

Strengthening human resources for health in resource-limited countries: The case of Medic to Medic in Malawi

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Introduction

Africa has a critical health worker shortage. As a whole, the continent has only 2% of the global supply of physicians though it weathers 24% of the world's disease burden¹. Similar demands exist for other health worker cadres including nurses, midwives, physiotherapists and pharmacists².

In 2006, the World Health Organisation (WHO) defined countries as having a 'critical shortage' of health workers if they had fewer than 2.28 doctors, nurses and midwives per 1,000 population and if they failed to reach the target of 80% of deliveries being attended by a skilled birth attendant³. Of the 57 countries that met this definition, 36 of them were in sub-Saharan Africa³. In Malawi, the health workers to patient densities are, respectively, 0.019 physicians and 0.283 nursing and midwifery personnel per 1,000 population⁴. This is below the aforementioned WHO recommended ratio. These statistics are worrisome because a successful delivery of essential healthcare services depends on a sufficient supply of health workers⁵. The shortage of human resources for health was identified as one of the major impediments to the scaling-up of antiretroviral therapy^{6,7}. Critical insufficient health personnel also challenged Malawi in the reduction of maternal and child mortality during the Millennium Development Goal era⁸.

College of Medicine, University of Malawi

The history of the University of Malawi's College of Medicine (CoM) has been well-documented^{9,10}. Before Malawi – formerly known as Nyasaland – was created in 1963, its medical students had mainly been going to the well-established medical schools in Southern Rhodesia (now Zimbabwe) and Northern Rhodesia (now Zambia). After 1963, this became more difficult, and many students were sent to Britain for their training under British sponsorship. Sending young students abroad immediately after their secondary education during their formative years is a risk, since many may not wish to return once qualified. This proved to be the case; by the 1980s, the joke – ironically true – was that there were more Malawian doctors practising in Manchester than in the whole of Malawi⁹.

As a solution, the Government of Malawi, after some hesitation, decided to build its own medical school and looked to external universities and donors for help. After a series of three separate commissions to outline the feasibility and manner of development, the government committed itself to the establishment of a medical school. The school opened its doors in September 1991 to receive the first group of undergraduate students who had, in 1986, gone to the United Kingdom for their pre-clinical studies.

Since 1991, CoM has seen much growth in different aspects. The student population has increased from a dozen students when it started to at least 1,500 students in 2018. The college which was initially training medical students is now an education and training institution for a myriad of health professions. There are degree programmes in physiotherapy, medical laboratory science, pharmacy, health services management, and upgrading degree programmes for clinical officers. It has also progressed to establishing post-graduate specialty training programmes including the Master of Public Health (MPH), later followed by clinical specialisation programmes in ophthalmology, paediatrics, obstetrics and gynaecology, orthopaedics, internal medicine, anesthesiology, ear-nose-throat, and family medicine. More recently, a Master of Science in Global Health Implementation has also been introduced. In turn, these developments have led to an increased enrollment of students, both local and international, at the College.

Medic to Medic in Malawi

The UK-registered charity, Medic to Medic, started supporting struggling students at CoM in 2007. The motivation behind Medic to Medic was simple; at a time when the student portion of tuition fees was marginal, students dropping out of their training represented a wasted opportunity for Malawi to gain an extra doctor and, for the individual, wasted potential for themselves and their family. The scheme supports bright and talented students who are struggling financially with the costs of their training, with the underlying aim of increasing the number of graduates in countries with critical shortages and increasing human resources for health.

After initially supporting just medical students, Medic to Medic now supports pharmacists and physiotherapists at CoM, nursing students at Mzuzu University and Kamuzu College of Nursing, clinical officers at Ekwendeni College of Health Sciences and upgrading clinical officers and nurses specializing in mental health at St John of God College in Mzuzu, together with ad hoc need in other disciplines as funding allows. They aim to guarantee payment of tuition fees until graduation, provide a twice-yearly stationery allowance and a one-off medical equipment pack and textbooks, and should funding allow, a laptop to each student.

is completing postgraduate education in neurology in South Africa; three graduates are completing their postgraduate masters in Europe (one in Italy, two in the UK) and one graduate is undertaking research in nutritional biology in California. The remaining two graduates are working in Lesotho. These figures demonstrate that, overall, Medic to Medic graduates are not choosing to work in high income nations; even those who are currently outside of Malawi, 50% (5 graduates) remain on the continent.

From September 2018, Medic to Medic is currently supporting 70 trainee health workers across Malawi (this encompasses 26 medical students, 7 physiotherapists,

Table 1: Medic to Medic graduates by discipline and year as of December 2018

Year	MBBS	Physio	Pharm	Nurse	CO	Health Manager	Mental Health	MLS	Total
2008	3								3
2009	2								2
2010	2								2
2011	3								3
2012	5					1			6
2013	3				2				5
2014	5	1			1				7
2015	2	3	2						7
2016	7	2	2						11
2017	22	9	7	3			1	1	43
2018	5	3	1						9
TOTAL	59	18	12	3	3	1	1	1	98

Impact

In December 2018, Medic to Medic had 98 graduates, consisting of 59 doctors, 18 physiotherapists, 12 pharmacists, 3 nurses, 3 clinical officers (COs), 1 psychiatric nurse, 1 health manager and 1 medical laboratory scientist (MLS) (Table 1).

