



# Setting the pace for VISION 2020 in Ghana: the case of Bawku Eye Care Programme



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## Introduction

Ghana is a west African country bordered on the south by the Atlantic Ocean, and the north, east, and west by the Republics of Burkina Faso, Togo, and Ivory Coast respectively. It has a population of 20,771,382. Prevalence of blindness is estimated at one per cent. It currently has 52 ophthalmologists and 216 ophthalmic nurses (National Eye Care Secretariat), with nearly half of the ophthalmologists (19) located in the national capital and its environs. The health sector attracted 7.9 per cent of government budget in 2002 and 12.3 per cent in the 2006 budget. Currently there is a comprehensive national health insurance policy being implemented that covers most of the common eye operations done in the country.

## Background

Bawku is located in the Upper East Region. Its population is 961,000, and it is the poorest region in Ghana. Its eye care services, however, are among the best. The regional eye care programme is largely a hospital-based programme that started some thirty years ago with the help of the Christoffel Blindenmission. Based at the Bawku Presbyterian Hospital, the programme has grown to become a de facto regional programme with extensive outreach services across the region and beyond, into the neighbouring Northern Region, Burkina Faso and Togo.

The objectives of the programme include:

- provision of quality eye care services that are affordable and readily accessible to patients in the region
- collaboration with stakeholders to develop a comprehensive regional eye care programme which integrates primary eye care services into the existing primary health care delivery system
- collaboration in the training of ophthalmologists, ophthalmic nurses and primary eye care cadres in Ghana and the west African sub-region
- development of a sustainable programme with progressive reduction in dependency on donor funding.

## Causes of visual impairment and blindness

The commonest causes of blindness and visual impairment in the region are cataract, glaucoma, and uncorrected refractive errors. With the near absence of trachoma and

**Figure 1. Ghana administrative map**



onchocerciasis, the focus of our interventions is on eliminating visual impairment and blindness from cataract and refractive errors, reducing visual loss from glaucoma, and provision of low vision services.

## Eye care delivery performance

### Cataract services

Between 2000 and 2004, 9,933 cataract operations were done under the programme with more than 97 per cent receiving IOL implants. The method of extraction is extracapsular cataract extraction (ECCE). With two ophthalmologists and a cataract surgeon, cataract surgical output has steadily been rising since 2000. Table 1 (below) shows the trend of cataract operations over the last five years.

These figures have been achieved through an extensive network of outreach services including:

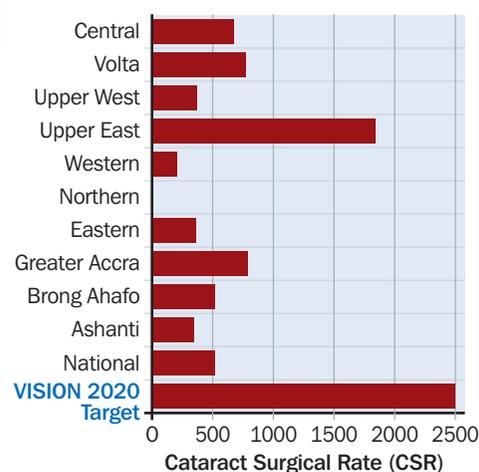
- establishment of cataract surgical outreach centres in all district hospitals
- enhanced role of district hospital-based ophthalmic nurses in patient preparation,

post-operative management, and referral of complications

- use of community-based rehabilitation workers (CBRs) in case finding and referral to hospitals
- surgical quality assurance through a computer-based continuous outcome-monitoring programme
- client satisfaction evaluation through yearly qualitative surveys
- a cataract surgeon to support the ophthalmologists and nurses to give ocular anaesthetic.

The target in our cataract services is to attain a surgical output above our national VISION 2020 cataract surgical rate (CSR) target of 2,500. Figure 2 shows the CSR of the various regions.

**Figure 2. 2004 national cataract surgical rates: performance versus need**



### Glaucoma

Glaucoma is the second most significant cause of blindness and visual impairment in the region. Primary open-angle glaucoma (POAG) affects 8.5 per cent of people aged 40 years and over in Ghana.<sup>1</sup> Previous hospital-based studies in the Upper East Region show that about 26 per cent of glaucoma patients operated are aged under 40 years and these findings are consistent with our current hospital records.<sup>2</sup> Our strategy for glaucoma intervention includes:

**Table 1. Cataract surgical output within the programme**

| Year | Ghana | Burkina Faso | Total |
|------|-------|--------------|-------|
| 2000 | 989   | 958          | 1,947 |
| 2001 | 866   | 728          | 1,594 |
| 2002 | 1,105 | 797          | 1,902 |
| 2003 | 1,294 | 632          | 1,926 |
| 2004 | 1,773 | 791          | 2,564 |

- primary trabeculectomy for operable cases with or without anti-metabolites (not commonly done by many surgeons in the country)
- medical management for 'inoperable cases' and those with 'qualified' surgical success
- continuous 'opportunistic screening' for all patients aged 16 years and over
- genetic counselling for identified patients
- advocacy to include glaucoma surgery in the 'minimum benefit package' of the National Health Insurance Scheme in the region.



