parts of the world and provided me with new, powerful knowledge to back up my enthusiasm. I was also surprised at the extent to which the teaching revealed and helped to combat prejudices and stereotypical ideas about the world and the reasons for ill health or wellbeing."

5th year medical student, Karolinska Institute.

development. Students in Sweden use the chart regularly in their projects, and a test version can now be downloaded from the Internet free by students and health professionals all over the world.

UK

In the UK, Medact—an organisation of health professionals that researches and lobbies on global health issues—has produced a global health studies curriculum pack. This has been used in several medical schools to incorporate global health modules into the undergraduate medical curriculum.

At University College London, the new International Health and Medical Education Centre has been introducing global health to undergraduates and is developing teaching techniques and resources to create courses that make global health relevant and exciting to medical students. This centre runs three special study modules for first-year students: globalisation, inequality and health; maternal and child health care in developing countries; and infectious diseases in developing countries. The emphasis is on exposing students to global health issues through discussion with doctors and students who have worked abroad, in very different and difficult circumstances. They are encouraged to get involved in debate through role-play and group projects.

In September, 2001, an intercalated BSc in International Health began. This course incorporates compulsory modules in health care in the context of globalisation; poverty, inequality, and health; and human rights and health in an international context. Optional modules include infectious diseases in developing countries; maternal and child health care in developing countries; languages; history of medicine; and medical anthropology.

An elective programme, similar to the model at Karolinska, is also being developed, with students undertaking an elective in Tanzania. Before the elective, they are given an introduction to the global factors that influence health and which are relevant to health care in Tanzania. On their return, a series of facilitated workshops consolidate the knowledge and insights gained.

The Netherlands

In the Netherlands, global health teaching is not standard in the basic curriculum. However, the medical faculties of the two universities in Amsterdam (The Vrije Universiteit and the University of Amsterdam) have recently begun an elective course entitled “Health and issues of war and peace”. Each year, between 15 and 30 students take the course, covering topics such as the implications of conflict and human rights violations on health; humanitarian aid and medical neutrality; the consequences of weapons of mass destruction on health; psychological effects of war; and the role of the health worker in conflict prevention, mediation, and human rights abuses. A working group has been set up by four Dutch organisations (WEMOS; The International Federation of Medical Students Associations’ in the Netherlands; The Johannes Wier Foundation on Health and Human Rights; and the NVMP, Dutch Affiliate of the International Physicians for the Prevention of Nuclear War) to develop a model curriculum on global health issues, including facilitating material such as case studies, CD-ROMs, and video. The group hopes to lobby Dutch universities to implement this curriculum, either as an elective module or in the core curriculum.

Student response

Most medical students think there should be more teaching on global health issues,17 and in many countries students have been leading the way in calling for global health to be included in their curriculum. In every case, the enthusiasm of students about the introduction of global health courses has far outweighed expectation. In the UK, nearly 100 students contacted the International Health and Medical Education Centre at University College London about the possible International Health BSc before the course had even been set up, and a network of students from the Medical Students International Network (MedSIN) is currently lobbying medical schools around the country to set up similar teaching. The response in Sweden and Holland was equally enthusiastic. At a recent IFMSA meeting in Denmark, an extensive international network was set up to look at what part medical students could play in promoting global health teaching in medical schools and in developing models and resources that are interesting and relevant to students.

Conclusion

The process of bringing global issues into medical teaching has begun. As curricula are reformed throughout Europe, the addition of global health modules must be seen as a priority. Without it, another generation of doctors will be educated with a narrow, national outlook, unable to recognise the international influences on health, and their political voices will continue to be weak. However, with global health teaching, future doctors will understand the wider aspects of health and appreciate the context of their work. As the world changes, so does the health of the people of the world and the influences on their health. Doctors, students, and medical education must keep up.

References

Uses of error: radiological

The patient was a 65-year-old man in reasonably good health who had weight loss, fever, vague abdominal pain, haematochezia, and a history of long-term steroid use for chronic pulmonary disease. The surgeon suspected diverticulitis and had requested a barium enema. I started the study and soon found that the clinical suspicion of diverticulitis was correct: the sigmoid colon showed fixation and narrowing of the lumen, distorted diverticulae and sinus tracts. All of a sudden I was struck by the appearance of the appendix, which seemed to be fixed to one of the deformed diverticulae. I thought that the patient had a fistula connecting the sigmoid with the proximal colon through the appendix. I was excited to have diagnosed an uncommon complication. I immediately called the referring surgeon and confidently told him my diagnosis. The surgeon was reluctant to operate on the patient who was now feeling well. His chronic steroid use was also a risk factor for surgery. However, my diagnosis persuaded the surgeon to do a laparotomy. Much to my surprise, the surgeon could not find a fistula. A normal appendix was stuck to an inflamed sigmoid loop surrounded by a pericolic abscess. The surgeon did an appendicectomy and sigmoid resection with a primary anastomosis. Unfortunately, the patient developed an anastomotic leak and had three more laparotomies. His condition deteriorated and he died three weeks after his first surgery.

A 42-year-old male with Crohn’s disease developed a left pneumothorax after the insertion of a central venous feeding line. Five subsequent chest radiographs showed the resolution of the drained pneumothorax. All of the radiologists involved, including myself, failed to notice a small lesion in the right upper lobe. 1 year later the patient developed a persistent cough and on a chest radiograph this lesion had become so large that it could not go unnoticed. The diagnosis of primary lung cancer was confirmed at bronchoscopy. 2 weeks later the patient developed neurological symptoms. Cerebral computed tomography showed multiple brain metastases. He also had diffuse liver and bone metastases and died 4 weeks after the diagnosis.

Radiological errors are common and these two examples illustrate one of each type: cognitive, in which an abnormality is seen but its nature misinterpreted, and perceptual, in which a radiological abnormality is simply not seen. The one that influenced me most was the first. This patient would not have been operated upon had I not erroneously diagnosed a fistula, and he probably died as a result of my self-confidence. I learnt that the radiologist needs to be aware of the clinical consequences of each diagnosis: little details can make a lot of difference in outcome.

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