

# THE GLOBAL DOCTOR



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## Foreword



Lord Nigel Crisp, independent crossbench member of the House of Lords and author of *Turning the World Upside Down – the search for global health in the 21st century*

In recent years health, just like everything else, has become globalized, and nations have realised the extent of their interdependence and the true nature of their shared vulnerability – in everything from pandemics and biological terrorism to climate change, health worker shortages and the relentless spread of non-communicable diseases.

Problems can arise anywhere in the world and spread; but so too can innovation and new ideas and practices that can benefit us all. We are fortunate in the UK to have a wonderful tradition of science and medicine, a comparatively equitable health system and extraordinary resources.

In the UK we are increasingly seeing new practices and approaches developing in low and middle income countries that are relevant to us all. Some are well known

like DOTS for TB patients, alternatives to surgery for clubfoot, much of best practice in the management of AIDS patients and the increasing use of telemedicine.

Patients and populations in every country are now affected by these global trends, and doctors are already responding. GPs in Britain, like their counterparts elsewhere, are on the lookout for new pandemics; public health doctors in Africa and India as much as in the UK fight against the unhealthy impacts of processed foods and track drug resistant infections; whilst hospital doctors need to be constantly learning from the inventiveness of their colleagues in every part of the world.

All UK doctors, whether they choose to work in the developing world or as GPs in Britain, must have an awareness of global issues. It improves their critical thinking, enables them to empathise more with their patients and develops their knowledge of health systems, not least our own. The Global Doctor of the future will understand how the wider world fits into their practice, whether at home or abroad.



Professor Jane Dacre,  
Vice Dean and Director of  
Medical Education, UCL

Global Health is an increasingly important subject with a growing agenda in its contribution to scholarship and international policy development. At UCL, where we are proud to call ourselves London's global university, we have embraced the concept, and are developing initiatives in global health research and education.

This booklet is written by staff and students involved in, or enrolled on the MBBS course run by UCL Medical School. The students have studied with the Institute for Global Health and have been enthused by what they have learnt. The report defines global health as it affects students and young doctors, and provides insights into the ways in which the next generation of doctors can participate in the myriad different aspects of global health.

I hope that you will share their enthusiasm, and support their proposals.

## Executive Summary

Medicine is a global profession that is framed by forces that transcend national boundaries such as globalization, the increasingly rapid movement of both people and diseases, climate change and conflict. It follows that medical education needs to constantly strive to keep pace with these changes and to recognise the contributions that medicine can make to a range of global opportunities and challenges. Higher education also needs to prepare doctors of the future with the skills and knowhow they will need to manage rapid change, uncertainty and complexity.

This report explores the reasons why global health is critical to medicine and what this means for medical education. It argues that an understanding of global health is important for all students and practicing doctors, rather than being an 'add-on' or 'option' for specialization. The report draws on the work of the UCL Institute for Global Health and the Department for International Development (DFID)-funded Students as Global Citizens project to inform this discussion and to

consider some of the challenges and barriers to integrating global health into UK medical education. These include limited space within undergraduate curricula, approaches to teaching and learning, and perceptions of the relevance of global health to training and professional development.



## Introduction

Globalization and internationalization present a number of challenges for the education and training of professionals in a range of disciplines. Central to higher education responses to globalization is a need to identify and support students to develop (i) the skills to make sense of what is happening around them, (ii) the ability to recognise diverse interpretations and viewpoints, and perhaps above all (iii) to know how to deal with uncertainty and complexity. The development of these skills and competencies is particularly relevant within higher education programmes for health professionals. Not only do they have a clear global context, in that their key skills and knowledge bases are relevant throughout the world, but they are also professions that have a high degree of economic and social mobility. In addition, they are areas of work that are key to global social and economic change.

There are emerging examples of movement towards creating such 'globally competent' professionals in a range of disciplines, including medicine. The need to give attention to global concerns is also being recognised by the UK government and by international health organisations.

Developing a global perspective on health within higher education requires the broadening of curricula and the inclusion of new approaches to teaching and learning. In practice, this means not only incorporating particular themes (e.g. the social determinants of health, the global movement of disease and people, sustainable development, global forces and processes, the role of the student as a global citizen) within existing curricula, but also attending to the nature of the learning taking place. This kind of approach can represent a challenge to dominant notions of learning and encourage a more balanced representation of perspectives from around the world.

It was in the context of the challenges that globalization represents for the education of health professionals that DFID funded a 3-year research and development project called 'Students as Global Citizens' from 2009-2012. This was a collaboration between the Institute for Global Health (IGH) at UCL, the Institute of Education (University of London), the Royal Veterinary College, the UCL School of Pharmacy, and the London International Development Centre. The main aim of the project was to develop and test methods to integrate teaching about global and development issues into undergraduate curricula in medicine, pharmacy and veterinary medicine<sup>1</sup>.

The issues and examples of practice discussed in this report draw on the expertise and experiences of project partners based at the UCL IGH, the work of the Students as Global Citizens project and ongoing dialogue with a range of key stakeholders in medical education. It is intended to initiate further debate and dialogue within UK medical schools and higher education institutions (HEIs), as well as the medical profession more widely. It also aims to encourage medical students to see the importance and relevance of global health to their training, to understand the ways in which global health will impact on their future careers, and to reflect on the roles they will play as doctors in a globalizing world. Throughout the report there are case studies of the careers of global doctors and global medical students. We hope that these will inspire you in your global health career.

## What is global health?

What exactly is global health and what, therefore, is a global doctor? Why is it important for doctors and medical students to learn about global health? How does one become a global doctor and go about 'doing' global health? How can medical schools best support students in their learning about global health? These are some of the questions we will address in the following discussion.

Global health as an area of education, research and practice has existed for a number of years, but debates surrounding its definitions continue<sup>2</sup>. It has moved on from its origins in tropical medicine, which was based around an entirely biomedical approach, and characterised by 'us' and 'them' relationships with former colonies<sup>2</sup>.

Global health is very different from these earlier traditions, not just in terms of approach but also in terms of content. For a start, global health covers issues that relate to health and healthcare across the world, and not just in poor countries. It also considers issues that go well beyond medicine and health care such as unfair trade rules, corruption and violations of human rights, and their causes and consequences for health.

