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Surgical Education at the West African College of Surgeons

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Abstract The West African College of Surgeons (WACS) was formed almost 50 years ago to foster friendship and greater interaction amongst the first crop of surgeons of West African origin freshly returning from overseas training. Under the College's umbrella, seven different surgical Faculties—Anaesthesiology, Dental Surgery, Obstetrics & Gynaecology, Ophthalmology, Otorhinolaryngology, Radiology/Radiotherapy, and Surgery—have been nurtured into viable entities. The WACS is a leading institution for surgical training, accreditation, and collaboration with international bodies in the subregion. With more than 3000 Fellows, the WACS' surgical training programs and diplomas have remained the standard format for a population of >140 million in the five Anglophone West African countries for decades. The College has assumed increasing roles in attracting donor agencies as well as West Africans in the Diaspora desirous of establishing training links with credible institutions in the subregion. This paper discusses the history of the WACS, its examination process and other functions, as well as its contributions toward and challenges in surgical manpower development in the West African subregion.

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Introduction

After the advent of missionary surgeons in West Africa during the 18th century, the first set of indigenous West African surgeons trained in the United Kingdom and the United States came back on the crest of postcolonial euphoria sweeping through the subregion in the late 1950s and early 1960s. Much of the credit for establishing surgical training programs in West Africa goes to these patriotic pioneers. The past three decades witnessed the emergence of three main bodies responsible for the training of surgeons in West Africa. These were the West African Postgraduate Medical College, the National Postgraduate Medical College of Nigeria, and the francophone *Organisation de Coordination et de Cooperation pour la lutte Contre les Grandes Endemies* (OCCGE).

The WACS was established by the authority of the former Association of Surgeons of West Africa (ASWA) founded in 1960 by the free will of practicing specialist surgeons in 26 Anglophone and Francophone countries [1]. Membership is drawn from countries within latitudes 20 degrees north and south of the equator and longitudes 20 degrees east and west of the Greenwich Meridian, thus extending beyond the geographical boundaries of West Africa to include Cameroon, Congo, and Angola, etc.

Professor Victor Anomah Ngu, then a consultant at the University College Hospital, Ibadan, Nigeria, was said to have driven across West Africa in his Volkswagen Beetle car, enlisting colleagues into the proposed ASWA. He later became the sixth President of the College. In 1969, ASWA, a body that had fostered great social interaction amongst surgeons in the subregion, was transformed into a training body and achieved full collegiate status in 1973. Two years later, this independent body was drafted by the collective leadership of the West African Health Community to

become a Constituent College of the newly created West African Postgraduate Medical College. Backed by a treaty signed by the Heads of States of all Anglophone West Africa, WACS' surgical training programs and diplomas became the standard format for a population of >140 million in the five Anglophone West African countries (The Gambia, Ghana, Liberia, Sierra Leone, and Nigeria) for the past three decades. The first Fellowship examinations were held in 1979 and the first three Fellows of the College by examination graduated in 1983. In the year 2000, the WACS became an autonomous training organization whose mission remains the "*promotion of a pan-regional specialist manpower development through education, research, accreditations and examinations through College programs and cooperation with similar organizations, appropriate periodic publications and policy formulations*" [2].

Although the Medical Council, the sole registering body for medical practitioners in Nigeria, had started postgraduate examinations in 1972, a National Postgraduate Medical College of Nigeria was established by law in 1979. In 2003, the Ghana College of Physicians and Surgeons was established by an act of parliament in Accra Ghana [3]. Each of these organizations served as an umbrella for coordinating postgraduate training in not only the surgical disciplines but also Obstetrics and Gynaecology, Medicine, and Paediatrics. Through a combination of foresight and commitment of its members, the West African College of Surgeons has emerged as a leading institution for surgical training, accreditation, and collaboration with international bodies. The College also has become a beacon for donor agencies as well as West Africans in the Diaspora desirous of establishing training links with credible institutions in the subregion. The sociopolitical upheavals and attendant economic retrogression in some parts of West Africa would seem to have hampered the effective funding of surgical education in some member countries. Strong linguistic barriers between Anglophone and Francophone West Africa also remain to be whittled down to effectively harmonize existing surgical training programs. Toward such integration, the present and future leaders of our training colleges will surely need to look beyond their national and linguistic boundaries to embrace a bilingual and pan-regional outlook.

