

QUALITY EYE HEALTH FOR ALL



SEEING IS BELIEVING PROJECT PHASE V GHANA

July 2013 to June 2017

EVALUATION REPORT

July 2017

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EXECUTIVE SUMMARY

Between July 2013 and June 2017, Operation Eyesight Universal (OEU) in partnership with Standard Chartered Bank (SCB) under a global programme -Seeing is Believing- agreed to run a project, Seeing is Believing Phase Five (SIB V), with Ghana health Services, with a project budget of \$1,249,963 USD. Noting the long history of development of eye services, the achievement of having ophthalmic nurses (ONs) at almost all district eye units- the first level of the PHC structure - and the ongoing determination by government to roll out the community health planning and services (CHPS) strategy, the project - **Quality Eye Health for All** aimed to achieve the integration and delivery of primary eye care (PEC) within primary health care (PHC). Thirty-five districts across the 10 regions were selected to demonstrate **functioning, integrated, replicable and sustainable models** which could be scaled up across the country.

The project to a large extent exceeded its targets. Over **15 million people** were reached through various awareness creation strategies from one to one counselling in clinics, posters, leaflets to health education sessions over local FM stations reaching remote communities. Through outreach activities, over **2 million persons and 140,000 school children were screened** and at regular clinics another **375,000 were examined**. At district eye units, the well-trained **district ophthalmic nurses** were further strengthened by providing a **full complement of equipment**- filling gaps where these existed and the training of the regional equipment technicians to match. These provided the backup including surgical services to the referrals. A training of trainers (**92 ophthalmic nurses**) strategy was adopted to cascade training to over **3000 primary eye care workers**—ie health workers at the sub-districts and the CHPs levels, school teachers and health coordinators and district health information officers. The carefully developed partnerships between Operation Eyesight Universal (OEU) and the Eye care unit, other arms of the Ghana Health Service (GHS), the SCB and other Non-Governmental Organizations (NGOs) facilitated the delivery of the project. The project management demonstrated excellent time and resources management and fiscal prudence.

The project seized the opportunity of having optometrists posted to district level to initiate refractive error and low vision services at that level, and integrate eye health into other health systems such as the district health information services. A partnership with the Ghana College of Physicians and Surgeons facilitated the conduct of a national population based survey whose results will provide evidence based advocacy and planning information.

The preliminary survey data show that the prevalence of blindness is 0.74% and the leading causes are cataract, glaucoma, posterior segment diseases and corneal opacity. The need for eye services for these visions impairing conditions and non-vision impairing conditions is estimated to be required by 20% of the population and must be met by universal eye health.

Integration of primary eye care into primary health care of necessity required the integration at the three-primary health care (PHC) levels of districts, sub-districts and CHPS. Though the project succeeded in training at all the levels, the preferred strategy of eye care delivery was still the outreach strategy with detection and referral from the sub-districts and CHPs levels to the districts. The eye health services had largely succeeded in getting eye health requirements into the essential package at district level and in the National Health Insurance Scheme (NHIS) but that integration had not yet been extended to the sub-district and CHPS levels. The largely aware population thus patronised the outreaches and the district eye units for treatment.

To achieve universal eye health coverage, the model will require its continuing integration into the sub districts and the CHPS level with primary eye care treatment at these levels as applies to other public health programmes (e.g. malaria control) and in parallel a reduction of the outreach strategy and replacement with an Onsite Training and Supportive Supervision (OTSS) strategy. Horizontally to achieve universal eye health coverage, the population based programmes at sub-district and CHPS levels eg maternal and child health and the strategies of home visits will need to have eye health integrated and funded. The training programmes will thus need to be reviewed to embrace these changes and emphasise more the non-clinical competencies of tracking and counselling the reluctant visually impaired, the defaulters, etc and empowering people to take responsibility for their own eye health.

The gains made in the school eye health screening can be further expanded to make it a comprehensive school eye health package housed in the Ministry of education (MOE). The comprehensiveness of the programme will need to be consolidated and expanded to meet refractive error and presbyopia needs. The rehabilitation services for the irreversibly visually impaired and inclusive education for the blind child is yet to be addressed within the universal eye health strategy in Ghana and the CHPS strategy could be an entry point.

Not mentioned in the TOR but noted during the evaluation was the fact that the primary eye care (PEC) into PHC model was a training resource for a wide range of health workers; residents in ophthalmology and allied health personnel and this should be consolidated.

