

# Capacity building in Obstetrics and Gynaecology through academic partnerships to improve global women's health beyond 2015

FWJ Anderson, TRB Johnson

Department of Obstetrics and Gynecology, L4000 Women's Hospital, University of Michigan, Ann Arbor, MI, USA  
*Correspondence:* FWJ Anderson, MD, MPH, FACOG, Department of Obstetrics and Gynecology, L4000 Women's Hospital, University of Michigan, 1500 E. Medical Center Dr., Ann Arbor, MI 48109, USA. Email fwja@umich.edu

Accepted 26 September 2014. Published Online 13 November 2014.

Please cite this paper as: Anderson FWJ, Johnson TRB. Capacity building in Obstetrics and Gynaecology through academic partnerships to improve global women's health beyond 2015. BJOG 2015;122:170–173.

Significant progress has been made since Allen Rosenfield<sup>1</sup> termed maternal mortality a neglected tragedy and asked 'where is the M in MCH?' Recent data from the World Health Organization demonstrates significant declines in maternal mortality ratios, with a 49% reduction in sub-Saharan Africa (SSA), from 990 in 1990 to 510 per 100 000 live births in 2013.<sup>2</sup> Still, Millennium Development Goal (MDG) targets for maternal mortality in SSA will not be reached. Post 2015 reductions in maternal, perinatal and early neonatal mortality will only be realised when the most severe maternal complications can be comprehensively addressed and obstetric interventions that identify and deliver the at-risk fetus can be provided to all pregnant women.<sup>3,4</sup> To comprehensively address obstetric care and provide leadership in women's health, skilled professional obstetricians/gynaecologists will be required as part of the health care team.<sup>5</sup> In SSA countries with a low level of obstetric capacity and leadership, the inherent expertise and teaching gap is filled by nongovernmental organisations and non-local trainers. When gaps are filled by training for one specific task, the chances for the development of integrated and comprehensive 'in country' capacity building may be missed.<sup>6</sup>

Capacity building in SSA countries has taken many forms. Research capacity strengthening in response to the HIV epidemic has resulted in a significant number of research capacity building partnerships.<sup>7</sup> The literature on medical education in SSA disproportionately describes countries with older medical schools, such as South Africa, Nigeria and Uganda, with recent growth of medical education in SSA reported mostly in the grey literature.<sup>8</sup> The Medical Education Partnership Initiative has joined 40 medical schools with 20 medical schools in the USA to foster communities of practice that create a supporting

structure to share resources in education, monitoring and evaluation, and research.<sup>9</sup> A recent comprehensive review identified 168 medical schools operating in sub-Saharan Africa, of which 146 were surveyed. Many 'countries are prioritising medical education scale-up as part of health system strengthening'.<sup>10</sup> A number of recommendations were made, including launching a campaign to increase the capacity of medical school faculties, investing in medical education infrastructure, improving research infrastructure, and establishing national and regional postgraduate training programmes to promote training, excellence and retention.<sup>10,11</sup>

The National University of Laos, in partnership with the faculty of Case Western Reserve University (Cleveland, Ohio, USA) and Khon Kaen University (Khon Kaen, Thailand) began an internal medicine training programme that admits six participants a year.<sup>12</sup> In the first year evaluation, five of the six graduates had remained in the country and the investigation noted that 'most graduates of this program will eventually participate in creating government health care policy, either on the local or national level, simply because they will be the best trained medical professionals in the country'.<sup>12</sup>

The history of early obstetrics and gynaecology training programmes in SSA, such as the Ibadan programme established by Professor John Lawson, has not been written, nor has a survey been done of current postgraduate obstetrics and gynaecology training in SSA countries. A programme to centralise maternal and neonatal care in Eritrea, which included the establishment of an obstetrics and gynaecology training programme, demonstrated significant reductions in maternal mortality, with the first graduates finishing in 2012.<sup>13</sup> The University of Zambia school of Medicine has produced 1276 doctors since its first graduates in 1973, and

has produced 118 postgraduate doctors, 24 of whom were OBGYNs.<sup>14</sup> A follow-up of these graduates has not been published. Larger countries such as Nigeria, Sudan, South Africa, Kenya, Uganda and Tanzania have one or more well established OBGYN training programmes. Informal surveys show Sierra Leone, Botswana and the Gambia do not have OBGYN training programmes, and Liberia and Malawi have only recently started programmes. Many universities and tertiary hospitals are potential training sites for physicians who wish to become OBGYN physicians. This capacity to train obstetricians and gynaecologists in SSA will require skilled, professional obstetrician/gynaecologists in an enabling environment to subsequently train specialist physicians.<sup>6</sup>