Table 2: Medic to Medic students who did not finish their courses by year and discipline as of December 2018

Year	MBBS	Pharm	Total
2013		1	1
2015	1		1
2017	2		2
2018	3		3
Total	6	1	7

In addition, 7 students were supported but were unfortunately unable to finish their courses (Table 2), meaning the wider alumni community encompasses 105 individuals.

It is extremely heartening that over 90% (88) of Medic to Medic graduates remain working in Malawi. Of the 10 graduates working outside Malawi, 90% (9) are doctors, and 80% (8) have scholarships with institutions to complete postgraduate education. One graduate is completing postgraduate education in mental health in Nigeria; two graduates are completing postgraduate education in medicine in Tanzania and China respectively; one graduate

10 pharmacists, 1 medical laboratory scientist, 12 student nurses, 4 clinical officers and 10 mental health workers); with need often outstripping funding.

Reflections from the Medic to Medic graduates

"I still have the picture of myself when I was suddenly called for interview. I was dressed in a brownish trouser, green golf-shirt, and slippers and I think I was in a funny hairstyle if not uncombed hair. I was nervous, having an interview with people who would possibly save my financial bustles. The fact that this was an interview meant I stood a chance to be left out as it is with any interview. Nevertheless, I concentrated on explaining my situation with a focus of giving reasons why I should be considered for the scholarship. Surprisingly I was picked and you can imagine my happiness. It has been a long journey in medical school, full of angry moments, frustrations, happy moments, sleepless nights, tiredness etc. However, I must admit Medic to Medic, you have been a great support. You gave a platform to express my feelings. The updates I used write twice a year gave a chance to reflect without bias how the semester has been and not to just focus on the timely academic frustration but also on the positive aspects of what was happening in life outside the academic circle, like family, sports, hobbies etc. Medic to Medic has been like a compassionate mother who is always on the look out to see and intervene if children are facing challenges. A scholarship which does not only focus on finances but looks at students like a whole keeping in mind how different aspects of life affect academic performance. I am very grateful for what Medic to Medic through different platforms has helped me become. The writing

competition have strongly contributed to what I am today and have become one of my strongest skills I have now...I have been shaped into someone who is more focused...I now know that becoming generous and grateful are some of the most important attributes we need for personal growth. I appreciate why it is very important to come to the aid of others, it may not mean much to the giver but trust me the level of gratitude at the receiving end and the impact that is made is something one cannot forget, because it is always a life altering change.... Even, my parents have been very appreciative of the assistance that I have been rendered, and all they can say is "Thank you, we now have a doctor in the family." (graduate 1)

"As I walked down the stairs from shaking the vice chancellor's hand with a smile on my face, this is what you have made me achieve, an Honours Bachelor's degree in Pharmacy. I'm very thankful for your tireless support. It would have been very difficult for my family to finance my education in college considering the fee hike that had traumatised most parents, mine inclusive, and you came to my rescue. You took me as your own child. For this, I am grateful. I will never take this for granted. I greatly appreciate your help." (graduate 2)

"It is true what they say, real success involves "lifting up those who are around you and making your environment a better place than it was before you got there." Truly that is the impact the Medic to Medic sponsorship has brought forth in my life – that is, to help me not only envision my success but to make it happen. I am a doctor today not only because of the academic prowess but more so by the priceless support from my Medic to Medic sponsors. My deepest gratitude to Medic to Medic." (graduate 3)

"About 6 years ago I had a dream of wearing that gown with a medical paper in the hand. I had no clue as to what means I would use to fund my college education. Today am so thankful for Medic to Medic team and all the sponsors for the financial and material support they earnestly rendered to me throughout my tertiary education. I am forever grateful for the remarkable impact the program has had on my life." (graduate 4)

Way forward

Through an ever growing alumni network, Medic to Medic hopes to become locally sustainable in Malawi; graduates provide mentorship support to their undergraduate counterparts; the alumni network fosters networking and collaboration within and between disciplines of health workers on the ground; and a taskforce made up of graduates are instrumental to coordinate local fundraising, sponsorship and advocacy. Investing in humans for health will undoubtedly have a huge impact on Malawi's health system. The plans for 2019 include registration with CONGOMA (Council for non-governmental organisations in Malawi), developing a Malawi-based office for coordination of activities on the ground and advocacy for employment of graduates at government facilities. Medicine in Malawi is an ever-evolving area. It will be necessary to reassess the impact of scholarships such as these on the wider health system when there are ongoing challenges of medical employment and changeable priorities. It is clear that on the individual level, scholarships are the springboard to a medical career for socially- and economically-disadvantaged students. This

helps prevent a medical elite in the hope that all manner and types of person are represented within the medical workforce and, as such, are able to advocate for Malawi's patient population.

For more information about Medic to Medic, please visit their official website at www.medictomedic.org.uk.

Conflict of interest

Mr. Bickton is an intern for Malawi Medical Journal but was not involved in the peer-review process of this manuscript. He is also a Medic to Medic alumnus. Dr. Lillie is the Chief Executive Officer (CEO) of Medic to Medic.

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