

Global health and disaster medicine: Is it time to add more to the medical curriculum?

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Internationally, many universities have realised the importance of teaching undergraduate medical students about international or global health issues. As citizens living in an increasingly globalised world, it is important that we as medical students and future doctors have a good understanding of the healthcare challenges faced by clinicians around the world. Additionally recent events, internationally and locally, have led to a call for greater emphasis on education and training in disaster medicine and public health emergencies.

Is there enough space in the medical curriculum to teach these topics? Is it important for medical graduates to know how to manage patients with developing world diseases or manage victims following a disaster?

The field broadly labelled 'global health' or 'developing world medicine' looks at the healthcare challenges faced by clinicians internationally and aims to provide solutions. Global health, at the population level, is concerned with improving health outcomes and reducing disparities across states. It is an increasingly coordinated field of medicine that is underpinned by a set of quantifiable targets articulated in the Millennium Development Goals (MDGs).

In 2000, the United Nations adopted the MDGs, as a series of targets to be achieved by 2015. The eight goals represent the main challenges currently facing our world. They are:

1. Eradicate extreme poverty and hunger
2. Achieve universal primary education
3. Promote gender equality and empower women
4. Reduce child mortality
5. Improve maternal health
6. Combat HIV/AIDS, malaria and other diseases
7. Ensure environmental sustainability
8. Secure a global partnership for development

As can be seen, some of the MDGs directly relate to health and healthcare provision. However, it can easily be argued that all affect people's health and wellbeing.

The final MDG indicates the well-accepted importance of cooperation and collaboration between developed and developing countries in tackling the challenges faced. With this in mind, many universities in developed countries have incorporated dedicated global health teaching into the undergraduate medical curriculum. Some progress has been made towards replicating this approach in New Zealand; however further enhancements are necessary if we want to produce medical graduates well-equipped to face global health challenges.

Nevertheless, there is already a lot that medical students can do. Global health groups have been established at each campus in the country with

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links to other global health initiatives such as the Medical Aid Abroad Programme and Fiji Village Project, as well as opportunities to volunteer locally and internationally. Many Trainee Interns have undertaken their medical elective in a developing country to gain first-hand knowledge and experience in dealing with the challenges people face.

Additionally, preparing medical graduates well-equipped to face disasters and their aftermath is essential. Recent disasters such as the Christchurch earthquakes remind us that disasters can happen anywhere, at anytime, and to anyone. Doctors and medical students who are conversant in the language of these fields are often the best equipped to manage and respond to disaster situations and their aftermath. The general public have an expectation that the medical profession are able to lead and manage in matters of health following a disaster.

Unlike global health teaching, where topics can appear isolated and specific, many aspects of disaster medicine and management are already being taught to medical students, such as infectious disease control and public health promotion. Teaching in disciplines such as occupational medicine and wilderness medicine compliment these, and provide transferable skills and knowledge.

However, what makes disaster medicine training fundamentally different from what is presently taught in the medical curriculum is its focus on taking preventive and preparatory measures, and on how to use creative and innovative approaches in solving disaster challenges. Preparing graduates who are able to think laterally and solve healthcare challenges, in whatever context, is crucial to the future of healthcare delivery in this country whether a disaster occurs or not.

So how can students contribute? The Christchurch earthquake in February this year shows just how powerful students can be in responding to a disaster. Immediately following earthquake, medical students at the Christchurch School of Medicine quickly organised themselves into groups to provide assistance and support where required. The response showed how effective students can be; and also highlights the importance of communication and organisation, in particular the use of social networking tools such as Facebook. Although many students did not receive any disaster management training prior to the earthquake, fundamentals learnt in medical school, such as showing empathy towards stressed and stricken patients and assisting healthcare staff where needed, proved to be invaluable.

Although global health and disaster medicine do not feature in the medical curriculum as modules or core knowledge competencies in their own right, the need to prepare medical graduates competent in these areas is becoming increasingly important.

We hope this issue of the New Zealand Medical Student Journal gives you a taste of the challenges and opportunities out there, encourages you to think creatively and critically about solutions to the wider problems in our world and, to quote Gandhi, "be the change you want to see in the world".