The American Board of Obstetrics and Gynaecology issued a new definition of an obstetrician gynaecologist in 2014<sup>15</sup>: 'Obstetricians and gynaecologists are physicians who by virtue of satisfactory completion of an accredited program of graduate medical education, possess special knowledge, skills and professional capability in the medical and surgical care of women related to pregnancy and disorders of the female reproductive system. Obstetricians and gynaecologists provide primary and preventive care for women and serve as consultants to other health care professionals'.

Providers of this caliber provide comprehensive and definitive care for pregnancy complications, family planning, female cancers and other women's health issues and provide leadership and advocacy for women's health issues at local, national, regional and international levels. National and international professional organisations such as the International Federation of Gynaecologists and Obstetricians (FIGO), the newly formed African Federation of Obstetrics and Gynaecology, the Royal College of Obstetricians and Gynaecologists (RCOG), the American College of Obstetricians and Gynaecologists (ACOG), the Canadian Society of Obstetricians and Gynaecologists, the Association of Professors of Obstetrics and Gynaecology and the Council on Resident Education in Obstetrics and Gynaecology define, promote, and lead to the maintenance of the highest clinical practice standards, and provide assessments and certification that individuals possess special knowledge and can practise independently.

Ghana has prioritised the training of obstetricians and gynaecologists in-country with documented success. The Ghana postgraduate obstetrics and gynaecology collaborative residency training programme started in 1989 in response to the low repatriation rate of physicians sent to Great Britain for training.<sup>6</sup> The Ghana Ministry of Health, the University of Ghana, the Kwame Nkrumah University of Science and Technology, ACOG and RCOG and university departments of Obstetrics and Gynaecology in the US and Great Britain teamed together to strengthen the two University-based training programmes in obstetrics and

gynaecology in Ghana. The postgraduate programme was 5 years in length, utilising a comprehensive curriculum that included a 3-month rotation in the USA or Great Britain, a 6-month rotation in a district medical facility, and a 3-month rotation in a business management programme. As of November 2012, 142 physicians have been trained and certified as obstetricians and gynaecologists, and only one has left Ghana to practise elsewhere.<sup>6</sup>

This high retention of specialists is related to three major factors<sup>6</sup>: (1) the presence of a viable training programme in Ghana; (2) economic viability of staying in Ghana even though the remuneration could be higher in other settings; (3) social commitment – graduates prioritised being at home serving their country. Certification of graduates was also a critical component of the overall programme. The West African College of Surgeons was the source of certification at the initiation of the programmes. In 2003, the legislature of Ghana created the Ghana College of Physicians and Surgeons, which defined a 3-year curriculum to receive fellowship.

Graduates of Ghana's programmes are moving to more rural areas. A recent study of graduates shows that despite a concentration of obstetricians and gynaecologists in urban centres, there is distribution to district hospitals surrounding urban centres.<sup>6</sup> Some graduates are now leading obstetrics and gynaecology departments at the two new medical schools located in more rural areas.

The creation of the Ghana OBGYN postgraduate training programme was predicated on academic and professional partnerships that helped create the context and expertise for training physicians to become specialists. The establishment and success of this programme is the result of long-term public policy commitment for health systems and human resources capacity improvement. Although objective numerical causal evidence is not yet available, increasing the number of obstetrician gynaecologists has undoubtedly had a major impact on maternal mortality.<sup>6</sup> Specialists report better outcomes, more organised and standardised management, establishment of maternal mortality audit committees, and more organised and efficient clinical case management including formal protocols. There were also notable increases in the number of personnel in response to the presence of the obstetrician, improved teaching and increased availability of technologies. Patients were thought to have a higher confidence in the healthcare system, to report to the hospital earlier and to feel confident about delivering at a hospital when an obstetrician is present.<sup>6</sup> A similar effect has been demonstrated in Uganda, where the presence of an obstetrician/gynaecologist in a rural area improved quality of care, and resulted in improved maternal and neonatal survival over a 3-year period.<sup>16</sup>

Obstetrician/gynaecologists provide the leadership to train physicians to become obstetricians and gynaecologists.

