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Developing family medicine in Africa

Elsie Kiguli-Malwadde, Jan de Maeseneer and Catherine Kansiime on the growth of a speciality that is beginning to flourish, despite obstacles in its path

Sub-Saharan Africa has some of the world’s poorest communities and very high death rates from preventable infectious diseases compared with the developed world. The shortage of primary care physicians in rural areas and in suburban townships, especially family physicians, has been a serious problem for decades, with major implications in access to healthcare for a substantial proportion of the population. This shortage is due to many factors including medical education, practice conditions, health system, regulatory, community, personal, family, and financial considerations. The emergence of family medicine as a specialty is crucial in mitigating the health workforce challenges in Africa. The fact that primary care, particularly family medicine, was found to be associated with better health outcomes suggests that improving the ratio of primary care (especially family medicine physicians) to population could improve health outcomes, even in states with serious health inequalities. Family medicine expertise includes knowledge, skills, and attitudes to provide effective care for individual patients from a wide range of cultural, geographic, and socioeconomic status groups. This care may be provided in a wide variety of settings. There are a number of factors that determine the distribution of specialties in most countries which include government policies, training opportunities, immigration and emigration of providers, sex and age distribution of providers, and remuneration incentives, and disincentives. With health human resource shortage in mind, there is need to reflect on whom and how collaborations should take place to advance teamwork within family practice settings.

In Africa, the term ‘family medicine’ is used interchangeably with ‘family physician’ (FP) and is different from ‘general practitioners’, mostly named ‘medical officers’, that refers to working in private or public practice without any further training after the undergraduate medical curriculum. Family physicians are a scarce skills force in many poorer countries in Africa, where the first line of contact with patients is usually nurses or mid-level care workers like ‘clinical associates’ or even traditional healers.

Family medicine as a crucial component of primary healthcare in Africa

Primary healthcare contributes significantly to the outcomes of health systems and to health indicators. The World Health Organization has called for the development of a primary healthcare system. In sub-Saharan Africa, the primary healthcare system still faces many challenges; a few countries such as South Africa, Nigeria, Sudan, and Kenya offer family medicine as a specialty. South Africa was the first African country to incorporate family medicine into their healthcare system, and to also integrate family physicians into primary healthcare teams in the community. Besides South Africa, other countries, including Kenya, Uganda, Rwanda, and Ethiopia, are in the process of extending family medicine into their PHC services to ensure appropriate physicians for local populations. However, in some sub-Saharan countries such as Uganda and others, the ministries of health have not clarified the exact role that family physicians should play in the healthcare system and this uncertainty has resulted in fewer medical graduates wanting to specialise in family medicine. However, in South Africa, family medicine has been part of the undergraduate curriculum for many years, and several medical schools have a Department of Family Medicine, offering postgraduate training and Master’s degrees. South Africa is often seen as the role model in training African family physicians, and their experience is used regularly. South–South cooperation, networking, and twinning of universities to share ideas, material, and knowledge is of utmost importance in the expansion of African family medicine and integration of the new concept in the healthcare systems of each country. More and more universities in sub-Saharan African countries are starting to train doctors in primary healthcare, the new African family physicians. One of the initiatives that have been put in place is the Medical Education Partnership Initiative (MEPI) which is funded by the US government through the President’s Emergency Plan for AIDS relief (PEPFAR) in 13 medical schools in 12 countries in sub-Saharan Africa. The African institutions identified their needs and the US and African institutions with whom they wished to work. The purpose of the initiative is to increase capacity by improving quality and quantity of the medical school graduates, increase retention of the graduates where they are most needed, and also to enhance the schools’ capacity to conduct locally relevant research. Five of the MEPI schools have taken up training family physicians. Another project, the Primafamed Edulink EU-ACP (2008–2010) has been working together with ten universities in eight sub-Saharan African countries where there is postgraduate family medicine training and actually continues in the context of the Primafamed-Network (www.primafamed.ugent.be). The project aims to improve the health of the population of Africa and to reach equity in healthcare.