Should global health form a compulsory component of undergraduate medical curricula?

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Whilst global health is now increasingly being introduced as a post-graduate subject or indeed an entire degree, it remains conspicuously absent on the undergraduate radar.

Global health is an exciting and emerging field with proven potential for substantial, broad-reaching impact. Four of the eight Millennium Development Goals have a clear, direct relationship to global health, with many remaining goals displaying an indisputable link to this expansive area. Mammoth sums of money are invested annually in global health initiatives and this outlay has been rewarded by dramatic progress in multiple areas. Major organisations and foundations, including the Bill and Melinda Gates Foundation have made longer-term commitments to addressing global health issues in a comprehensive, evidence-based fashion. Global health is not new, however it is visionary, interesting, relevant, challenging, topical and – in its own way – trendy as heck. Quite simply, global health is where it's at. Why, therefore, does it not currently feature as a compulsory subject for New Zealand (NZ) medical students? How is it possible that some students would likely struggle to articulate what is even meant by 'global health'?

Acknowledging the importance of global health is not a difficult task. As it turns out, developing arguments in favour of routinely teaching global health to undergraduate medical students is also remarkably straightforward.

Firstly, such teaching provides students with a more comprehensive perspective – on life, on health, and on healthcare (including healthcare systems). Armed with this, healthcare practitioners are better equipped to practice in the context of a globalised world. Good doctors offer more than sound medical knowledge: they require an appreciation of the health issues and beliefs of different cultures and societies. Global health teaching has a significant role to play here. Global health is also inextricably intertwined with the socio-economic determinants of health – something that demands attention in 21st century medicine.

Doctors must demonstrate reasonable understanding of the global burden of disease. How can we treat effectively if we are not aware of the extent of the problem, what causes the problem, or even where it can be found? Yes, knowledge of the local situation is vital, but we need to consider whether this should be taught at the exclusion of the broader health picture. This wider-reaching perspective may, in fact, be required to provide the most relevant local care.

New Zealand is blessed with an international population and, if we are to adequately serve our communities, our knowledge of disease and medicine must reflect this diversity. We also house a relatively mobile population. Consequently, our demography and disease burden will change. This article

will not discuss the relative merits of overseas experience and I shall steer clear of the controversial issue of physician migration. However, irrespective of your view or professional intentions, there is no escaping the fact that many local graduates will practice in a non-NZ setting at some point in their clinical careers. To be competitive in a highly international market, you need to know something of the system in which you elect to function. Global health teaching facilitates an understanding of key transferable principles which can be applied no matter the scene. Let us suit up before heading into the battle. Location of practice aside, we also see that global health issues impact on all of us. Time and time again, we are reminded that health threats and disease neither recognise nor respect geographic boundaries (Fukushima, anyone?). Yet, by continuing to neglect the changing trends in global health issues, we currently teach as though this is the case. We cannot afford to be this naïve.

Naturally, there is the pragmatic realisation that we cannot cover everything in just six short years and competition for medical lecture time has always been strong (and contentious, and political, and...). However, it seems that many conditions that feature in top ten global health lists appear only fleetingly in the standard lecture set. There were significant gaps in my knowledge about malaria, HIV/AIDS, diarrhoeal illnesses, under nutrition, oral health and even TB at the time of graduation. This was not a consequence of insufficient study, and I know I was not alone in my relative ignorance around some major global health conditions. In fact, it barely occurred to me that I should know more about these conditions. Without realising it, I left medical school almost believing that these conditions were not particularly relevant to my future career; simply since they do not reflect significant health challenges in NZ. But, can it be that some of the leading causes of death in this world are simply not pertinent to certain doctors – depending on where they train? Do we have an ethical obligation as (current or future) healthcare practitioners to be aware of the major issues affecting a notable proportion of individuals around the world? When we are considering the really big stuff, it is not sufficient to say, "We just didn't know".