Surgical training program of the WACS

The WACS was established, from inception, as an umbrella body for conducting training, programs accreditation, examinations, award of diplomas, policy formulation, research, and advocacy in the following surgical specialties termed Faculties of the College: Anaesthesiology, Dental Surgery, Obstetrics & Gynaecology, Ophthalmology, Otorhinolaryngology, Radiology/Radiotherapy, and Surgery. This arrangement has been most cost-effective in using the same administrative apparatus to nurture many "small Faculties" of yore into viable entities. Historically, most of the founding fathers of the College were surgeons. They saw the wisdom of growing other rare specialties while they had the opportunity to do so. Thus, even when there were but three or four specialists in a field, they were encouraged to come together and form a Faculty under the aegis of the College. Today, although no Faculty has fewer than 60 Fellows, with many boasting several hundreds, the rich collegiate tradition that posited these Faculties under the same parent body has been a source of strength, with the College awarding the same diploma (FWACS) in all Faculties. The College examination guidelines are enshrined in a Council-ratified Manual of Operations [2]. For this write-up, emphasis will be placed on the Faculty of Surgery. Nowadays, however, as Fellows of the College work in other subregions, the specialty and subspecialty of each candidate is inscribed on their certificate to indicate specific training, skills, and Faculties.

Faculty of Surgery

There are seven subspecialties under this Faculty: General Surgery, Burns & Plastic Surgery, Orthopaedics, Neurosurgery, Urology, Paediatric Surgery, and Cardiothoracic Surgery. As in other Faculties, admission into a residency training program follows a post MBBS housemanship in recognized hospitals, followed by full registration by the local registering body. The training program is based in approved College hospitals and in most countries, admission for training commences after passing the Primary examination of the College a test of basic surgical science recently formatted into wholly MCQs for all Faculties.

The Part I rotations are based in accredited teaching hospitals and training centers. Training lasts 2 years viz [4]:

- Trauma (Accident and Emergency or Casualty): 6 months
- General Surgery: 6 months
- Urology: 3 months
- Orthopaedics: 3 months
- Anaesthesia: 3 months
- Elective (Cardiothoracic Surgery, Neurosurgery, Paediatric Surgery or Plastic and Reconstructive surgery): 3 months

During this period, basic surgical principles are taught in structured programs under the tutorship of consultants with

recognized qualifications. Progress of training is monitored through the compulsory use of an approved logbook. Because registrars are employees of their teaching hospital or training center, the host community benefits from the service rendered by trainees. The approved training curriculum of the Faculty used by all trainees is revised every 5 years. In addition, registrars are expected to attend update courses, revision programs, and a number of prescribed skills courses before applying for the Part I examination at the end of the rotations.

After success at the Part I examination, the candidate spends the last 2 to 3 years of his residency training in his chosen specialty.

Control

Each Faculty is headed by a Faculty Chairman who is the Coordinator of all training and other academic activities of the Faculty. He is assisted by the Faculty Secretary and a 12-man Faculty Board responsible for all examination matters. The Faculty Chairman reports to the College Council through the Secretary General who is the Chief Executive Officer of the College. Policy changes and implementation are monitored by Council through various committees of Council, which meet statutorily and reports to Council, whereas the College Council reports to the Annual General Meeting through the College President.

Ensuring competency

Surgical proficiency is ensured through continuous assessment by the trainers whose duty is to vet and maintain the correct use of the logbook and adherence to the curriculum using a structured teaching format. In addition, the WACS is one of the two accrediting bodies that approves institutions to train surgical residents in the subregion using strict guidelines to give partial or full accreditations. Thus, any trainee in a partially accredited institution must complete the unaccredited part of his training in another establishment whose program is approved. The College does not hesitate to withdraw the accreditation status of any institution with substandard facilities or whose human resources are deemed below minimum levels for training.

The three prescribed examinations utilize the MCQ, essays, bedside long-case examinations, short cases and the *viva voce*. Many Faculties also use the dissertation as part of the assessment at their exit (Part II Final) examinations. The examinations are regularly attended by external examiners to ensure that the College's international training standards are maintained (Figs. 1 and 2).

Teaching of technical skills

Surgical skills are learnt by trainees through an apprenticeship system whereby the consultants and senior registrars act as preceptors to trainees rotating through their units for 3–6 months or longer as prescribed by the curriculum. A combination of teaching methods, including didactics, bedside teaching, clinical sessions, x-ray rounds, video and slide projections, operative sessions, journal club, audits, grand rounds, and feedback sessions, are used to impart knowledge and technical skills into trainees.