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Recruitment of family physicians

Medical education can play an important role in the recruitment and retention of rural physicians. Most medical schools in Africa are situated in large cities; most medical students grow up in affluent urban areas, learn little about rural and township healthcare needs, and experience little or no medical learning in the rural context. Recruiting and retaining physicians in rural practice requires attention to practice environment, health systems, financial, and other factors. The two strongest predictors that a physician will choose rural practice are specialty and background; family physicians are more likely than those with less general training to go into rural practice, and physicians with rural background are more likely to locate in rural areas than those with urban backgrounds. Therefore, increasing the proportion of medical students who come from a rural background by providing positive rural learning experiences in medical school and specific rural residency/vocational training posts may increase the number of graduating physicians with the interest, knowledge, and skills for rural practice.

Retention

Retention is a key component of the rural physician supply because of its multifold impact on the rural workforce; for example, one physician practising in the same rural area during a 35-year career has a similar impact as five physicians who practise for an average duration of 7 years. However, published long-term outcomes regarding rural retention are limited. The Physician Shortage Area Program (PSAP) of Jefferson Medical College (JMC) is one of a small number of comprehensive medical school rural programmes that has been successful in increasing the supply of family physicians practising in rural areas from the classes of 1978 to 1986; prior research has shown that the 11 to 16-year retention rate for PSAP graduates in rural family medicine was 68%. Prior outcomes showed that PSAP graduates were more than eight times as likely to become rural family physicians as their non-PSAP peers, including more recent graduates. This suggests that rural physician graduates not only enter rural practice but most of them may remain for decades.

Social accountability and family medicine in Africa

One of the ways to scale up the health workforce in sub-Saharan Africa is to increase the number of family physicians. There is a need to train a physician with a broad set of skills and this type of person is a family physician. Social accountability forms the focus of family medicine training in the framework of the primary healthcare teams in Africa. The focus is on the contribution primary healthcare makes to the improvement of the welfare of the poor by addressing the social determinants of health in the community using a community-oriented primary care strategy. Linking education to practice continues to be a key feature of a socially accountable medical faculty.

Research capacity in family medicine in Africa

The development of African research in family medicine and primary health is of the utmost importance, in order to document and underpin the discipline with scientific evidence. Therefore, the Primafamed-Network, with Belgian funding, supported the creation of the African Journal for Primary Health Care and Family Medicine, an open access journal: www.phcfm.org. The journal creates the opportunity for the publication of African research from different countries. For many African authors, it provided the first platform to enable them to publish. Nowadays, the number of submission increases, not only in numbers, but also in geographi-
Challenges
Challenges facing family medicine are magnified in developing countries where limited funds for healthcare are often devoted by hospital and specialty services in larger cities or by specific diseases (such as HIV). There is a shortage of qualified primary care workers because of limited training capacity and a loss of practitioners through different forms of ‘the brain drain’: from rural to urban areas, from public to private sector, from primary care to specialist care, and from the general healthcare system to vertical disease-oriented programmes.19 In many countries in sub-Saharan Africa, a shortage of qualified health workers means that a single family doctor may oversee the healthcare needs of a population of 10,000 to 20,000 individuals, making personal continuity with individual patients virtually impossible.20 As a result, continuity of care in these settings is provided through the management protocols executed by an extended primary healthcare team. With these challenges, the WHO World Health Assembly, which represents nearly 200 countries, adopted a resolution urging member states ‘to accelerate action towards universal access to primary healthcare’ and ‘to train and retain adequate numbers of health workers including family physicians.’21 At the fifth Annual Primafamed Conference in November 2012 in Zimbabwe, participants from 16 African countries agreed on a statement on scaling-up family medicine and primary healthcare in Africa.22 In order to scale-up family medicine, concrete strategic actions should be developed, including the following:

- Convince ministers of health and education, and the leaders of medical schools, that a significant proportion of the graduates (between 40% and 60%) should be trained in family medicine and primary healthcare.
- Integrate the existing community service period into the training programme of family medicine, in order to fast track the scaling at a lower cost.
- Define an appropriate content and duration of the training programme in each country.
- Prepare for lifelong learning and develop appropriate ‘Continuous Professional Development’.