This is because some of the factors that impact upon health are broader than those one would usually associate with the concept of health. To fully comprehend the factors contributing to people's poor health goes beyond an understanding of disease aetiology. It means looking at factors that make people suffering from these conditions susceptible to them in the first place. These factors are often related to poverty and lack of financial resources; and also to poor living conditions, the absence of education, and lack of social and political power. But global health just does not just seek to identify these factors, it also attempts to understand why people lack resources and power in the first place. To do this it must look at local, national and international forces that influence the

contexts in which people become ill. These forces are economic, political, social and cultural – as well as biomedical (see box 1).

This broad approach is helpful when looking at a variety of situations: an injecting drug user in Russia; an American seeking medical treatment in Thailand; a worker making iPads in a factory in China or an office worker in southern England. All of these people's health is affected by global forces such as trade, aid and political relationships between nations; national issues such as governance, health service provision and distribution of wealth; and local issues such as quality of local service provision (including health care but also education and infrastructure), health seeking behaviour and the attitudes of those providing health services. Global health as a discipline seeks to examine all of these related issues.

Solving health problems using interdisciplinary approaches should not be an alien concept to medical students and doctors. To become fully qualified, medical students must learn about biochemistry, physiology and neuroscience, amongst many other disciplines. Doctors practise medicine in a team with nurses, nutritionists, physiotherapists and others. Successfully bringing other expert knowledge from these disciplines to bear on global health issues inevitably involves collaboration. A certain level of common understanding as well as knowledge of some of the approaches and contributions offered from other disciplines can only make collaboration easier to facilitate and mutual goals, such as a healthier world, easier to realise.



Global bodies such as the World Health Organization (WHO) are increasingly highlighting the importance of the patient's underlying circumstances, and the need for health professionals to engage with them. As the WHO's Commission on Social Determinants of Health pointed out:

'The marked health inequities between countries are caused by the unequal distribution of power, income, goods, and services, globally and nationally ... [U]nequal distribution of health-damaging experiences is not in any sense a 'natural' phenomenon but is the result of a toxic combination of poor social policies and programmes, unfair economic arrangements, and bad politics'<sup>3</sup>.

### Box 1: The patient – from a global health perspective

Consider the case of a 40-year old woman who has recently been diagnosed with tuberculosis (TB). A migrant from Pakistan, she is currently living in cramped conditions in east London. Examining this patient's situation from a purely clinical perspective one might argue that it is caused by the mycobacterium tuberculosis, which interacts with the body at a cellular level to produce the symptoms of TB. It might look further at the living conditions that had led to TB being prevalent in the patient's environment, but it would be unlikely to examine the reasons that explain how the situation the patient finds herself in arose in the first place.

A global health perspective on this patient would be significantly different. First it might ask whether the patient is representative of broader trends in TB prevalence by gender, ethnicity and social class. When she arrived in the UK, what circumstances led to her living in the cramped, unhygienic conditions that caused her TB? This could include a discussion of the relative affluence or poverty of ethnic minority groups in different parts of the UK, which could lead to a further discussion of rising levels of social and economic inequality. It could lead further to a discussion of the nature of poverty itself and its meanings for those experiencing it.

Did she seek care for her TB in the UK, and if so, how? Were there any factors – such as language, feelings of alienation from her environment or stigma about her illness – that led to changes in the way she sought care? This could involve analysis of health-seeking behaviour amongst different social and ethnic groups, or about processes of acculturation.

A global health perspective would also seek to address why the patient decided to leave Pakistan in the first place. What were her motives for doing so, and the push and pull factors involved in making this decision? This might involve an analysis of differential levels of development and opportunities in the two countries, or of the pattern of Pakistani migration to the UK, or of UK immigration law.

Lastly, are there any cultural issues that have influenced her situation? Is the patient relying particularly on her husband or broader community? Has this influenced her attitude to care-seeking? Looking more deeply at this question may involve gaining a greater understanding of Pakistani immigrant communities in the UK, or whether there are social or cultural issues preventing the woman accessing care, or not having a good experience when she does access it.

## How health and health care are becoming increasingly global

As a doctor working in the UK, the circumstances of your patients and your own working lives are becoming increasingly shaped by factors and events in other parts of the world. This means that global health is not just relevant to those who plan to work or volunteer abroad, but to all doctors regardless of where they practice.

Globalization – meaning the flow of goods, people and ideas across borders – has transformed our lives, and healthcare is certainly not exempt from this. Clinical best practice and successful health policies are informed by the speedy dissemination of knowledge worldwide. Health care systems import cheap pharmaceuticals from other countries and the flow of people means many of the professionals working in the NHS have come from abroad.

Microbes do not respect international borders – they have always been globalized. A local outbreak of flu can have global consequences. This means that good health cannot be guaranteed in the UK unless a state of good health exists elsewhere<sup>4</sup>. The decisions made by international governance institutions such as the WHO and the European Union also have a significant effect on the way doctors in the UK practise, through laws on working hours or on the types of procedures and policies that are carried out.

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### The global and the local

A large number of global health problems have the potential to have a direct impact on the health of people in the UK.

#### Flu and infectious diseases

A new disease that emerges in any part of the world is potentially a threat to the UK<sup>5</sup>. The recent SARS and swine flu outbreaks brought home the startling reality of the speed at which diseases can spread across the globe. The first cases of SARS in China and Vietnam were reported by the WHO on 12 March 2003. Two days later a case was reported in Canada, having spread rapidly along airline routes. Within a few months it had spread to thirty countries. Fortunately, SARS was contained, largely due to political collaboration and application of traditional public health measures<sup>6</sup>, highlighting how actions taken by national governments and institutions such as the WHO can have a

significant impact on the burden faced by GP practices and hospitals in the UK.

Infectious disease still makes up a substantial proportion of the global burden of disease<sup>7</sup>. Large amounts of global health funding have been directed at HIV/AIDS, TB and malaria but other infections go unaddressed. For instance, in the Asia-Pacific region there are approximately 340 million people living with chronic hepatitis B and hepatitis C (eight times the number of people in the region infected with HIV, TB or malaria)<sup>8</sup>. Back here in the UK, it was reported in 2012 that STIs are on the rise in England, cases of TB have increased by 5% since 2010 and that malaria cases acquired from the Indian subcontinent have increased by 22%<sup>9</sup>.

Climate change will mean certain diseases become more common as infectious agents like cholera thrive in warmer temperatures<sup>10</sup>.

## Global Health Career Paths

### Rob Aldridge, PhD student



I have had a slightly convoluted career path leading up to work within the broad field of global health. I completed a first degree in mechanical engineering, after which I volunteered in India on projects that put my engineering skills to use. During this time I met several medical students and doctors. Seeing the work they were carrying out I developed a strong desire to study medicine.