Obstetrician/gynaecologists provide practice and protocol standards for other physicians throughout the country and ensure that interventions are evidence-based.<sup>6</sup> They can be involved with policy development, guide national research in obstetrics and gynaecology issues and provide advocacy for women's health.

A side meeting during the 2012 FIGO congress in Rome Italy assembled obstetricians gynaecologists from some high mortality–low resource Anglophone SSA countries. Discussions there were revelatory – the proceedings of which are published as *Building Academic Partnerships to Reduce Maternal Morbidity and Mortality: A Call to Action and Way Forward*.<sup>17</sup> These deliberations highlighted the fact that the current capacity for University-based programmes to train physicians to become obstetricians and gynaecologists is severely lacking or completely absent in many SSA countries.

The importance of academic partnerships cannot be underestimated in future attempts to build obstetrics and gynaecology capacity in other SSA countries.<sup>18</sup> The Ghana experience has been used extensively in the rapidly advancing programme at Saint Paul Millennium Medical School in Addis Ababa by a faculty member with personal experience of the Ghana programme.<sup>19</sup> At a 2013 meeting held in Accra approximately 120 representative of academic obstetrics and gynaecology programmes from USA, Great Britain and sub-Saharan Africa with representatives from the ministries of health and education of 14 sub-Saharan African countries, identified 10 elements needed to establish sustained, long-term training programmes: authentic partnership, departmental infrastructure, curriculum development, faculty development in both academic and clinical roles, community and midwifery outreach with district hospital development deployment and engagement of ministries of health and education, research to improve clinical outcomes in-country, monitoring and evaluation of community population of public health outcomes, quality improvement, certification and involvement with professional societies. Developing residency training programmes with experienced academic partners to comprehensively implement in these 10 areas would result in a transformation of pregnancy and neonatal outcomes and improve care for thousands of women across SSA.

The current MDG framework will come to an end in 2015. Global policy makers are now assembling to propose goals and frameworks for the 'post 2015 agenda'.<sup>20</sup> Achieving universal access to health will be a major component of this agenda and will require major increases in human capacity. A consensus statement issued by the WHO has called for a global maternal mortality ratio of less than 70, and no country having a ratio of greater than 140 by 2030.<sup>21</sup> An expanded and concerted response by obstetricians/gynaecologists from all countries with experience in training specialist physicians is now required to provide the leadership

to create a high level of clinical obstetric expertise in SSA countries to achieve these targets. Our specialty must mobilise to provide the leadership and expertise to train a cadre who can deliver the evidence-based clinical interventions and influence local and national policy in OBGYN. Newly minted obstetricians and gynaecologists will train the next generation of general physicians and specialists, who can then implement evidence-based practices and provide leadership in academics, policy, practice and advocacy to permanently reduce maternal and neonatal morbidity and mortality.

### Disclosure of interests

The authors have no conflicts of interest to disclose in relation to this paper.

### Contribution to authorship

Dr Anderson wrote sections of the first draft and Dr Johnson wrote sections of the first draft and contributed to additions and edits. Dr Anderson contributed additional sections and edits. Both participated in the major revision of the second submission of the paper.

### Details of ethics approval

Commentary, not subject to regulation.

### Funding

University of Michigan Department of OBGYN, The Flora Family Foundation, and the Bill and Melinda Gates Foundation. ■