Conclusion
In conclusion therefore, in order to address the problem of a shortage of health workforce in Africa, medical education with a focus on family medicine can play a vital role in increasing and retaining the number of family physicians and access to healthcare for a substantial population, especially in the rural areas of Africa. Despite the numerous challenges faced in incorporating family medicine into Africa’s primary healthcare systems, several countries in Africa are accepting family medicine as a specialty. More so, with health human resource shortage in mind, and a number of collaborative initiatives in Africa, there is need to reflect on whom and how collaborations should take place to advance teamwork within family practice settings.

References

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Emergency medicine in Ghana

Rockefeller Oteng and colleagues describe an initiative in Ghana which is giving victims of trauma injury a better chance of survival

The epidemic of trauma and resultant injury is continuing to exert its unequalled force on the African continent. The volume of acutely ill and injured is an ever increasing issue at healthcare facilities both large and small. Injury results in 5.8 million deaths worldwide every year, 32% more than HIV, malaria, and tuberculosis combined. Injury also disproportionately affects low- and middle-income countries, where three of the five leading causes of death include injury or trauma. The Ghana Emergency Medicine Collaborative is a partnership between Kwame Nkrumah University of Science and Technology, Komfo Anoyke Teaching Hospital, Ghana College of Physicians and Surgeons, Ghana Ministry of Health, and the University of Michigan, whose aim is to improve the provision of emergency medical care in Ghana through innovative, sustainable, physician, nursing, and medical student training programmes. The project is funded by the Medical Education Partnership Initiative (MEPI) of the National Institutes of Health through the Fogarty International Center with support from the University of Michigan.

Past attempts to develop human infrastructure in the healthcare sector have been focused on the external training of recruits in developed countries. Multiple studies and decades of experience showed these efforts led to the dramatic exit of medical students, doctors, and nurses. Those that were trained in the developed world would often choose to stay rather than return to their home countries.

The goal of this novel partnership between the University of Michigan and the above named Ghanaian institutions is to produce emergency medical personnel (doctors and nurses) who are fully trained in-country. Based on the previous successful model for the production of obstetricians and gynecologists in Ghana, this project seeks to provide a world-class education and associated career opportunities for the products.

The training programmes are aimed at the creation of specialty trained emergency medical personnel who will go on to become service providers, educators, researchers, and leaders who will address the burden of acute disease. The emergency medicine residency curriculum has been approved by the Ghana College of Physicians and Surgeons as a 3-year programme leading to specialist certification, followed by a further optional 2-year senior residency training leading to senior specialist certification. Candidates have to pass an entry examination before commencing the residency. We have also designed a 1-year speciality diploma programme for emergency nursing; in addition a rotation in emergency medicine is provided for medical students during their clinical years. All of the training activities take place in the setting of a functional academic emergency department at Komfo Anoyke Teaching Hospital. The programmes are carried out using didactic lectures, bedside demonstrations, open educational resources, innovative technologies, and clinical simulations that have been developed for Ghana.

External 1-month rotations to Universities of Michigan, Utah, and Kwazulu Natal (South Africa) have helped to expose the senior trainees to emergency medicine practice in more developed settings.

There have been challenges associated with the introduction of the emergency medicine programme, mainly related to change management. In spite of these challenges very significant improvements have been made to emergency care in KATH, including 24-hour emergency physician presence in the A and E department, provision of round-the-clock emergency airway care by EM physicians, and the introduction of the South African Triage system.

Other activities under the project include research training, team training, the development of standard operating protocols (SOP) for care of HIV/AIDS patients in the emergency setting, as well as the assessment of emergency medical services in Ghana.