During my medical school elective I travelled to Lima, Peru, where I gained my first real experience of global health both in a clinical and a research environment. As a direct result of this I decided to specialise in academic public health in London. The training I have received has been outstanding. The research I have carried out has allowed me to develop my interest in global health whilst my clinical public health training has given me invaluable understanding of health improvement, health services and health protection.

I have recently been awarded a Wellcome Trust research training fellowship to carry out a PhD investigating tuberculosis in migrants to the UK. The research will explore the global health aspects of tuberculosis epidemiology in high and low incidence countries, and ultimately aims to improve services for a population that continues to have limited access to healthcare and poor outcomes even when services are universal.

There have been increased notifications of (non-specific) food poisoning in the UK<sup>11</sup> and of diarrhoeal diseases in Peru<sup>12</sup> and Fiji<sup>13</sup> in conjunction with short-term temperature increases. Epidemics can also be a consequence of migration of reservoir hosts or human populations<sup>14</sup>.

### The transnational epidemic of non-communicable diseases

The significant increase in prevalence of chronic diseases such as stroke and diabetes around the world has been fuelled by many factors beyond healthcare, including changes to diet and levels of physical activity, and a growing middle class in poor and middle-income countries. Globalization contributes too, with multinational companies promoting unhealthy lifestyles around the world<sup>15</sup>.

The WHO has responded to the tobacco epidemic by enacting the world's first public health treaty – the Framework Convention on Tobacco Control – which has successfully pushed countries to tighter and tighter controls on the marketing, sale and consumption of tobacco. Yet overall there is a marked mismatch between funding for NCDs and their contribution to the global burden of disease<sup>16</sup>. Despite NCDs representing a greater threat to global economic development than fiscal crises, natural disasters, and pandemic flu<sup>17</sup>, only 3% of the US\$22 billion of funding allocated to global health went to them<sup>18</sup>.



### Global Health Career Paths

#### Timesh Pillay, medical student

I am a medical student at UCL, and have completed two pre-clinical years. In my third year, I studied for an intercalated BSc in International Health and through course tutors the opportunity arose to take up an epidemiology trainee position in Lima, Peru. I had worked in London analysing data for a GP sexual health teaching intervention before heading to Peru, where I spent seven months as a trainee in *Cronicas*, Centre of Excellence in Non-Communicable Disease, Universidad Peruana Cayetano Heredia.

Urbanization and westernization are linked to rapidly increasing rates of NCDs in many parts of the global south. However, the epidemiological research in the field is largely carried out in North American and European populations. Academic study of Peruvian populations is sorely needed if evidence-based medicine is to be made a reality there and *Cronicas* is attempting to nurture such studies. For example, one short study suggests that glycated haemoglobin, now the gold standard for diagnosing diabetes according to the American Diabetes Association, may not be as strongly associated with blood glucose in populations living at high altitude as those living at sea level. I have been able to support the institute in a number of projects, mainly by writing and correcting papers to be published in English. However, the skills I have obtained from this placement – from learning Spanish to gaining experience of statistical analysis – have provided me with the platform to collaborate internationally in projects in the future. Furthermore, an understanding of the production of knowledge about diverse populations will undoubtedly affect my future priorities, either as a researcher or clinician.

### A diverse population

The UK – like many countries and especially the world's big cities – has become increasingly diverse as a result of migration. As a result, doctors need to ensure that they understand the importance of social and cultural influences on their patients' health beliefs and behaviours and that the quality of health care received by all groups is as equitable as possible.

Treating all patients with respect is an integral aspect of cultural competency, and to a large degree is dependent on the understanding that the doctor has of the patient's circumstances. While all British medical students receive training in cultural competency during their medical degrees,

this can be augmented through a global health approach (see box 1).

### Patients on the move...

British residents have had the right to obtain treatment in another EU country since 1971<sup>19</sup>. In 2008, an estimated 52,500 UK residents travelled abroad for medical treatment, according to the International Passenger Survey<sup>20</sup>. Belgium and Hungary were the most popular destinations for people in the UK to travel overseas for treatment, according to a survey of more than 500 UK patients by the independent medical tourism advice site [www.treatmentabroad.com](http://www.treatmentabroad.com)<sup>21</sup>. Cosmetic surgery was the top reason for treatment abroad (42% of respondents),

followed by dental treatment (32%), surgery for obesity (9%), infertility treatment (4%), and orthopaedic surgery (4%). Worldwide, it is estimated that four million people travel across borders to seek health care each year, with South and South-East Asia popular destinations for treatment.

Recent research has suggested, however, that local health services in low-income countries and in particular women of reproductive age are being disadvantaged by the increasing demand for fertility treatment from rich-country patients<sup>22</sup>.

It has also been noted that the number of patients seeking treatment elsewhere in the European Union could increase in the future if patients are subjected to long waiting lists or other forms of rationing in the UK<sup>23</sup>.

### ... and doctors are on the move too

There is a global shortage of doctors, nurses and other healthcare workers, numbering some 4.3 million in 2006<sup>24</sup>. This shortage, though most acute in developing countries, nonetheless exists in developed countries; the UK, along with other developed

#### Global Health Career Paths

##### Angela Burnett, GP

I currently work as lead doctor at Freedom from Torture and a GP at the Greenhouse Practice in London, working with torture survivors, refugees, homeless people, those affected by drugs and alcohol and other vulnerable people. I also write on the health of refugees and survivors of torture, run training programmes and have mentored refugee doctors and assisted in developing health services throughout the UK for refugees and torture survivors. On behalf of Medact and the Entitlement Working Group I have given evidence on the difficulties with access to health care faced by vulnerable groups to the Parliamentary Joint Committee on Human Rights and the Independent Asylum Commission.

I have previously worked in Zambia with people affected by HIV/AIDS and researched collaboration between traditional healers and formal health workers, evaluated education programmes for Macedonian doctors, worked with Oxfam in Ethiopia with people affected by drought and famine and delivered training for doctors and others working with survivors of violence and torture in Brazil. I was the doctor for the British Winter Paralympic team, covering two Paralympic games.

