Experience with Obstetrics and Gynecology Education and Training in Ghana

Frank WJ Anderson,1,4,5 KA Danso,1,2 EY Kwawukume,1,3 Timothy RB Johnson,1,6
1Carnegie-Ghana Obstetrics and Gynecology Program
2Department of Obstetrics and Gynecology, Kwame Nkrumah University of Science and Technology (KNUST) School of Medical Sciences, Kumasi, Ghana
3Department of Obstetrics and Gynecology, University of Ghana Medical School (UGMS), KorleBu, Accra, Ghana
4Global Initiatives Program, New York
5Center for Education, New York
6Department of Obstetrics and Gynecology, University of Michigan Health System, Ann Arbor, Michigan, USA

Correspondence
Timothy RB Johnson, MD, Department of Obstetrics and Gynecology, University of Michigan, L4000 Women's Hospital, 1500 East Medical Center Drive, Ann Arbor, Michigan 48109-0276
Telephone: 734-764-8123, Fax 734-763-5992
e-mail: trbj@umich.edu

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ABSTRACT
Education in obstetrics and gynecology in Ghana has undergone a transformation over the last 15 years. We believe this experience is worth sharing as it may serve as a template for further innovations or be replicated by others in the subregion, and many developing countries. Doctors seeking to specialize in obstetrics and gynecology had at least an initial two-year local training at Korle Bu Hospital. Subsequently, after passing the Part 1 MRCOG in Ghana, they went abroad to complete their training, usually in the United Kingdom. Unfortunately, and for several reasons, including unfavorable economic conditions, most of the much-needed overseas-trained specialists did not return home. In 1989, two senior Ghanaian gynecologists, with assistance of the American College of Obstetricians and Gynecologists and the Royal College of Obstetrics and Gynaecology (UK) submitted a successful grant to Carnegie Corporation, New York, to financially support the development of a local residency program in obstetrics and gynecology based at the two teaching hospitals in Accra and Kumasi. The famous Carnegie-funded Ghana Obstetrics and Gynecology Postgraduate Program has been extensively described elsewhere. Our objective in this paper is to describe the program, outline the major lessons learned, and suggest broader educational implications.

INTRODUCTION
Education in obstetrics and gynecology in Ghana has undergone a transformation over the last 15 years. We believe this experience is worth sharing as it may serve as a template for further innovations or be replicated by other countries in the subregion, and in other developing countries.

SHORT HISTORY
In 1962, the government of Ghana realized the need for doctors to be trained locally to supplement the expatriate doctors who had served the country since the colonial era. The first medical school, the University of Ghana Medical School (UGMS), was established at the Korle Bu Teaching Hospital in Accra. Many doctors on completion of local training, sought scholarships for postgraduate medical education in Europe and America. When the foreign-trained specialists in the various disciplines had reached an appreciable number, the medical school started collaborative postgraduate training with institutions mainly in the United Kingdom.

Doctors seeking to specialize in obstetrics and gynecology had at least an initial two-year local training at Korle Bu Hospital. Subsequently, after passing the Part 1 MRCOG in Ghana, they went abroad to complete their training, usually in the United Kingdom. The Government of Ghana provided funding for the overseas training and the British Council and the Royal (UK) College of Obstetricians and Gynaecologists (RCoG) supported the postgraduate students by finding them salaried training positions.

A second medical school, the Kwame Nkrumah University of Science and Technology School of Medical Sciences (KNUST), was established in Kumasi in 1975 to strengthen the local training of undergraduate doctors. Soon afterwards, the need for local postgraduate training and for more qualified medical teachers became clear.

Unfortunately, and for several reasons, including unfavorable economic conditions, most of the much-needed overseas-trained specialists did not return home. They either worked in the countries in which they had trained or went to places such as the Middle East. Some of those who initially returned home subsequently left the country for the same reasons.

Out of the 30 Ghanaian doctors who had qualified as specialist obstetrician/gynaecologists abroad, only three had returned home by the mid 1980s. The situation became so bad that the British Council and the RCoG threatened to withdraw...
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sponsored and support. They insisted that postgraduate training should be done entirely in Ghana. At that time, Ghana had neither the manpower nor the facilities to undertake such a training program.