Overall, most partners thought and the evaluation team found that the various components of the project were functioning, integrated, replicable and sustainable to varying degrees. Awareness creation and training activities were very largely functioning and integrated. A strengthened district eye services was functioning, best practice and replicable. The existing health systems are fairly well developed and for sustainability will need to absorb eye health and mainstream it into the CHPS policy at the sub -district, CHPS and the population wide public health programmes with the active participation of the eye health services. The commitment to sustainability expressed by the district health and hospital directorates was very reassuring and should be followed up.

The evaluation was commissioned in July 2017 as part of the impact evaluation and is to be shared by all the partners.

BACKGROUND AND INTRODUCTION

Ghana is a West African country with plains and low plateaus covered in savannah and rainforests. The country has a total land mass of 239,460 square kilometres. From the 2010 national population census, the population of Ghana was estimated at 24,658,823 with a growth rate of 2.3%. The population is currently estimated to be 28,263,513 at the end of 2016. Literacy rate was estimated at 76.6 in 2015 and poverty rate was estimated at 24.2% in 2013. More than half of the population's workforce are in farming, mainly small landholders. Due to the differing rainfall patterns, farmers can farm twice in a year in the southern and middle belts of the country while farmers in the northern belt can farm only once in a year.

Agriculture and the many natural resources of Ghana accounts for roughly 25% of Gross Domestic Product (GDP). The services sector accounts for 50% of GDP. Gold and cocoa production and individual remittances are major sources of foreign exchange. Oil production at Ghana's offshore Jubilee field began in mid-December 2010, and drilling of crude oil in other fields commenced afterward.

Ghana is considered a lower middle-income country (LMIC); however, the health sector of Ghanaians still suffers several challenges. The World Health Organization (WHO) in 2015 estimated life expectancy of Ghanaians to be 61 years for males and 64 years for females. Maternal mortality ratio was also estimated in 2015 to be 319 per 100,000 live births.

Eye Health Status

A national blindness and visual impairment study for Ghana was recently conducted but the results are yet to be released. Because such national survey had never been conducted in Ghana, estimated prevalence of blindness from WHO was used for planning of eye health programmes in Ghana. Using World Health Organization (WHO) estimates for major causes of blindness, 1% of the people in Ghana are estimated to be blind from all causes. The WHO estimates that visual impairment is about 3 times the number of blind people, so nationally, Ghana uses an estimate of 3% for visual impairment corresponding to about 847,900 people.

In the Eastern region of Ghana, a Rapid Assessment of Avoidable Blindness (RAAB) study conducted in 2009 indicated that the prevalence of blindness among people aged 50 years and above was 4.2% and that 84.5% of all the causes were avoidable. Extrapolation of the data indicated that the prevalence of blindness for all age groups in Eastern Region was 0.7% (personal communication)

Using information available at the beginning of the project, cataract is the leading cause of blindness, contributing around 45 - 50% of the burden of blindness. The incidence of cataract blindness is estimated to be 20% of the prevalence, which means about 141,000 people in Ghana are currently blind due to cataract with 28,200 more people becoming blind each year from cataract. Other eye conditions contributing to the burden of blindness are glaucoma, corneal scar, retinopathies, trachoma, childhood blindness, refractive errors and low vision. Trachoma only has public health implications in Northern and Upper West Regions. Ghana ranks among the most affected countries in the world for glaucoma, with an estimated 600,000 people affected. Per data collected from eye units by the National Eye Care (NECU), the top 5 eye conditions seen (based on number of patients seen in outpatient departments (OPD)) are: Acute red eye; Refractive Error; Cataract; Glaucoma; Uveitis (eye inflammation). It was estimated that about 50% of cases seen (conjunctivitis and refractive error which includes presbyopia) could be managed at the primary level.

Eye Health System Governance

At the national level, provision of public eye health services is overseen by Ghana Health Service, as for other health services. The National Eye Care Unit (NECU) sits within GHS's Institutional Care Directorate (ICD), and provides a strategic role for the delivery of eye care services in Ghana. The delivery of Trachoma and Onchocerciasis programmes is separate and vertical and since 2009 have come under the Neglected Tropical Diseases (NTD) Unit, although the National Eye Care Coordinator strategically oversees the trachoma programme.