An important aspect of the work I do now is in addressing health inequalities faced by vulnerable groups, an issue which is of great importance both for global health and for people excluded by society. As a GP I am privileged to be able to work directly with people on an individual level, aiming to make a difference and supporting people to make important changes and improvements in their lives, which is both challenging and immensely rewarding. Working with multi-cultural communities gives variety and stimulation and means that I am always learning and broadening my knowledge and views. I am also involved in advocacy and campaigning, aiming to make a difference on a global scale. I very much enjoy teaching students and colleagues and hope to inspire others to become involved in this very valuable but often undervalued work.



countries, does not train enough healthcare professionals. This demand is met – in richer countries – by hiring foreign healthcare professionals, with negative consequences for some of the world’s most cash-strapped health systems. Although better wages are often a reason for migration, there are many other push and pull factors that explain the attractiveness of the UK as a place to work<sup>25</sup>.

Around a third of all British doctors were trained overseas, making our workforce multicultural and dependent on the production of workers in other countries. This movement of workers influences competition for jobs and wage levels in all countries concerned; the impact – particularly on health systems with already acute shortages of health workers and health care expenditures which may be many times lower than the UK’s – needs to be considered and dealt with by all actors in the UK health system. But this should not mean that doctors are unable to move from country to country. Other solutions, such as devoting more resources to health professional training and career development and thus creating

incentives for trained professionals to stay in poorer countries, are needed.

## Global rules

A number of international regulations affect UK doctors, the most obvious being the European Working Time Directive. Before the implementation of the Directive in 1998, junior doctors regularly worked upwards of 72 hours per week, and even more prior to 1991<sup>26</sup>. The limit has now been lowered to a maximum of 48 hours per week, though this regularly sparks debate about the time necessary for junior doctors to learn the necessary skills for them to progress<sup>27</sup> and whether it truly benefits patients and doctors<sup>28</sup>. Furthermore, the superceding of national laws and regulations raises questions about the authority of supranational institutions that transcend borders such as the EU.

Arguably though, doctors are a global profession, with a global identity. The World Medical Association provides ethical guidance to physicians worldwide through



### Global Health Career Paths

#### Dominique Rouse, medical student

Global doctors frequently begin their journeys as global medical students. I began my journey in 2010 as a medical student at UCL when I was awarded a national scholarship by the government of Trinidad and Tobago.

This scholarship gave me the opportunity to study medicine anywhere in the world. Having lived in Trinidad all of my life, I found my migration to London to be a pivotal moment. I came here sparkling with excitement, harbouring aspirations of becoming a well-rounded doctor and feeling prepared to excel in a challenging course. However, I was not prepared for a culture that was so different to my own and the impact that this would have on me as a person.

Over the past two years, I have been exposed to a variety of attitudes in metropolitan London that have inspired me to broaden my thinking and has matured my outlook on the world. My experiences have taught me that when we remove ourselves from our comfort zone and experience a different culture we promote an intellectual and emotional growth that is unequalled in any other context. Studying medicine in the United Kingdom has truly assisted in shaping me into a well-rounded individual.

its resolutions. These cover areas as diverse as the rights of patients, research on human subjects, care of the sick and wounded in times of armed conflict, torture of prisoners, the use and abuse of drugs, family planning and pollution. National regulators – such as the UK’s General Medical Council – and bodies collecting evidence on best treatment and clinical practice are guided by knowledge and information gathered in many other countries.

## Global knowledge

Global policy trends influence the UK health service more and more – and UK policy influences the rest of the world. The NHS has been promoted worldwide as an example of an affordable, universal health service that is free at the point of use for patients. In turn, it is influenced by policies made in other countries that have relevance for all health systems, particularly those focussed on containing costs. Introducing competition has been seen as a way of maintaining both upward pressure on quality in the NHS and downward pressure on health expenditures. As a result, market forces are playing more of a role than ever before in the UK’s health system – a change that has appealed to some doctors and been controversial for many others<sup>29</sup>.

Attention has also turned to the lessons that can be learned from poor countries for health systems in richer nations. These range from specific, cost-saving techniques such as kangaroo mother care (encouraging skin-to-skin contact between mothers and low-weight or pre-term babies that can be as effective as high cost incubators in preventing hypothermia and infection) to health service innovation that focusses on greater roles for the community in health systems and addressing the social determinants of health alongside clinical care. Cadres of health workers such as clinical officers, who are not trained for the same length of time as doctors, can be just as effective at undertaking specific procedures. And lack of money means some skills become more developed: medical students on elective often experience

this directly, when they see local doctors and other health workers making effective diagnoses in the absence of tests.

The need for appropriate technology, community participation and an attack on the underlying causes of ill-health were all noted in the famous WHO/UNICEF Alma-Ata Declaration on Primary Health Care, signed by 134 ministers from around the world in 1978, and which was grounded in the experience of developing nations. The recent economic crisis has brought these issues into sharper focus once more in all health systems. But perhaps at last we are also realising that knowledge generated from the experience of poorer nations is to be valued as much as that from rich countries.

## Global engagement

Medical schools and universities are increasingly concerned to promote the idea to their students that they are global citizens, and that a sense of the world beyond the UK is vital to all professional careers, not just medicine. Indeed, the relationships between globalization, internationalization and higher education have been a significant topic of debate of the past decade. Some academics and students see the challenges of globalization as a vehicle for posing larger questions about the wider purpose of learning within higher education in the UK, and there are emerging examples of movement towards creating more ‘globally competent’ professionals in a range of disciplines<sup>30 31</sup>. Addressing this might include the addition of new curriculum content, new opportunities for international study or work, and new approaches to teaching and learning.

Medical students have also been responding to the challenges of an increasingly globalized profession, and are setting up their own organisations such as Medsin, a forum for students to explore and engage with global health issues, taking part in projects in the UK and other countries, and working as campaigners (box 2).



## Box 2: Medsin

Medsin was born in 1997 out of the belief and recognition that medical students are in a unique position to serve their local community through global health projects. From just one student Medsin has developed into a network consisting of thousands, tackling global and local health inequalities from the grassroots level right up to the global determinants of health.

Medsin's vision is of 'a fair and just world in which equity in health is a reality for all'. Its mission is 'to create a network of students empowered to effect tangible social and political change at a local, national and global level through education, advocacy and community action'.

Over time the appetite of students to address health inequities has increased exponentially. Through global health talks, seminars and discussions that students seek out and attend in their spare time, they become aware of the root and multidisciplinary causes of health inequities. This education acts as a foundation for further action and can often be transformative. Medical students realise they don't need to wait until they become doctors to make a difference in global health and become active in campaigns for social and political change, and work with marginalised populations in their local communities.