Two senior Ghanaian gynecologists, the late Professor JO Martey and Dr JB Wilson, with the assistance of the American College of Obstetricians and Gynecologists (ACOG — Drs Timothy Johnson; late Thomas Elkins; Warren Pearse; John J Sciarra, then President of FIGO) and RCOG (the late Professor John Lawson, then Vice-President of the College, Professors John MacVicar and Chris Hudson), submitted a successful grant to Carnegie Corporation, New York (under the direction of Professor Adetokunbo Lucas) to financially support the development of a local residency program in obstetrics and gynecology. The program, based at the two teaching hospitals in Accra and Kumasi, was inaugurated in Accra in 1989.

POSTGRADUATE TRAINING PROGRAM

The famous Carnegie-funded Ghana Obstetrics and Gynecology Postgraduate Program has been extensively described elsewhere. Our objective in this paper is to describe the program, outline the major lessons learned, and suggest broader educational implications.

In 1986, the economic and medical conditions in Ghana called for assistance to enhance improved local postgraduate medical education in obstetrics and gynecology. With the assistance of the bodies mentioned above, and the Ghana Ministry of Health, a management committee was established to run a program for complete in-country postgraduate obstetrics and gynecology training. A five-year training program meeting international standards that included all the major curricular requirements in obstetrics and gynecology, as well as training experience in management, business, community-based training and research, was established based on the recommendations of the West African College of Surgeons (WACS) (see table I). Successful postgraduate students became Fellows of the West African College of Surgeons (FWACS). Initially, local and foreign teachers on short-term attachments were employed to run the program.

Table 1. Structure of the Ghana Postgraduate Ob/Gyn Program

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<tr>
<th>Year</th>
<th>Rotations in Basic Sciences &amp; Ob/Gyn</th>
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<tr>
<td>Year 1</td>
<td>Basic Sciences FWACS Examination</td>
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<tr>
<td>Year 2</td>
<td>Rotations in General Surgery, Urology, Neonatology, Anesthesiology, Radiology, Pathology</td>
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<td>Year 3</td>
<td>Ob/Gyn</td>
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<td>Year 4</td>
<td>Part 1 FWACS Examination at end of year</td>
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<tr>
<td>Year 4 (Community 4th year)</td>
<td>Health Administration and Management Course (GIMPA) Ministry of Health</td>
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<tr>
<td>Year 5</td>
<td>Six months in rural Ghana (including epidemiologic or health services research)</td>
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<tr>
<td>Year 5</td>
<td>Three months attachment in academic Ob/Gyn Dept in USAUK</td>
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<tr>
<td>Year 5 Senior Ob/Gyn training</td>
<td>Part II FWACS Examination at end of year</td>
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The innovative and unique part of the program is the community 4th year rotation, which has three components: a course in health administration and management, an external elective and a district posting. The course in administration, taken at the Ghana Institute of Management and Public Administration, is aimed at preparing the student for the administrative position he/she may occupy later in his/her career. The external attachment offers the resident a learner/observer status in the UK or USA for 3 months. The objective of this external rotation is to give the postgraduate students the opportunity to observe the technological advances in contemporary obstetrics and gynecology in the advanced countries. It is also meant to broaden the resident’s perspective of the specialty and enable him/her to make friends within the world community of obstetricians and gynecologists. The continued viability of the external attachment depends on the goodwill and generosity of the external supervisors and host institutions in the UK and USA.

The third component of the Community 4th Year is the posting of the resident to a district hospital for 6 months, during which the resident lives and works in that district “giving something back” to the rural community. The specific objectives of the posting for the trainee are:

- To provide advanced obstetric and gynecologic services at the district level under the supervision of a specialist (if available) and/or consultant from the base teaching hospital who must visit regularly to assess his/her progress and assist the resident in procedures he has not mastered yet.
- To get acquainted with obstetric and gynecologic related problems in the district.
- To learn firsthand the determinants and predisposing factors of maternal mortality and morbidity at the community level.
- To acquire additional medical and managerial skills and build up individual problem-solving confidence as a specialist in training.
- To inculcate in the trainee the job satisfaction, experienced by working in a higher capacity.

The resident develops at least one clinical research project during the rural posting. Because of the Community 4th Year, the Ghana Postgraduate Ob/Gyn Program is a year longer than the 4 years normally required for the fellowship of the WACS. This extra year is a key factor that adapts the international model of training to the Ghanaian setting. The residents do not consider this a disadvantage and have come to welcome the opportunity.