Eye Health Service Delivery In Ghana

All levels of eye care services (Tertiary, Secondary and primary) are provided in Ghana in various facilities. Eye care services are provided in both private and public health care facilities across the country. Tertiary eye care is mainly provided in teaching hospitals (Komfo Anokye Teaching Hospital-KATH and Korle Bu Teaching Hospital-KBTH). These hospitals provide both general eye care and sub-specialty eye care services. There are private hospitals springing up that also provide some tertiary eye care services in Ghana. These tertiary facilities are staffed with ophthalmologists (some with sub-specialty), optometrists, ophthalmic nurses and opticians. The regional hospitals in the ten regions of Ghana provide secondary eye care services. Almost all the regional hospitals have a regional ophthalmologist (RO) overseeing the delivery of eye care in the region. Other cadre of eye care workers at this level are optometrists, ophthalmic nurses and opticians.

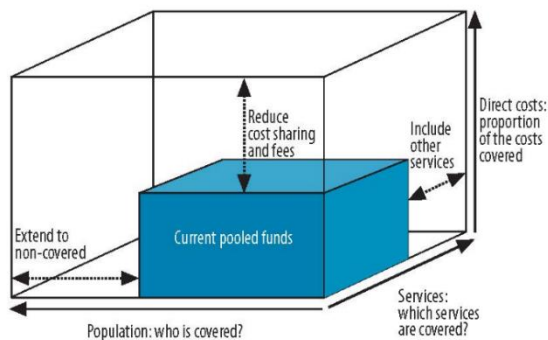
At the district level eye care service provided is mainly primary eye care. Almost all 216 districts in Ghana have an eye unit in their district hospitals. These eye units are staffed with ophthalmic nurses, optometrists and opticians. Not all of these hospitals have optometrists since the engagement of optometrists in the public sector is recent but there are ophthalmic nurses in almost all of these hospitals. Eye care services are virtually missing at the sub-district and community levels though it is widely believed that the primary health care workers at the sub-district health centres and community level CHPS compounds can be very useful in delivery of eye care to the people they serve.

Context of The Project



At the World Health Assembly of 2013, member states including Ghana unanimously adopted **Universal Eye Health: A global action plan(GAP) 2014 – 2019** building on **VISION 2020 The Right to Sight** with a global target of reducing avoidable visual impairment by 25% by 2019. In 2015, building on the Millennium Development Goals, (MDGs) Sustainable Development Goals (SDGs) officially known as *Transforming our world: the 2030 agenda for sustainable development*

Fig. 1. Three dimensions to consider when moving towards universal coverage



signed by 193 UN member states including Ghana was launched. The SDGs underpin much of national governments decision making and programmes. Health within the SDGs is to ***‘Ensure healthy lives and promote wellbeing for all at all ages’***. The SDGs also adopted Universal Health Coverage (UHC) as a goal. The ***Universal Eye Health: A global action plan(GAP) 2014 – 2019 was thus already aligned with the SDGs***

WHO and the World Bank report on monitoring of Universal Health Coverage accepted cataract surgery as one of its 44 essential surgeries, and cataract surgical coverage, (CSC) a GAP indicator as one of its 13 (UHC) indicators as well as an indicator for care of the elderly. As defined in GAP, CSC.... ***is the proportion of people with bilateral cataract eligible for cataract surgery who have received cataract surgery in one or both eyes (at 3/60 and 6/18 level)?*** Going further to emphasise quality, the indicator CSC has been proposed to use the visual outcome of the surgery as an indicator of quality.

Globally, concepts such as the importance of the social determinants of health (health care determines only 15-25% of health outcomes), the strengthening of health systems and in 2017 the launch of the WHO Framework for Integrated People Centred Services (IPCHS) have become priority. Countries are urged to progress towards universal health coverage by shifting away from health systems and institutions designed around diseases to focus on people.

What do governments need to do to ensure universal access to eye health?

- ✚ Comprehensive eye care services
- ✚ Eye health integrated into health systems
- ✚ Access to everyone
- ✚ Point of care payment should not prevent access