Medsin acts as a network for numerous other global health student organisations, each focussing on a specific area of global health and each with their own stories and successes. Access to essential medicines campaigners have succeeded in ensuring that drugs driven by university innovation are available in low- and middle-income countries at the lowest possible cost. Up and down the country students deliver peer-led relationship and sex education to thousands of school children every year. For the first time in 2011, a Medsin delegation went to the UN climate talks in Durban and campaigned for stronger provision to protect health in the negotiations.

The growing appetite for global health education amongst medical students has led to successful campaigns to incorporate global health teaching into medical curricula and set up further courses in global health. There have been notable successes including publication of global health learning outcomes in *The Lancet*<sup>32</sup>, the revision of the General Medical Council's (GMC) *Tomorrow's Doctors*<sup>33</sup> to include a global health education requirement in all medical courses, and a record number of Student Selected Modules, intercalated BSc and Masters courses available.

For more information, visit the Medsin website [www.medsin.org](http://www.medsin.org)



## Why is global health important for medical students and doctors?

“[T]he present content, organisation, and delivery of health professionals’ education have failed to serve the needs and interests of patients and populations”

Richard Horton, Editor of *The Lancet*, 2010.

As outlined above, as the forces of globalization result in an ever-increasing transfer of diseases, information, trade, finance and people within and across national borders, global health has become essential knowledge<sup>34</sup>. In this section we argue the case for the importance of global health teaching for medical students and doctors alike. In addition, we explain the process of inclusion and integration of global health teaching into medical school curricula, with a focus on how this has been achieved at UCL.

### Understanding what makes people ill

Medical courses attract a very specific type of student: those who are scientifically-minded with a belief in the strength of bioscience to explain causes of disease and its treatment. Medical school curricula centre on biomedical teaching to learn and understand the causes of illness, which is then applied in clinical environments<sup>34</sup>. There remain, however, many health problems, within and between countries, the causes of which cannot adequately be explained by biomedical analysis. The causes are social, economic, cultural and political, and are often complex and interlinking.

The global disease burden is very heavily weighted towards particular parts of the world, particularly sub-Saharan Africa and South Asia. The things that could help to alter this inequality have, however, already been invented: bednets to prevent the transmission

of malaria or oral rehydration salts to prevent deaths from diarrhoea; or do not require invention, such as promotion of exclusive breastfeeding or handwashing after using the toilet. These problems are not the result of slow advances in medical science, nor of lack of access to health systems. The inability to ‘pick’ these ‘low-hanging fruit’ is the result of political, economic, social and cultural factors, which are not amenable to biomedical solutions. To a very large degree the inequality in the global diseases burden – what makes people ill – emanates from these problems, and can only be addressed using knowledge that combines the study of science with the study of society.

Acknowledgment of the impact of these broader factors on health is not new to doctors. Global health focuses on these issues, giving explanations for how socio-demographic factors shape the long-term choices and behaviours that themselves have an impact upon the biological causes of disease. This gives medics more scope to consider the factors that made the patients they treat ill in the first place. This knowledge is essential for the complex chronic diseases and mixed demographics that dominate attention in modern medical practice.

### Developing critical thinking

A key skill that is central to any global health course is the development of critical thinking and analysis. Much traditional medical education revolves around rote learning,

though recent initiatives to introduce problem-based curricula have changed this<sup>35</sup>. Global health, by contrast, asks students to become critical thinkers, in their appraisal of problems and their likely solutions, and the logic and evidence base underpinning them.

Global health is, by its nature, problem-based, as a large segment of it is devoted to analysing why people continue to suffer from poor health when resources exist to prevent this from occurring. Students are required to analyse the factors that have led to a variety of different outcomes, from Chagas disease in Latin America to obesity in South Africa. In each case students are required to think critically about the

entire process that has led to these outcomes. In the first case, this will include a multitude of factors, from the so-called 10/90 research gap, in which only 10% of worldwide health research goes on the diseases that affect 90% of the world's population, to problems with the health system at the local level. Students need to weigh up evidence about the relative importance of these factors, but they also need to use their critical faculties to assess the value of the evidence itself.

Global health students learn to grasp and interpret qualitative evidence in social science literature. Unlike quantitative evidence, which most medics are already familiar with,

### Global Health Career Paths

#### Henry Dowlen, National Clinical Lead for Hospital Doctors: Information Standards and Defence Medical Services

After pursuing topics at medical school around conflict and health (including a summer at the UN), alongside training as a Royal Marine, I found myself in the right place and the right time to take part in the UK's reconstruction efforts in Afghanistan. Formal study into development themes proved crucial to understanding the theory behind complex and chaotic healthcare environments, which I have put into practice both clinically and in advisory roles in other countries. At the same time, a software programming background gave great insights at a national leadership level into e-Health, a technological and cultural development which has far-reaching implications for the way health systems evolve.

As I now work to build a career on these experiences it is a challenge to maintain the clinical skills that deliver valuable expertise alongside population level skills that allow for more strategic levels of thought, analysis and intervention. I work as a doctor in a central London hospital A&E Department whilst training formally in Public Health, keeping current with both e-Health and health in conflict agendas.



### Global Health Career Paths

#### Peter Siordet Scolding, medical student



After six years at university, I'm now entering my final year of medical school! During this time I've had many opportunities. I have intercalated twice, graduating with a BSc in International Health from UCL and an MA in International Studies and Diplomacy from the School of Oriental and African Studies. I have also worked with the Friends of Médecins sans Frontières (FoMSF) student movement, helping to establish the local UCL FoMSF society, and spent three years as a member of the FoMSF National Committee, with one year as its president. Finally, I led a fantastic team of students to co-ordinate the UCLU Darfur Week initiative, supported by UCL's Global Citizenship Initiative and the UCL Grand Challenge of Intercultural Interaction.

I am currently looking forward to my medical elective placement in Khartoum, Sudan, where I hope to gain some real first-hand experience of tropical medicine and of life in this major capital city.

Approaching the end of my student life, I also have one beady eye on my final exams, and am starting to think more about what comes afterwards, with the chance to finally work as a junior doctor in the UK or abroad. My career goals remain the same as they have been throughout university – to work as a doctor for a humanitarian organisation such as Médecins Sans Frontières.

conclusions from this kind of literature are often more ambiguous, open to subjective interpretation and require careful judgement on the part of the reader.

Assessing quantitative research requires just as much critical judgement. Study designs, research questions and participant choices are all open to the discretion of the researcher, and global health students must learn to assess the quality and rigour of these methodologies and the conclusions they draw. It is a common misconception that

qualitative research is more open to bias than quantitative. When students develop skills of critical appraisal they are able to assess the merit of study designs of both types.