A cost-benefit analysis of the program showed that it is far cheaper to train specialists in-country than abroad. Indeed, their services while in training are not lost to the country. In 1999, when the number of graduates from the program stood at 17, the cost of training one resident over the 5-year period was about $102,000. The major part of this expenditure went into infrastructure, including provision of libraries, teaching aids, computers and funding visiting professorships. Since some of these, and other costs, such as the recruitment of local faculty/academic staff and purchase of vehicles, are non-recurring, the effective cost per trainee will continue to fall as the number of doctors in-training increase.

UNDERGRADUATE MEDICAL EDUCATION

The postgraduate medical education program described above has had a major impact on undergraduate medical education. The quality of the undergraduate educational experiences in the basic sciences, reproductive medicine and clinical obstetrics and gynecology have been enhanced by not only an increasing full-time and part-time faculty at the two medical schools but also by the high caliber of postgraduate trainees who are heavily involved in medical student education. It has been observed that
the percentage of medical students passing the final examinations in obstetrics/ gynecology, and those achieving special recognition at both the UGMS and the KNUST, have increased. In addition, the success and attractiveness of the postgraduate training program has boosted the general morale of medical students, especially those with interest in obstetrics/gynecology. The role that graduates of the programs have played as active compassionate, committed educators and teachers in the undergraduate program has been a major source of inspiration.

SUBSPECIALTY POSTGRADUATE MEDICAL EDUCATION

With the development of a solid postgraduate training program, the need for subspecialization in the areas of gynecologic oncology, reproductive endocrinology, maternal fetal medicine, and urogynecology is being recognized. Currently, the Ghana Postgraduate College of Medicine and Surgery is being developed to facilitate further subspecialty training within the country. Comparable attempts have been made in Nigeria where the local board certification and the broader West African certification have combined to develop a group of clinicians and educators who are moving into the subspecialties. Subspecialization in Ghana will not only lead to an increase in clinical research as has been demonstrated by graduates of the postgraduate program\(^5,6\) but also to more basic science research as the capacity for basic science research expands. The potential for basic science research, especially in the areas of complementary alternative medicine, new drug development, and early clinical trials is great.

IMPLICATIONS AND POTENTIAL FOR LIFELONG LEARNING/EDUCATIONAL PARTNERSHIPS FOR LIFE

The continuous interest of residents and specialists in the program can be sustained by initially offering subspecialty training abroad. This is to achieve a critical number of experts on ground who have a track record of commitment to practicing and teaching in Ghana. It may soon be possible to offer this training in Ghana. Already, one faculty member has obtained a fellowship certificate in fetal/maternal medicine. Others are preparing to obtain qualifications in urogynecology, oncology, reproductive medicine and public health.

Ongoing collaborative research has been established with universities and institutions outside Ghana. Faculty members and residents continuously visit universities in USA and the UK for continuing medical education and administrative updates. Internet facilities have been established in the two departments in Kumasi and Accra and telemedicine activities will occur as high-speed internet access becomes widely available.

LESSONS FOR OBSTETRICS AND GYNECOLOGY

The success of the program has been impressive. From 1989 to 2002, the program has recruited 75 residents; 28 have completed the program with FWACS. All 28 specialists are currently working in Ghana in very responsible academic, leadership and service positions and as advocates of women's health (table 2). The program continues to attract dedicated residents with academic promise. As of now, Accra has 23 residents and Kumasi has 25.

At the beginning, recruitment into the program was slow. However, with the advances in clinical proficiency, and the general successes, especially in academic performance and job placements, recruitment has increased. At present, admission into the program is very competitive. Maturation of the program, attainment of initial capacity and some degree of sustainability were evident after the first 10 years.

<table>
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<th>Table 2. The placement of 28 specialists from the program</th>
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<td>Korle-Bu Teaching Hospital, Accra</td>
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<tr>
<td>Komfo Anokye Teaching Hospital, Kumasi</td>
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<tr>
<td>Ministry of Health non-teaching hospitals/polyclinics</td>
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<tr>
<td>Police/Military Hospitals</td>
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<tr>
<td>Private Practice</td>
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<tr>
<td>Total</td>
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Since 1995, there has been a reduction in case fatality rates for obstetrics complications in the two teaching hospitals. This may be attributed to the increasing number of residents and faculty in the two centers, which undoubtedly has led to improved prenatal and intrapartum care and more effective management of obstetric emergencies.

