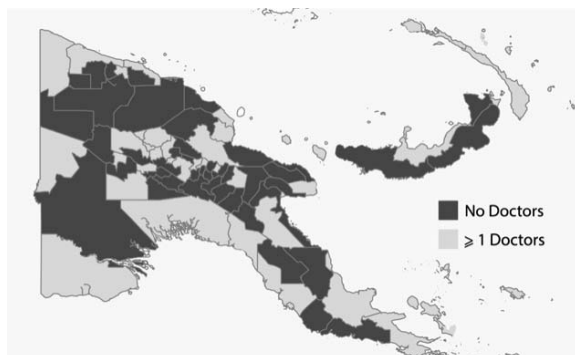


**FIGURE**

Physicians in Papua New Guinea by District

Note: <http://www.pngruralsociety.org/mmed-rural-program/>.

the PNG Medical Board as a specialist qualification equivalent to the MMed in any other discipline.⁴

Outcomes to Date

Fifteen PNG physicians have trained in the MMed (Rural) program since 2008. In a nation with as few as 333 physicians and 36 graduating physicians per year, this represents almost 5% of the physician workforce.⁵ To date, 6 have graduated and all are currently practicing outside of the capital city of Port Moresby, where the majority of the country's physicians are located. Five physicians are currently enrolled in the program, undertaking their postgraduate education in rural or district hospitals, and 4 left training before completing the program. The UPNG postgraduate selection committee is currently considering applications for 2 additional rural posts at Misima Island and Kainantu (personal correspondence, PNG Society for Rural & Remote Health, November 22, 2018).

In 2009, the PNG Society for Rural & Remote Health was formed in an effort to generate interest in and discussion about the health needs of rural Papua New Guineans. The society meets annually around the time of the PNG Medical Symposium and provides a forum for individuals practicing in rural health and residents in the training program to leverage ideas.

The challenges of shifting the physician workforce to areas that serve PNG's rural majority are significant. The creation of the MMed (Rural) postgraduate program is an important new step to address this problem, which could serve as a template for other nations facing similar difficulties.

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References

1. Jamison DT, Breman JG, Measham AR, Alleyne G, Claeson M, Evans DB, et al, eds. *Priorities in Health*. Washington, DC: The World Bank; 2006.
2. The World Bank Group. Papua New Guinea. <https://data.worldbank.org/country/papua-new-guinea>. Accessed June 24, 2019.
3. Black N, Gruen R. *Understanding Health Services*. Maidenhead, England: Open University Press; 2005.
4. University of Papua New Guinea School of Medicine and Health Sciences. The Master of Medicine. Rural Health Training Handbook. 2011. <http://www.pngruralsociety.org/mmed-rural-program>. Accessed June 24, 2019.

NEW IDEAS

Postgraduate Research Methods Instruction in Africa: A MicroResearch Approach to the Postgraduate Thesis

Setting and Problem

A decade ago, African leaders agreed to strengthen health research agendas in their countries. Still, the number of publications by African health professionals addressing locally relevant research questions remains limited.^{1–3} The problem and a potential solution may lie further upstream during health professionals' training. Postgraduate medical education in Kenya, like most African countries, requires the successful defense of a 20 000-word Master's degree thesis, which is mandated by regulatory bodies.⁴ Transforming a thesis to a publication in a

DOI: <http://dx.doi.org/10.4300/JGME-D-18-00991>

high-impact peer-reviewed journal is encouraged, but publication requirements vary by university and generally lack rigor. As a result, many theses collect dust on the shelves of university repositories without becoming manuscripts. Low research interest in publishing among residents is compounded by teacher-centered delivery and passive learning that predominates in African medical education.⁵ A new method of postgraduate research instruction is needed to encourage broader dissemination of local solutions to health problems.

MicroResearch is a multidisciplinary team-based approach to (1) train novice researchers to carry out research projects with the potential to inform government policy makers and other stakeholders, and (2) nurture novice researchers through a successful publication to help them become committed researchers.⁶ The success of the program during its first 10 years in East Africa led to an adaptation of the MicroResearch approach as a research methods course for the family medicine residency program at Kabarak University in Kenya. The following describes the iterative steps of this adaptation and the planned long-term evaluation of the process.

Intervention

During the first cycle, we used the 2-week MicroResearch workshop⁶ in 2017 to review principles of quantitative and qualitative research methods and develop individual thesis proposals with invited research assistants. With the help of a faculty coach, groups of learners were encouraged to identify a common area of interest for synergy and to develop individualized research questions and study designs. The second cycle in 2018 involved only postgraduate trainees formulating their thesis proposals, and it added interprofessional learning from other health professions, supplemental material on mixed methods research, and an assessment of various study designs for the trainee's chosen research topic. The 2019 cycle will include an added module on conceptual and theoretical frameworks for the thesis requirement. The entire program will be evaluated over 4 years using (1) end of course evaluations; (2) success rate of thesis proposal defenses; (3) success rate of thesis defenses; and (4) a post-graduation survey assessing participants' continued research activity.