The notion that almost all evidence or research is open to subjectivity, explicitly or otherwise, is one of the first steps towards the development of critical thinking that global health fosters.

## Understanding global issues that affect practice

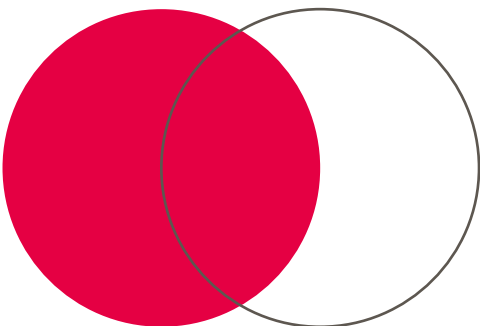
As discussed already, global health helps medical students to better understand the complex factors that influence the development of medical conditions. In addition, it gives them knowledge of the health systems they will be working in, whether in the UK or abroad. The British NHS regularly undergoes structural changes and political debates, yet detailed exploration of these changes and their implications for doctors and patients are often absent from medical curricula. Global health seeks to produce medical students who are intellectually mature and well-prepared to deal with the challenges of modern medical practice.

## Career paths beyond the NHS

Global health knowledge is essential for doctors who work abroad. For UK-trained doctors who do not wish to work in the NHS for their whole careers, there are a multitude of opportunities, such as working for NGOs like Médecins Sans Frontières or Save the Children, or big international organisations such as the WHO, the GAVI Alliance or the Global Fund to Fight AIDS, Tuberculosis and Malaria. For those who wish to work as

clinicians, there are opportunities such as through twinning links with hospitals in poor countries or through working directly in poor country health systems. Lastly, for those who wish to use their knowledge of health more broadly, doctors can work in health policy or academic research, career paths that can potentially have the greatest impact.

Many doctors return from a period of time spent working in developing countries, having experienced the frustrations of working in resource-poor health settings. Yet the reasons underlying the struggle for developing countries to emulate the relatively successful health systems of the developed world are manifold, and understanding this before going to work abroad will most likely help the doctor to work better within the limits of the health system. Doctors working in foreign countries may not, for example, be able to produce changes to the system and it may not be appropriate for them to do so. Those with global health knowledge are more likely, however, to understand the underlying reasons for these circumstances and how best to work with them.



## Humanitarian doctors

Working for humanitarian agencies such as Médecins Sans Frontières, Merlin or the Red Cross, as well as a host of similar non-governmental organisations, is increasingly popular among doctors. These agencies work in some of the world's most difficult environments, beset by natural disaster, war or political crises, and require particular skills of resilience and ingenuity. It is essential that humanitarian doctors have training in tropical medicine but they will also need broader skills in health systems, project management

and knowledge of the social and political environment of the country they are working in.

New actors such as the military are emerging as humanitarian actors – and this has caused some controversy, as some argue that it leads to an unacceptable blurring of boundaries between humanitarian assistance and politics. Others argue that this has always been the case, and that the military may be uniquely placed to play an important humanitarian role.

### Global Health Career Paths

#### Sohur Mire, doctor, Médecins Sans Frontières, Somaliland

I first realised the importance of healthcare as a teenager when I found myself tearing a man's shirt and wrapping it over his bleeding leg on the command of my mother, who is a midwife. That was twenty years ago, on the outskirts of Mogadishu, Somalia. As a refugee in Sweden, I joined the Red Cross, where I went to schools to inform children about the impact of war and racism, focussing on the Holocaust. I became more involved with refugee welfare and moved to London to work with asylum seekers. My dream, however, was to become a doctor. After my medical and international health studies in London, I joined MSF, working in Africa.

My work in Somaliland focuses on strengthening a basic healthcare infrastructure for emergency obstetrics and paediatrics. I have been working in a referral hospital for several large provinces with fundamental health care gaps. While immediate improvement in health outcomes has been extremely rewarding, it remains a challenge to strike a balance between temporarily covering the health needs well and improving the standards to a locally sustainable level. Similar health gaps and strategic challenges also exist globally and have an impact on millions of people. Global doctors are needed to cover these gaps and find ways to tackle these important issues.



## Research careers in global health

A key entry point for doctors into global health is through a career in research. These opportunities vary from clinical research, such as analysis of the aetiology of a particular tropical disease, to more social scientific approaches looking at health systems, policy or the impact of cultural practices on health

behaviours. It is vitally important to involve doctors in the pursuit of global health through research, but it is equally important for these doctors to be knowledgeable about the social determinants of health and the social, political and cultural aspects of the society they are working in.

### Global Health Career Paths

#### Jennifer Hall, PhD student

After the UCL BSc in International Health I finished medical school and decided to specialise in public health. The public health training programme offers great flexibility and I have been able to do a Masters in Public Health at the London School of Hygiene and Tropical Medicine (LSHTM), an academic placement at UCL's Institute for Global Health (IGH) involving research in Nigeria, and worked for a year as a health adviser in DFID's London office followed by three months working in their country office in Burma on health for conflict-affected populations.

I am now taking three years out of the public health training programme to study for a PhD with IGH. My work is based in Malawi where nearly half of all pregnancies are unplanned, as large numbers of women want to use family planning but can't. My work will explore the reasons why family planning isn't being used; quantify the contribution that unplanned pregnancies make to the large numbers of maternal and child deaths in Malawi; and provide recommendations to Malawian policy makers. Though focussed on Malawi, the findings of this work will have wider relevance.



## Policy careers

Doctors play a major role in global organisations such as the WHO, working in a variety of project implementation, standard-setting and policy formulation roles. They also frequently dominate national Ministries of Health, and work in bodies seeking to influence health policy such as campaign groups, private foundations and think-tanks. As global health aid has expanded over the last twenty years these positions have

increased in number. Those working in policy need the research and critical thinking skills that studying global health brings, coupled with excellent political and diplomatic skills and a sense of how power works in the world. They will also need excellent project management skills and are frequently involved in setting strategic direction for organisations, drawing on their biomedical and global health training as well as their career experience.