Reassuring observations, some of which are listed below, have been made with regard to the six-month posting of residents to district and rural hospitals in Ghana:

- Trainees have conducted a number of studies on the maternal health situation and the strengths and weaknesses of the health services in the district. Some of the studies have been published or included in their case records for the final fellowship examination.
- Trainees have carried out activities to improve maternal health care delivery. For instance, there has been the introduction of the partograph for labor management and the promotion of antenatal care in the community through collaboration with local midwives and traditional birth attendants (TBAs).
- Trainees have been able to have useful discussions with the district hospital staff through continuing education and have made recommendations for reducing maternal mortality and morbidity.
- Trainees have had dialogue with opinion leaders, prominent groups, local government officials and other health care practitioners on harmful socio-cultural practices and superstitious beliefs that influence maternal health. Through such interactions it has become possible for trainees to discuss the factors, where appropriate, that delay pregnant women who are seeking health care. For instance, local transport unions have been encouraged to give priority to pregnant women to minimize this delay in reaching the health services.
- In the various districts, there has been mutual trust among the community, the district hospital and the teaching hospital. Cases from those districts referred to the teaching hospital have been followed up in the districts to the satisfaction of the patients. The district hospitals concerned have benefited from the knowledge and skills transfer from the trainees. This is evidenced by a reduction in the number of bad cases referred from those hospitals to the teaching hospitals.
- The trainees have become acquainted with the socio-cultural and economic determinants of obstetric and gynecological pathology at the district level and gained
insight into the predicament of the cases referred to the teaching hospital. In addition to becoming conversant with, and confident in managing such cases, the residents have also become highly motivated, sensitive, humble, pragmatic and innovative in dealing with such cases later on at the teaching hospital.

Faculty and residents have been actively engaged in clinical research and have published over 35 articles in peer review medical journals. They have regularly presented papers at the WACS annual scientific meetings and at other international conferences. A paper, ‘Maternal and perinatal mortality and morbidity associated with transverse lie’ by Dr JD Seffah7 (one of the graduates), won the FIGO Prize Award (Special Mention) for best article from a developing country in 1999. The Komfo-Anokye Teaching Hospital has taken part in international multicenter clinical trials such as the ‘Collaborative Eclampsia Trial’4 and the ‘Magpie Trial’5. The Kumasi center recently reported the results of collaborative research on the use of umbilical-cord blood for transfusion of children with severe anaemia.8

Graduates from the program and other members of the faculties in the two teaching centers have partnered with Nigerian colleagues to produce a textbook of obstetrics for West Africa and other developing countries.9 The book has been favorably reviewed in the Lancet.9 Work has begun on the second edition. A companion volume, ‘Comprehensive Gynaecology in the Tropics’ was published in 2004. Other publications include: Handbook of Obstetrics: A Practical Guide to the Management of High Risk Obstetric Patients by RA Kwame-Aryee; Handbook of Gynaecology: A Practical Guide to Student and Practitioner by RA Kwame-Aryee* and JD Seffah;* Reproductive Health Curriculum for Interns, developed by the Accra and Kumasi faculty and edited by EY Kwawukume,* O Otolorin, AHK Collison, SWK and Adadevoh; An Introduction to Medical Statistics and Research Methodology by CA Klutio.

The retention of graduates in Ghana has attracted attention and solidified support from the Ghana Ministry of Health and has been lauded elsewhere by many personalities including the president of the Federal Republic of Nigeria at the opening ceremony of the 2003 WACS annual conference in Abuja.

LESSONS FOR OTHER SPECIALTIES AND REGIONS

The program has been extremely successful particularly in the areas of capacity building, medical infrastructure development and sustainability. It is therefore recommended for replication in other specialties both inside and outside the country as the way to train specialists who during their training will continue to serve the country. The advantages of such an approach as exemplified by our experience may be listed as the means to:

- Produce high quality locally relevant specialists who because they are trained in-country, will have proper understanding of the medical and surgical problems in the community for effective management and preventive options.
- Build the capacity of local faculties in the medical teaching institutions for teaching, research and clinical work.
- Offer postgraduate medical training through an appropriate balance of learning activities in both the community and a diversity of health care services at all levels including the university and teaching hospitals as recommended by the Edinburgh Declaration of the World Conference on Medical Education in 1988.10

The recognition of the FWACS, a local degree, as the preferred fellowship certification by the program led to similar recognition by the affiliated academic institutions (to the benefit of the faculty), students and trainees and the Ministry of Health, leading to an overall improved recognition and enhanced prestige of the degree. There is significant potential for interdepartmental collaboration, with successful departments “partnering” with those who would like to expand and replicate appropriate components of the Ob/Gyn paradigm.

References