### References

- Rosenfield A, Maine D. Maternal mortality—a neglected tragedy. Where is the M in MCH? *Lancet* 1985;2:83–5.
- Alkema L, Chou D, Gemmill A, Hogan D, Mathers C, Mills S, et al. *Trends in Maternal Mortality: 1990 to 2013 - Estimates by WHO, UNICEF, UNFPA, The World Bank, and The United Nations Population Division*. Washington, DC: World Bank Group, 2014.
- Peterson H, Haidar J, Meriardi M, Say L, Gulmezoglu A, Fajans P, et al. Preventing maternal and newborn deaths globally: using innovation and science to address challenges in implementing life-saving intervention. *Clin Obstet Gynecol* 2012;120:636–42.
- Johnson T. Implementing evidence-based science to improve women's health globally. *Int J Gynaecol Obstet* 2013;122:91–3.
- World Health Organization. *Report of the WHO/PEPFAR Planning Meeting on Scaling Up Nursing and Medical Education*. Geneva: WHO 2009. [www.who.int/hrh/resources/scaling-up\_planning\_report.pdf?ua=1]. Accessed 12 September 2014.
- Anderson F, Obed S, Boothman E, Opore-Ado H. The public health impact of training physicians to become obstetricians and gynecologists in Ghana. *Am J Public Health* 2014;104(S1):S159–65.
- Einterz R, Kimaiyo S, Mengech H, Khwa-Otsyula B, Esamai F, Quigley F, et al. Responding to the HIV pandemic: the power of an academic medical partnership. *Acad Med* 2007;82:812–8.
- Greysen S, Dovlo D, Olapade-Olaopa E, Jacobs M, Mullan N. Medical education in sub-Saharan Africa: a literature review. *Med Educ* 2011;45:973–86.

- 9 Seble M, Vovides Y, Korhumel K, Chale S, Infanzon A, Kiguli-Malwadde E, et al. Building communities of practice: MEPI creates a commons. *Acad Med* 2014;89:S45–9.
- 10 Mullan F, Frehywot S, Omaswa F, Buch E, Chen C, Greysen SR, et al. Medical schools in sub-Saharan Africa. *Lancet* 2011;377:1113–21.
- 11 Abedini N, Danso-Bamfo S, Moyer C, Danso KA, Mäkiharju H, Donkor P, et al. Perceptions of Ghanaian medical students completing a clinical elective at the University of Michigan Medical School. *Acad Med* 2014;89:1014–7.
- 12 Gordon G, Vongvichit E, Hansana V, Torjesen K. A model for improving physician performance in developing countries: a three-year postgraduate training program in Laos. *Acad Med* 2006;81:399–404.
- 13 Holzgreve W, Greiner D, Schwidtal P. Maternal mortality in Eritrea: improvements associated with centralization of obstetric service. *Int J Gynaecol Obstet* 2012;119(suppl 1):S50–4.
- 14 Bowa K, Goma F, Yikona JINM, Mulla YF, Banda S. A review of outcome of postgraduate medical training in Zambia. *Med J Zambia* 2008;35:88–93.
- 15 American Board of Obstetrics and Gynecology. Definition of obstetrician and gynecologist and American Board of Obstetrics and Gynecology certification. [homepage on the internet] c2014. [www.abog.org/policies.asp?pol\_type=definitinon]. Accessed 21 August 2014.
- 16 Moyer C, Kolars J, Busingyep P. Three years of data on the impact of OBGYN coverage in rural Uganda. *Int J Gynaecol Obstet* 2014;126:284–5.
- 17 Anderson F. Building academic partnerships to reduce maternal morbidity and mortality: a call to action and a way forward. [http://open.umich.edu/education/med/resources/maternal-morbidity-mortality/2013]. updated 30 May 2014, accessed 20 August 2014.
- 18 Anderson F, Donkor P, de Vries R, Appiah-Denkyira E, Dakpallah G, Rominski S et al. Creating a charter of collaboration for international university partnerships: the Elmina Declaration for Human Resources for Health. *Acad Med* 2014;89:1125–1132.
- 19 Taskier M Celebrate solutions: OBGYNs improving maternal and infant health in Ethiopia. [www.womendeliver.org/updates/entry/celebrate-solutions-obgyns-improving-maternal-infant-health-in-ethiopia]. 24 February 2014, Accessed 21 August 2014.
- 20 ICPD Beyond 2014 Global Review. Messages and preliminary findings. [icpdbeyond2014.org/uploads/browser/files/initial\_findings\_of\_icpd\_beyond\_global\_survey.pdf]. updated 24 June 2014, Accessed 21 August 2014.
- 21 WHO Consensus Statement Targets and Strategies for Ending Preventable Maternal Mortality. [http://apps.who.int/iris/bitstream/10665/130776/1/WHO\_RHR\_14.21\_eng.pdf?ua=1&ua=1]. Accessed 21 October 2014.