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So far, the programme has been able to graduate a class of 7 emergency medicine specialists with 15 more in various years of training. These graduates have assisted in the management of a recent national disaster, have become local experts and were integral in the organisation of the first African conference on emergency medicine, where they presented several abstracts based on their original research.

References
Competency-based medical education

Francis Omaswa, Elsie Kiguli-Malwadde, Seble Frehywot, and Fitzhugh Mullan on now the Medical Education Partnership Initiative is upping the training game

The goal of competency-based medical education (CBME) is to produce medical graduates who are 'fit for purpose'. These are individuals who are transformed through the medical education experience into experts possessing observable and demonstrable relevant knowledge, skills, and attitudes; able to apply these critically for addressing population health needs and solving local problems; prepared to work where they are needed with and within their communities; making the best use of available (limited) resources, and acting as socially accountable leaders and change agents. Additionally, CBME graduates are continuous self-directed learners and effective communicators.

There is a growing global movement in support of CBME – defining competencies and then assessing student performance in relation to these, thus focusing on the outcome of the education, rather than on the process of the education. For example, The Commission on the Education of Health Professionals recommended as a major priority the ‘adoption of competency-based curricula that are responsive to rapidly changing needs’. However, there has been reluctance by educators to embrace CBME for a number of reasons which include fear of change, lack of understanding of competency-based pedagogy practices and deployment methodologies, confusing terminology, development costs and time constraints, inadequate consensus building, and questionable assessment techniques. This has changed in the recent past as CBME has now been widely adopted by the international medical education community in the past two decades. Canada’s Royal College of Physicians and Surgeons first adopted a competency framework in 1996 and re-adopted the CanMEDS framework in 2005. The US Accreditation Council for Graduate Medical Education began its competency and outcome initiative (Outcome Project) in 1998. In 2000, the Scottish Doctors project produced a set of learning outcomes for undergraduate students at all five of the Scottish medical schools.

MEPI aims at improving quality and increasing numbers of health professionals in the sub-Saharan region retain them where they are most needed and also improving locally relevant research. Nearly all the MEPI grantee schools are addressing curricular issues in their programmes, either by undertaking curricular reviews or by developing new curricular. The schools are also addressing delivery methods, like skills lab training and the use of simulators and eLearning, and are promoting faculty development to ensure that their graduates are skilled in areas that match their countries’ health needs.

With opportunity provided by MEPI, grantee schools in Africa have unprecedented ground to address curriculum reform and improve research capacity. For example during MEPI year 2, the University of Ibadan focused their efforts on implementation of their new integrated, system-based, patient-centred, community-oriented, competency-driven curriculum. It is hoped that the new curriculum will result in an improvement in the quality of education and the competencies for the graduates and their retention. These competencies include critical thinking, information management, communication skills, clinical skills, population health, scientific foundations, and professional values and attitudes.

In Uganda, with a focus on improving quality of medical education, a country-wide partnership of all the five medical schools, known as Medical Education for Equitable Services for all Ugandans (MESAU), working with Johns Hopkins University, embarked on revising their undergraduate curriculum to Competency Based. MESAU identified nine competences required of medical graduates in Uganda. These include medical knowledge, population health, critical inquiry and scientific methods, interpersonal and communications skills, clinical skills and patient care, leadership and management skills, continuous improvement of care through reflective practice, professionalism and ethical practice, and health systems management.

In conclusion, it is evident that globally CBME has gained credibility. The movement on education reforms that focuses on placing population health needs and social accountability in the centre of the health professional training is commendable. The engagement of communities and other stake holders in the design and management of health professionals’ education is an essential component of CBME as it is the foundation for determining desired health workforce competencies. It is therefore gratifying to note that a number of MEPI schools have already embarked on this journey and we hope that this trend will take root in the region and will result in better health outcomes for the sub-Saharan African populations that now lag behind those in other parts of the world.

References