Outcomes to Date

In total, 13 postgraduate trainees in family medicine and 5 nutrition and dietetics students have completed the MicroResearch workshop to develop their thesis proposals. In the 2017 cycle, 5 of the 6 family medicine residents who completed the course passed

BOX Research Questions Emerging From Family Medicine Residents

- How prepared do family members of advanced cancer patients feel for providing end-of-life care?
- What are health care providers' reasons for prescribing antibiotics for upper respiratory tract infections for children less than 5 years of age in the outpatient clinics of 2 limited resource hospitals?
- How effective is universal screening compared to selective risk factor-based screening for gestational diabetes at a limited resource hospital?

their thesis proposal defense, with major and minor corrections. The sixth resident dropped out of the academic program. The cohort in 2018 included 7 trainees from family medicine and 5 from nutrition and dietetics. All 18 participants selected 5 out of 5 on a Likert scale for high likelihood of recommending the course to a colleague. Both cohorts expressed that consistent faculty coach engagement and the experiential learning approach were critical for success. See the BOX for a sample of the 13 research questions that emerged from the family medicine residents.

Early results suggest the MicroResearch process using experiential learning and feedback from coaches can be successfully adapted to develop thesis proposals for family medicine trainees in Kenya. Another successful attribute is the integration of postgraduate health professional students in an interprofessional model that encourages future team-based research projects. Long-term evaluation processes will assess the impact of the program on success in the final thesis defense and continued research engagement after graduation.

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References

1. Touré AT. The Bamako call to action: research for health. *Lancet*. 2008;372(9653):1855. doi:10.1016/S0140-6736(08)61789-4.

2. MacDonald N, Kabakyenga J. Microresearch: borrowing from the microfinance experience. *CMAJ*. 2008;179(5):399–400. doi:10.1503/cmaj.081123.
3. Adam T, Ahmad S, Bigdeli M, Ghaffar A, Røttingen JA. Trends in health policy and systems research over the past decade: still too little capacity in low-income countries. *PLoS One*. 2011;6(11):e27263. doi:10.1371/journal.pone.0027263.
4. Kenya Commission for University Education. Universities Standards and Guidelines. October 2014. http://www.cue.or.ke/images/phocadownload/UNIVERSITIES_STANDARDS_AND_GUIDELINES_June_2014.pdf. Accessed June 11, 2019.
5. Gukas ID. Global paradigm shift in medical education: issues of concern for Africa. *Med Teach*. 2007;29(9):887–892. doi:10.1080/01421590701814286.
6. MacDonald NE, Bortoluss R, Kabakyenga J, Pemba S, Estambale B, Kollmann KH, et al. Microresearch: finding sustainable local health solutions in East Africa through small local research studies. *J Epidemiol Glob Health*. 2014;4(3):185–193. doi:10.1016/j.jegh.2014.01.002.

Box Benefits of the Objective Structured Clinical Examination

- Direct observation of clinical skills
- Assessment of a broad range of skills in a short period of time
- A fair assessment based on a standardized approach
- Minimization of rater bias

Six universities in Haiti offer degree programs in medicine. Upon graduation, medical school graduates are required to complete 1 year of social service, and then can practice medicine independently or apply for entrance into one of Haiti's 37 residency programs.

Zanmi Lasante (ZL), a sister organization to Boston, Massachusetts-based Partners In Health, in partnership with MSPP, offers 1 residency program at Hospital St. Nicolas (HSN) in Saint-Marc and 5 programs at Hôpital Universitaire de Mirebalais (HUM) in Mirebalais. The programs that have been accepted are in the preapproval phase with the Accreditation Council for Graduate Medical Education International (ACGME-I).

NEW IDEAS

Introducing the Objective Structured Clinical Examination in Haiti

Setting and Problem

Haiti, a nation of approximately 10.7 million people located in the western Caribbean,¹ is a low-income country, with 59% of its population living below the poverty line (less than \$2.41 per day), and 24% living in conditions of extreme poverty (less than \$1.23 per day).² Haiti has a history of political instability and natural disasters, and remains the country with the highest rate of poverty in the Americas.²

The health care system in Haiti is regulated by the Ministry of Public Health and Population (MSPP). MSPP is under-resourced, spending only US \$13 per person on health care each year. This represents a mere 6.1% of the national budget, and is significantly less than its neighboring countries of Cuba (US \$781) and the Dominican Republic (US \$180).³

Intervention

As part of its system of assessment in 2015, we introduced the objective structured clinical examination (OSCE) in the family medicine residency program at HSN, with the help of 2 Canadian fellows who volunteered in Haiti. Faculty members were trained on the new technique and were given opportunities to practice their new skills. These “pioneers” then trained other faculty at HUM. Although widely used in high-income countries, ZL was the first institution in Haiti to use the OSCE.

The OSCE is a group of tests that includes a succession of stations with simulated clinical problems, involving standardized patients or mannequins, that learners need to solve in a limited time. Each station has clearly defined objectives, and a checklist for the evaluation of the candidates.⁴ It is considered the gold standard for evaluating clinical competencies, including the physician-patient relationship, the physical examination, and interpersonal and communication skills (Box).⁴

In 2016, the Director of Graduate Medical Education at ZL implemented an OSCE as a pre-assessment tool during the orientation month at the start of postgraduate year 1 (PGY-1). Based on this positive experience, the Graduate Medical Education Committee (GMEC) voted to implement the OSCE as part of the recruitment process for all ZL programs. In 2017, we conducted the first OSCE session during

DOL: <http://dx.doi.org/10.4300/JGME-D-19-00224>