We should be questioning why medical curricula are structured so that we learn more about obscure, 'House'-style metabolic or embryological conditions than we do about, say, vitamin A deficiency in children. Why is it that many students would struggle to talk for 60 seconds straight about malaria? The 'House' stuff might make us feel dead smart, but the latter conditions more accurately reflect what the world actually sees. Will we feel quite so smart if we miss or mis-manage a condition that features so prominently on the international scene?

A basic knowledge of the epidemiology of major global health conditions, together with a working understanding of the principal obstacles and challenges facing those striving toward the improvement of the health

status of populations around the world is necessary if we are to consider the allocation of global health resources in a fair, sustainable fashion. All healthcare professionals have a responsibility to know of recent research developments, what the healthcare priorities are, and where future advances might lie. At present, the responsibility for such training appears to be reserved for specialty colleges, but these habits need to be formed much earlier in medical training. This information would form a standard component of any reasonable global health module, therefore filling a current gap in the undergraduate programme. Global health issues are applicable to every eventual medical specialty: what better time to build this foundational knowledge than during the period in which medical education is most generalised? What are we waiting for?

Let us now turn our attention from medical conditions and consider healthcare systems in general. Why is a global health approach relevant?

The problems and challenges that face our world do not lie within a single nation's boundaries. As a result, we are witnessing a shift towards more integrated (if somewhat under-governed) approaches to addressing various issues. Conflict resolution is just one of many examples: David Cameron might have originally proposed the no-fly zone over Libya but a UN resolution was required for that to occur. Further to this theme, the issues that face health and healthcare systems demand solutions that come from more than a single arena (i.e. medical) within a single setting. To solve the big challenges, we need a systematic approach to healthcare provision.

As healthcare systems develop in low- and middle-income countries and as existing systems within developed countries are forced to adapt to cope with changing demands and ever diminishing resource availability, we all have a lot to learn from one another. Despite various distinctions, many of the issues that face developing countries also apply to the developed world. Global health delivery systems should therefore ideally be designed and implemented in close international collaboration, adhering to a set of overriding fundamental principles. Until this occurs, our systems will remain effectively stagnant – or at best we will see incremental improvements. We will continue to witness practice that functions within isolated silos

and does not reflect the true far-reaching determinants of health-related conditions.

Given the challenges ahead, incremental improvements in healthcare delivery are not adequate. Incremental improvements have been the vision, the aim and, resultantly, the extent of the output for years. They are beneficial, but they are not enough. Working in proverbial silos is not sufficient: this approach will not produce success on the scale our society demands and that our patients deserve. We must think and act bigger. We must go global.

The healthcare structure that we see today is at least in part a consequence of how healthcare professionals are trained. Resultantly, overseas institutions are already introducing global health training as part of a core medical curriculum. We need to display real movement now to prevent us from getting left behind. We do so many things well; it would be an incredible pity to continue to lose points here. Through actively engaging with the trend to include this teaching, we find a way to keep NZ close to the rest of the developed world and to make our already strong medical graduates even more competitive.

The question remains as to what we do from here? How do we build momentum for the global health revolution within the confines of our shores? Easy! Be bold. Defy that gravitational pull that leads you to unquestionably accept how your craft is communicated to you. There is no substitute for people with will, guts and determination. Speak up, ask the right questions and be an active part of the change that is needed. Be in the driving seat of your own educational journey. Your medical education has already changed you. The person reading this has progressed beyond the person that started your degree. That transformation is the result of much more than simply the acquisition of knowledge drawn from lectures. Dare to imagine where that can go if the 'blinkers' are removed to fully reveal the scope of your horizon. Dare to engage in global health and dare to encourage others to do the same. A world of opportunity lies ahead.

Seriously, what are you waiting for?

GUEST EDITORIAL

Global health in New Zealand: Opportunities abound

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When I first turned up to class at the dark-grey concrete fortress in Grafton five and a half years ago, there were no organised global health activities for medical students. There were rumours of the odd student taking time off to get involved in some mysterious humanitarian work, and of course the dangling carrot of the developing-world elective at some point in the distant future, but little else. In 2011, the substantial interest of New Zealand medical students in global health activities is matched by a number of organisations and projects.