Simulation has been gaining ground as a teaching tool in surgical training with the introduction of the Basic Surgical

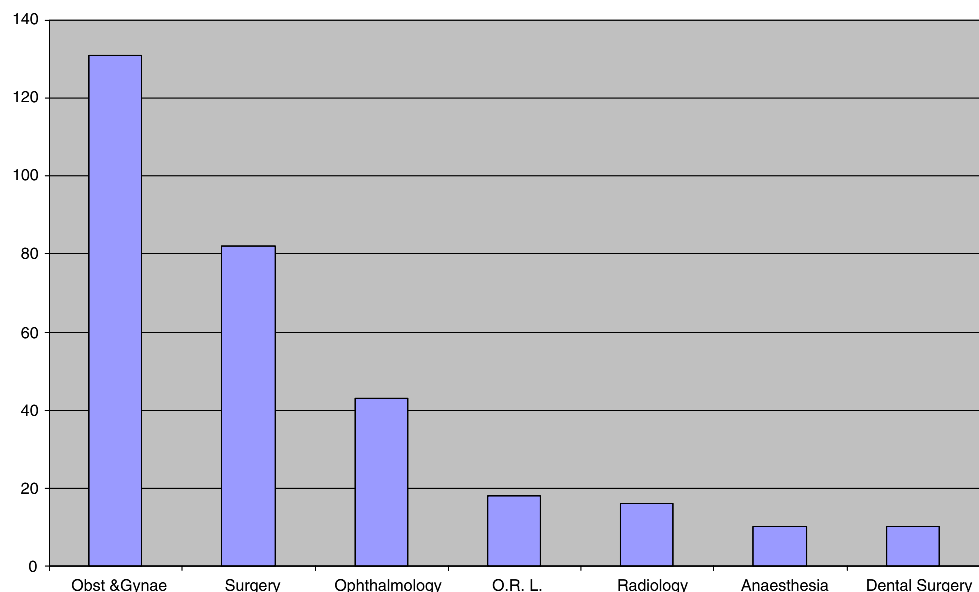

Fig. 1 Output of fellows by faculties (2000–2003)

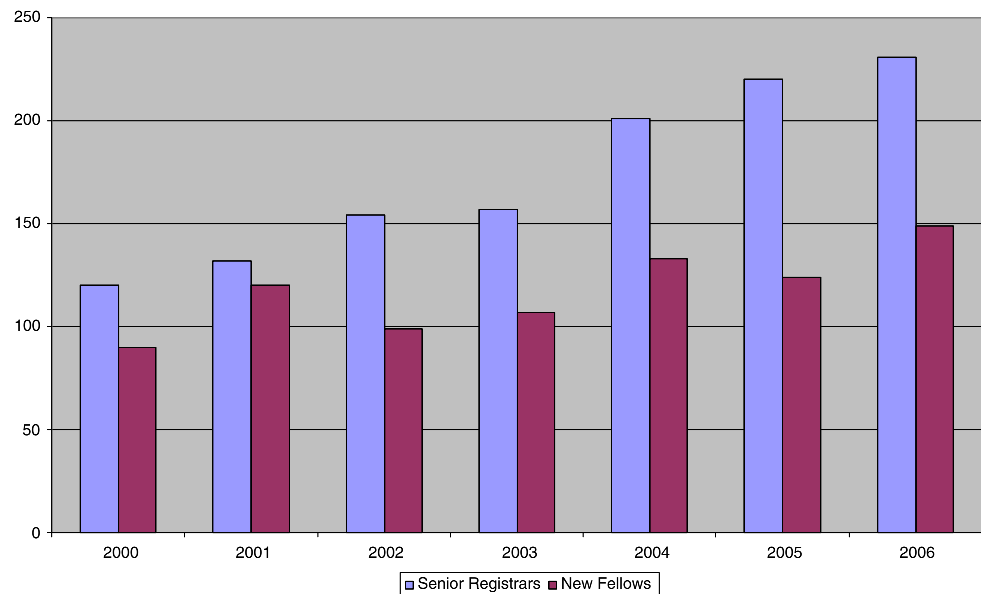

Fig. 2 Yearly surgical manpower output of the WACS in all faculties

Skills course in which basic suturing and anastomosis techniques are taught. The recent establishment of a Surgical Training Centre in Accra, Ghana, has enabled the College to teach the first set of trainers for the *Advanced Trauma Operative Management* (ATOM) and the *Basic Laparoscopic and Endoscopic Surgical Training* (BLEST) workshop [5]. Thus, young surgeons are becoming exposed to current surgical techniques through the College's collaborative programmes with external bodies.