Part of the success derives from the motivated team work in the programme. GHANA

### Childhood blindness

Most causes of childhood blindness in the region are avoidable. Eye health education and vitamin A supplementation are delivered as part of the Expanded Programme on Immunisation (EPI) through inter-sectoral collaboration with the Ghana Health Service, while school eye health programmes are organised in collaboration with the Ghana Education Service.

Surgically avoidable cases of childhood blindness are managed here and, where necessary, referred to the paediatric ophthalmic unit at the Korle-Bu Teaching Hospital in Accra.

### Refraction and low vision services

With only one optometrist in the region (in private practice), the bulk of refraction and low vision services are rendered by an ophthalmic nurse/refractionist. Currently, all ophthalmic nurse trainees at the hospital receive tutorials in basic refraction. In this way basic refraction services are expected to become progressively available at the district and community levels.

### Human resource management

There are 20 ophthalmic nurses (one per 45,000 population), two ophthalmologists and a cataract surgeon, two refractionists and a cadre of primary eye care (PEC) workers who have been trained and deployed in the various communities under the community-based rehabilitation (CBR) projects. Nurses learn proficient use of the slit lamp and its accessories, indirect ophthalmoscopy, retinoscopy, and use of many basic tools that are considered the privilege of the ophthalmologist in many hospitals in the country. In this way, the nurses can competently handle routine pre-operative and post-operative management of uncomplicated cataract cases. They are also trained to give ocular anaesthetic and do common operations like cicatricial entropion repairs, pterygium excision, evisceration, etc. This enhanced role constitutes a source of pride and motivation, while allowing the doctors time to do the more complex operations and laser treatments.

## Recommendations and the way forward

The current CSRs, in Ghana (519) and in most African countries, indicate that we certainly cannot attain the targets set under VISION 2020 unless we undertake fundamental reforms in our view of ophthalmic practice. I suggest the following:

### Length of training

Fellowship training under the West African College of Surgeons programme normally takes about six years to complete as a general ophthalmologist. In Ghana, only five ophthalmologists have been trained under the programme over the last twenty or so years, with most spending nearly ten years in residency. While the two-year diploma programme seems too short, the current fellowship programme appears rather too long for the available technology in the sub-region at the moment. Perhaps the east African system of three years is a better compromise and should be encouraged.

### Outreach cataract services

These should be an integral part of all the regional programmes. The programmes should be resourced adequately to undertake these and overcome geographical and other related barriers to service uptake. This, from my experience, is a major step towards increasing surgical output.

### Utilising available resources

In many hospitals, the work of the ophthalmic nurse is limited to recording

visual acuity and assisting the ophthalmologist. Most ophthalmic nurses can be educated to manage all routine post-operative cataract patients, give ocular anaesthetic and do minor operations. In the out-patients department, they can handle many more patients than we currently expect of them. More time would be made available for the ophthalmologist to perform operations. These measures may sound controversial, but the reality is that they are possible and have been implemented successfully elsewhere. What we need is a focused education programme, supervision, and quality-control assurance.

### CBR workers and community health nurses

CBR workers and community volunteers can readily be trained to diagnose and refer cataract patients to district hospitals. In addition, primary eye care should be made an integral part of community health training so that this cadre of nurse, available in all districts in Ghana, can play a meaningful role in eye care.

### Cataract surgeons

Cataract surgeons are still neither recognised nor accepted in Ghana, despite overwhelming evidence of their importance in many African countries.<sup>3</sup> On the contrary, general medical assistants (one-year post basic nursing) are trained and posted to district hospitals to manage a wide range of medical conditions. My personal experience with cataract surgeons in the Gambia and elsewhere is that they are perfectly up to the task; revisiting this issue is more important now than ever, if we are to realise our stated goal of eliminating all causes of avoidable blindness by the year 2020.

### References

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- 2 Verrey JD, Foster A, Wormald R, Akuamoah C. Chronic glaucoma in northern Ghana – a retrospective study of 397 patients. *Eye* 1990;4: 115-120.
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Outreach vehicle preparing to travel to those far from eye care facilities. GHANA