### Global Health Career Paths

#### Liz Mason, Director: Maternal, Newborn, Child and Adolescent Health, WHO



My interest in global health started as a medical student. I spent two months in rural Kenya at the end of my second year, where I soon realised that health services were few and far between. For my elective period I went to a district hospital in Jamaica. Having trained in paediatrics in Leeds and spent an SHO year in Bradford, I headed to Newcastle for O&G, then paediatrics rotations. The department had strong links with The Gambia, and a tradition to spend one to two years there during training. However with Zimbabwe gaining independence in 1980, I decided to head there with Oxfam, who were re-establishing rural health services. After two years I realised a qualification in Public Health would complement my paediatrics training, so applied to LSHTM the following year. I returned to Zimbabwe two years later, rejoining government service for the next 10 years, working at provincial and national levels in maternal and child health. I subsequently moved to WHO and worked at national, sub-regional and regional levels as child health advisor, before being appointed in 2004 as Director of Child and Adolescent Health at WHO HQ.

As Director of the department of Maternal, Newborn, Child and Adolescent Health at WHO HQ, our vision is a world where every pregnant woman, newborn, child and adolescent enjoys the highest attainable standard of health. The department, along with our regional and country offices and partners, generates and synthesises evidence and defines norms and standards for maternal, newborn, child and adolescent health, supports the adoption of evidence-based policies and strategies, builds capacity for high quality, integrated health services for pregnant women, newborns, children and adolescents and monitors and measures progress in implementation and the impact of those strategies on survival, health, growth and development. Through these actions we are saving the lives of millions of women and children, and contributing to their better health and wellbeing.





## How global health is becoming incorporated into UK medical curricula

“Medical students should be able to ... discuss from a global perspective the determinants of health and disease and variations in healthcare delivery and medical practice”  
Tomorrow’s Doctors, General Medical Council.

The General Medical Council’s (GMC) inclusion in 2009 of global health into its learning objectives for *Tomorrow’s Doctors* marked a step towards addressing the gap in knowledge amongst UK medical students and doctors. Global health knowledge and its associated skills extend far beyond the traditional biomedical syllabus taught in UK medical schools, meaning the majority of medical students and doctors lack a comprehensive understanding of the subject. Though there is interest and demand for more global health teaching from British medical students<sup>36</sup>, there remains much to be done in terms of properly integrating it into the curriculum. The speed of this process has been quicker in some medical schools than others.

UCL has been at the forefront of global health education and research since the birth of the discipline in the UK. The first initiatives offered by UCL were International Health Special Study Modules for first year students, as well as for final year students about to begin an overseas elective in a developing country. The success of these led to the establishment of the intercalated BSc degree in International Health, the first such degree in the UK. The popularity of the course amongst students, as well as the increasing recognition of the importance of the course content for future doctors, led to the establishment of International Health intercalated BSc degrees at other medical schools. There are now eight UK medical schools offering such degrees.

The spread of global health teaching in the form of intercalated degrees has led to a diversification of the focus of courses. Leeds, for example, focuses on health and health systems in developing countries. Imperial College places an emphasis on technology-based solutions to

global health problems. UCL focuses more on social sciences, and on policy and common determinants of health in developed and developing countries. It also emphasises the multidisciplinary nature of the topic, as shown by the inclusion of global health as one of UCL’s Grand Challenges for cross-disciplinary research<sup>37</sup>. The increasing heterogeneity of approaches to the subject reflects its varied definitions and is a positive sign of its increasing maturity as an academic discipline.

The spread in popularity and scope of global health teaching amongst medical schools has been echoed by calls for it to be formally integrated into the core UK medical curriculum. The commitment by the GMC to global health teaching in *Tomorrow’s Doctors* was followed by a global Independent Commission on the Education of Healthcare Professionals by *The Lancet*<sup>38</sup>. The Commission condemned rising health inequity worldwide as a collective global failure and criticised institutional failures in health systems for not adapting to the changing health needs of populations. Inspired by the reforms of a century earlier that embedded medical sciences into the education of health professionals, the Commission proposed nine reforms of medical and healthcare education. These included curricula that can respond to rapidly changing needs of populations, education promoting better interprofessional relationships and the harnessing of shared resources to address global challenges<sup>38</sup>. More recently a group of academics, students and representatives of civil society with expertise in global health published a set of recommended global health competencies for all UK medical students<sup>32</sup> (see box 3).

## **Box 3: Proposed global health learning outcomes for medical students**

### **Global burden of disease**

- 1 Discuss communicable and non-communicable disease at the global level
- 2 Discuss the impact of international travel and migration on the diseases seen in the UK
- 3 Discuss the causes and control of global epidemics

### **Socioeconomic and environmental determinants of health**

- 4 Demonstrate awareness of the non-clinical determinants of health, including social, political, economic, environmental, and gender disparities
- 5 Examine how health can be distributed unequally within and between populations in relation to socially defined measures
- 6 Describe how the environment and health interact at the global level

### **Health systems**

- 7 Discuss the essential components of a health system, using the WHO model
- 8 Recognise that health systems are structured and function differently across the globe
- 9 Recognise that the NHS has an international workforce and explain the impact of this within the UK and overseas
- 10 Examine the causes and scale of inequalities in health workforce distribution

### **Global health governance**

- 11 Demonstrate awareness of the complexity of global health governance, including the roles of international organisations, the commercial sector, and civil society
- 12 Discuss the role of WHO as the international representative body of national governments for health
- 13 Discuss how health-related research is conducted and governed globally

## Human rights and ethics

- 14 Respect the rights and equal value of all people without discrimination and provide compassionate care for all
- 15 Examine how international legal frameworks impact on health-care delivery in the UK
- 16 Discuss and critique the concept of a right to health
- 17 Describe the particular health needs of vulnerable groups and migrants
- 18 Discuss the role of doctors as advocates for their patients, including the importance of prioritising health needs over other concerns and adhering to codes of professional conduct

## Cultural diversity and health

- 19 Demonstrate understanding that culture is important and may influence behaviour, while acknowledging the dangers of assuming that those from a particular social group will behave in a certain way
- 20 Communicate effectively with people from different ethnic, religious, and social backgrounds, where necessary using external help
- 21 Work effectively with colleagues from different ethnic, religious, and social backgrounds.

UCL Medical School, working in conjunction with the UCL Institute for Global Health (IGH), has embraced recommendations to integrate global health into its curriculum. The UCL MBBS 2012 curriculum, which began in September 2012, aims to instil students with 'an appreciation of the role of the future doctor within the healthcare environment in the UK and globally'<sup>39</sup>. Global health is part of a vertical spine on the social determinants of health that will run across all 6 years of the

curriculum and which will combine academic and experiential learning, using increased contact with patients and the opportunity afforded by the elective experience to bring students closer to the reality of how global health issues affect patients' lives around the world. Lessons from the Students as Global Citizens project have already informed the restructuring of the global health curriculum at UCL.