General surgery and surgical subspecialties

The WACS was the first training body to offer surgical subspecialty training in West Africa. This was premised on the belief that such a seed could only grow with time. That gamble of the pioneer trainers has been proven right by events as other training bodies that opted for "General Surgery-only" because it was felt that was the only discipline needed in a developing country have finally been driven by market forces to commence the training of surgical subspecialists. Surgical specialties have greatly helped in producing more of the sorely needed surgical manpower for the subregion. Training in general surgery has not been compromised by subspecialty training in West Africa mainly because of the excellent grounding afforded the training in the first 2 years. This is possible because of the heavy workload in a milieu where the patient to specialist ratio is still heavily tilted against the doctor. This initial sound grasp of general surgery is necessary because very few subspecialists can afford to practice exclusively in their narrow fields in developing countries.

Unique aspects of the WACS training program

The WACS has become a successful brand name in the subregion and has been a force for positive change in its almost 50 years of existence. Through its progressively proactive approach, the College has stayed relevant to social changes, waxing stronger despite the socioeconomic and political vagaries in West Africa during the last two decades. In the mid 1980s and early 1990s, the surgical specialist cadre was decimated by the brain drain syndrome, which led to the egress of scarce top-level manpower from the subregion to the oil-rich Gulf States, Europe, and America in search of sustenance. Products of the College rescued the health sector from near collapse as they rose to effectively man the system. A more dangerous form of the drain is the emigration of registrars and senior registrars to the United Kingdom and the United States often never to return for (perceived) better income. When many of these young doctors are sent for overseas training, they do not return to their countries, rather opting to stay back. The College's training programs based in member countries have helped by making these young doctors to work and serve their countries while in training.

The training program of the West African College of Surgeons is cost-effective compared with similar government-subventioned ones. This has been possible because of the enormous sacrifice of Fellows who render services *gratis* to the organization. The College also has a tradition of prudent management of resources and shares many facilities and examination office personnel with the West African College of Physicians to save cost. The College has successfully run its programs with internally generated

funds and low dependency on governmental subventions. Yet, with adequate funding, more could be achieved.

With more than 3000 Fellows, the WACS has the largest membership of any surgical specialist group in sub-Saharan Africa [6]. This success has been achieved through early foresight while many other groups relied on expatriates until donor agencies redrew their funding priorities. The WACS continues to attract attention from other subregions training bodies and organizations such as the American College of Surgeons (ACS), the Association of Surgeons of Great Britain and Ireland (ASGBI), the Pan African Association of Surgeons (PAAS), the Association of Surgeons of South Africa (ASSA), and others with similar goals. The College has become a conduit for give-back training projects from West Africans in the Diaspora. The College also is collaborating with other agencies toward the harmonization of surgical training curricula in West Africa. Thus, the WACS has a harmonized program with the NPMCN while harmonization talks are in progress with the Ghana Postgraduate College and the francophone countries. This has received tremendous assistance from the West African Health Organization (WAHO).

To foster greater harmony within the various linguistic blocks of West Africa, the WACS established to participate at the examinations of its francophone counterparts and invite francophone examiners to take part in the WACS examinations. Candidates who pass at such examinations are awarded the FWACS. This has brought the two blocks into closer rapprochement and engendered lasting friendship across national and linguistic divides. Young Fellows with an eye on future leadership of the WACS also are encouraged to be fluently bilingual.

Challenges

Much remains to be done. The output of the WACS program has been lopsidedly in favor of member countries with political stability during the past three decades and is directly proportional to the national investments in medical education during that period. Thus, Nigeria and Ghana have produced >90% of the surgeons trained to date, whereas war-ravaged countries can barely sustain any medical schools from which to produce doctors for postgraduate training. It is hoped that with increasing global efforts at sustained peaceful coexistence, stability, and economic empowerment, other member countries will reap greater benefits from the laudable efforts of the WACS.

References

1. WestAfrican College of Surgeons (2001) Strategic plan of the West African College of Surgeons 2001–2006. Miral Press, Lagos, p 2
2. WestAfrican College of Surgeons (2004) Manual of operations. Miral Press, Lagos, p 4
3. Available at: http://www.ghanaphysicians.org/history.php. Accessed January 9, 2007
4. Available at: http://www.wacs-coac.org/facult.htm. Accessed January 9, 2007
5. Jacobs LM, Burns KJ, Cornwell EE, Adebonojo SA (2005) Advanced trauma operative management course introduced to surgeons in West Africa. Bull Am Coll Surg 90:1–7
6. WestAfrican College of Surgeons (2006) List of fellows. Quazor Press, Lagos, pp 1–305