It must be acknowledged that students have varying levels of interest in global health, from simply being motivated to hear from interesting speakers and to learn more about the world, to working with the local community, performing research, and travelling overseas to get some hands on experience. Through Medical Students for Global Awareness (MSGA), New Zealand students can attend interesting talks and seminars on global health, and there is often a set of interesting speakers from a global health background at the annual NZMSA Conference. The pinnacle academic event in global health in this part of the world is the annual Australian Medical Students' Association Global Health Conference (AMSA GHC), which New Zealand students have been attending in increasing numbers.

However, to get a real feel for global health activities, there is nothing better than getting out of the lecture theatre and into the field. There are several opportunities for New Zealand medical students to gain experience in hands on campaigning and humanitarian work. Although often small in scale, these opportunities allow you to gain insight into the practical challenges, personalities and rewards of advocacy and development work at the coalface. Following the principle of 'think global, act local', MSGA partners with New Zealand based non-governmental organisations to encourage medical students to engage with their community and with local issues of social justice. For example, MSGA has partnered with OraTaiao, the New Zealand Climate and Health Council, to advocate for action on climate change in New Zealand from a health perspective, including lobbying against planned lignite coal mining in Southland. The Medical Aid Abroad Programme (MAAP), based principally in Christchurch, and the group 'Medical Aid Abroad', offer medical students the chance to retrieve medical equipment no longer required in New Zealand and then send this as targeted aid to hospitals in the developing world via elective students.

Internationally, New Zealand medical students have been involved with the establishment and implementation of a number of projects. The Fiji Village Project (FVP), an international student-led humanitarian project, was started in 2007 by medical students from Australia, New Zealand and Fiji to address basic public health deficiencies in a village setting, such as water sanitation. The Fiji Village Project is a year-long commitment ending with an annual two week project trip to Fiji in mid to late January. I was fortunate

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to be involved with organising the initial project, where we worked in partnership with a village of six hundred people to fund-raise and install new water tanks, screen villagers for signs of chronic disease and perform health promotion education. The FVP has maintained the same focus and grown each year, and in 2011 partnered with two villages for the first time.

New Zealand students have also been involved with the Institute for the Indian Mother and Child (IIMC), which resources twenty two schools, five rural health hospitals and clinics, a disabled children's respite centre, a microcredit lending programme and a women's empowerment and peace project in rural Kolkata. MSGA promotes the IIMC and its child sponsorship programme in New Zealand, and in 2010 hosted the institute's enigmatic founder and director, Dr Sujit Brahmochary, for a series of talks at each clinical school.

New Zealand students have also engaged in a number of activities through the network of the International Physicians for the Prevention of Nuclear War (IPPNW), also known as Physicians for Social Responsibility (PSR). IPPNW were awarded the Nobel Peace Prize in 1985 for lobbying against war, environmental degradation and issues of social justice around the world. The key principle of IPPNW involves doctors using their respected, non-political voice to advocate for social change. MSGA is proud to have IPPNW New Zealand as their parent body. Relevant opportunities include policy internships at PSR in the USA, attending the Refugee Camp Project (ReCap), a one month development programme with the United Nations Relief and Works Agency for Palestine Refugees, and elective students authoring 'One Bullet Stories' to provide a health and economic narrative to small arms violence in the developing world.

Opportunities for global health research have also emerged at both New Zealand medical schools, allowing students to undertake studentships and BMedSci research years in topics related to global health. Dr Judith McCool leads the University of Auckland Global Health Group and Professor Philip Hill leads the University of Otago Centre for International Health. In the future, research exchanges may be offered through New Zealand's fledgling membership of the International Federation of Medical Students' Associations, which also offers opportunities to attend a number of international conferences and to engage with transnational public health projects.

If you are interested in getting involved with the above activities, MSGA is a great starting point. The organisation works in partnership with the above projects and organises events at all four New Zealand clinical schools. MSGA also operates local mailing lists, and acts as a bridge between medicals school and wider community and humanitarian groups present at central University campuses. With such a range of activities to get involved with, global health opportunities in New Zealand have blossomed.

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