## The challenges of incorporating global health into UK medical curricula

Alongside the drivers for the inclusion of global health within medical education, it is also important to recognise barriers and constraints to change. These include limited space and time in the undergraduate curriculum, types of teaching and learning approaches, and the perceived relevance of global health to training and professional development.

### Space and time in the undergraduate curriculum

While there are strong arguments for the greater inclusion of a global dimension within higher education, and medical higher education in particular, there is often little space within medical curricula for additional content. In institutions where global health is seen as an 'option' to the core business of teaching biomedical subjects, global health issues are likely to be explored only by those students with an existing interest – for instance, through one-off lectures and seminars, optional modules and intercalated degrees, extracurricular activities or voluntary overseas placements. As a result, global health often remains outside the core requirements of professional development.

The challenge is to identify solutions that address the constraints medical schools operate under and the need to protect core content within the curriculum, while supporting students to develop their understanding of global health as well as the relevant 'global skills' (such as critical thinking, multi-disciplinarity, team working, the ability to work across cultures and contexts, systems thinking and strong interpersonal and communication skills)<sup>40</sup> that they will need in their careers.

Work by UCL IGH and the Students as Global Citizens project, however, highlights the potential for global health to be integrated within existing programme offerings as part of a cross-curricular spine or through interdisciplinary activities (see box 4). These provide important opportunities for students and staff to connect global issues to their thinking and practice in a range of areas and subjects.

### Approaches to teaching and learning

Embedding global health within medical curricula can be particularly challenging in medical schools in which lecture-based learning is seen as the most appropriate and preferred teaching method. Such teaching methods provide little or no opportunity for group working, critical reflection or examination of contested and complex issues and do nothing to develop transferable skills such as team working, communication skills or the ability to think 'outside the box'. By contrast, role play, simulation and action learning (as popularised by educationalists such as Paulo Friere) provide the space and opportunity to explore complex issues in imaginative ways that actively involve learners (see box 4).

While these more active teaching methods may not be appropriate for use in all subjects or circumstances (for example with large student groups), they can be used alongside lecture-based methods to encourage a range of student engagement with learning. Higher education institutions need to support teaching staff to develop expertise in these methods, perhaps through professional development programmes or innovative teaching and learning strategies.

### Perceptions of global health

The introduction of new approaches to teaching and learning about global issues raises significant issues about the nature and boundaries of disciplinary knowledge, the range of professional competencies that are required in an era of globalization, and wider perceptions of the purpose and goals of professional education programmes. How should learning about global health be prioritised relative to other topics or skills? For instance, what do medical professionals see as the 'core' knowledge and skills of the discipline? What do students opt to take when given the choice of opportunities to learn about global issues or to focus on developing clinical or technical expertise in their field? In other words, how important do medical professionals and students perceive global issues and perspectives to be in relation to more 'traditional' areas of learning?

Research for the Students as Global Citizens project suggests that one of the key barriers to integrating global issues and perspectives within undergraduate health degree programmes is resistance – on the part of some institutions, individual educators and

students – to making space within crowded curricula for what are perceived to be 'soft' skills. These might include the ability to recognise and value different perspectives, to work in a more flexible manner and with diverse groups of people, and to communicate effectively. While many health professionals might recognise the value and importance of such skills in their own practice, the perception that mastery of 'hard' scientific knowledge is the foundation of professional development remains very strong within many training structures and institutions.

But global health educators also have a responsibility to ensure that their teaching is as relevant to the learning of medical students as possible. This includes emphasising components of global health knowledge – and approaches to learning – that will make them better doctors; providing coherent curricula that are 'joined up' so that global health knowledge builds on and interacts with other parts of the medical curriculum; and teaching in an engaging manner that responds to student needs. Students also want to see how careers in global health can be forged.

## Box 4: Interdisciplinary learning for health professionals

Medical students rarely have the opportunity to interact with students training in other health professions. However, these interactions can encourage students to think outside their own discipline and recognise the need for inter-professional collaboration.

As part of its work, the Students as Global Citizens project organised two interdisciplinary workshops on Avian Influenza for students from UCL Medical School, the Royal Veterinary College and UCL School of Pharmacy. The aim of the sessions was to provide students with the opportunity to (i) have an increased appreciation of the complex nature of global health concerns, and particularly zoonotic disease outbreaks, and (ii) develop an understanding of the need for collaboration between health professionals and between actors and organisations at local, national, regional and international levels.

Participants were presented with the details of an outbreak scenario in Southern Sudan and then divided into interdisciplinary groups representing key national and international interests that respond to pandemic outbreaks: local health professionals, officials from the Ministry of Health and Ministry of Animal Resources in Sudan, representatives from international health organisations (e.g. WHO, Food and Agriculture Organization, World Organization for Animal Health), multinational pharmaceutical industry representatives, and local and international media organisations. Within each group, the players were instructed to discuss the response they would make to the scenario and the questions this raised in terms of both human and animal health. At various points in the workshop, the groups were also asked to negotiate about their planned activities with other relevant groups. Opportunities were also provided for whole group discussion and debate.

Student feedback on the workshops was overwhelmingly positive, with students recognising the importance of working across health professions and also seeing the value in a multi-levelled approach to complex global health concerns:

*It is important, especially for medical students, to leave our insular 'bubble' once in a while and see the wider political, professional and international aspects of medical issues. **UCL student.***

*It is important for people from different disciplines to come together to work on issues as each has different knowledge experiences and can contribute from different perspectives. **SOP student.***

*It is important to realise how global issues regarding animals and humans are dealt with on a large scale (not just at the 'farm level'). **RVC student.***

## Conclusions

In this report we have outlined the importance of global health for the medical students and doctors of today and tomorrow. The changing nature of both global and British society means that an understanding of health and its broad determinants is necessary for all doctors, wherever they work and whatever their specialty. Global health teaching can provide this understanding, which helps equip doctors with knowledge of the political, economic, social and cultural factors that affect health, and the skills to analyse these processes.

Global health has become increasingly incorporated into undergraduate medical curricula in the UK, first as optional modules and elective preparation, and more recently as part of the core curriculum. For many medical schools and higher education institutions, this change will require the use of innovative teaching and learning strategies, provision of professional development programmes for teaching staff, and revisions to existing curricula. We welcome this trend towards the greater integration of global health within the core medical curriculum and argue that, as globalization continues and becomes more entrenched, global health teaching will increasingly become a required part of medical studies. The next generation of Global Doctors will be more necessary than the last.

## Further Resources on Global Health and Global Awareness

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