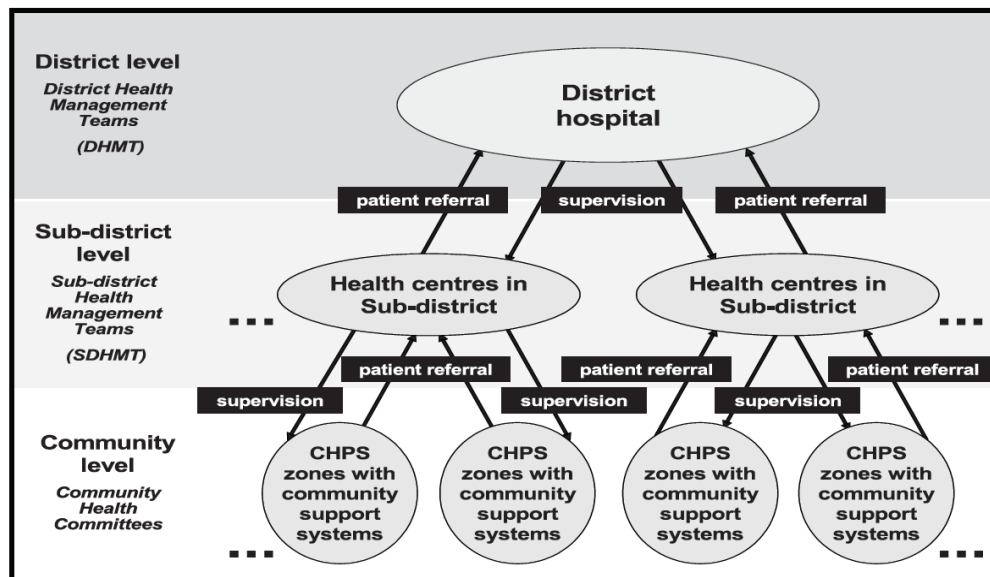
Ghana

The community based health planning and services (CHPS)

Ghana in accelerating the attainment of UHC and bridging the access inequity gap, set out the national community based health planning and services (CHPS) policy in March 2016 building on work on CHPS since its initial rollout over a decade ago.

The Primary Health Care was designed as a three-tiered service; see figure below. The most peripheral was the community/CHPS level, supported by the sub-district level and the apex was the district level, each to plan, provide on-site training and supportive supervision to the level below. Each level would manage conditions within its scope, use task shifting, make referrals to the level above. The PHC design was to facilitate intersectoral collaboration in recognition of the non-health (social) determinants of health and their increasing role

Figure 1 : Levels of Primary Health Care:



especially at the level A of PHC by working with the non-health administrative structures and civil society.

The most peripheral level, Level A is the community level in which the population unit is defined as a CHPS zone of 5000 population/750 households. It could be made up of a town, part of a town, or a group of villages or settlements mapped for ease of planning itinerant services but with permanent assignment of community health officers (CHOs) and community health volunteers (CHVs). It offered minimum essential health services focusing on population based programmes; maternal, reproductive health, neonatal and child health and national disease priorities, a close to client care that includes clinical care of minor ailments, promotive and preventive care delivered through house to house visits, and emergency service delivery at the CHPs compound. Other tasks were follow up of defaulters and discharged patients, health education, counselling and community mobilisation. It is meant to ensure access and increase co production of health by individuals and communities as well as health workers. Supporting it was a community health committee.

The sub district, Level B plans, develops, monitors and evaluates the implementation of the population based programmes and disease priorities through the community based services delivery within the sub district and provides direct supportive supervision to the community health officers based at the health centres. Supporting it was a sub-district health management team (DHMT).

The district level, Level C has a two-pillar approach; a district hospital to provide comprehensive health care (facility focused) to the population of the district and a DHMT in charge of the planning, supervision, monitoring and coordination of the district health services especially the population focused programmes and disease priorities.

Of major significance are the Budget management Centres (BMCs) responsible for administering government funds and partner donated funds. For PHC, there are two BMCs; the District **Health** Management Directorate and the District **Hospital** Management Directorate. The challenge lies in ensuring activities do not fall between the two directorates especially in the funding of outreaches from one BMC sector to another and population

focused or public health programmes whose natural home is the district health management directorate though implemented by hospital based personnel.

Ghana Eye Health Services

Nationally the key eye health activities of the National Eye Care Unit (NECU) were advocacy, awareness creation, education, screening to address population needs; human resource development, infrastructure and technology to strengthen the service delivery, monitoring, evaluation and management.

To advocate for the integration of PEC into PHC was one of eleven specific objectives of the National Eye Health Services.

However, it is essential to revisit the concept of PHC and within that its eye health component. Primary health care is the first level of contact of individuals, the family and community with the national health system bringing health care as close as possible to where people live and work, and constitutes the first element of a **continuing health care process** which is made up of promotive and preventive, pre-symptomatic detection, early diagnosis/detection, diagnosis of established disease, management of disease, management of disease complications, rehabilitation, palliative care and counselling. In addition, more recently, WHO in the framework on people-centeredness and integrated care has recommended engagement with patients, families, informal carers, communities to have a role in health, disease and response to services. The responsibility of the health services is therefore to ensure that the health work force at all levels as well as the patients, families, informal carers, communities are empowered to be co-producers of health.

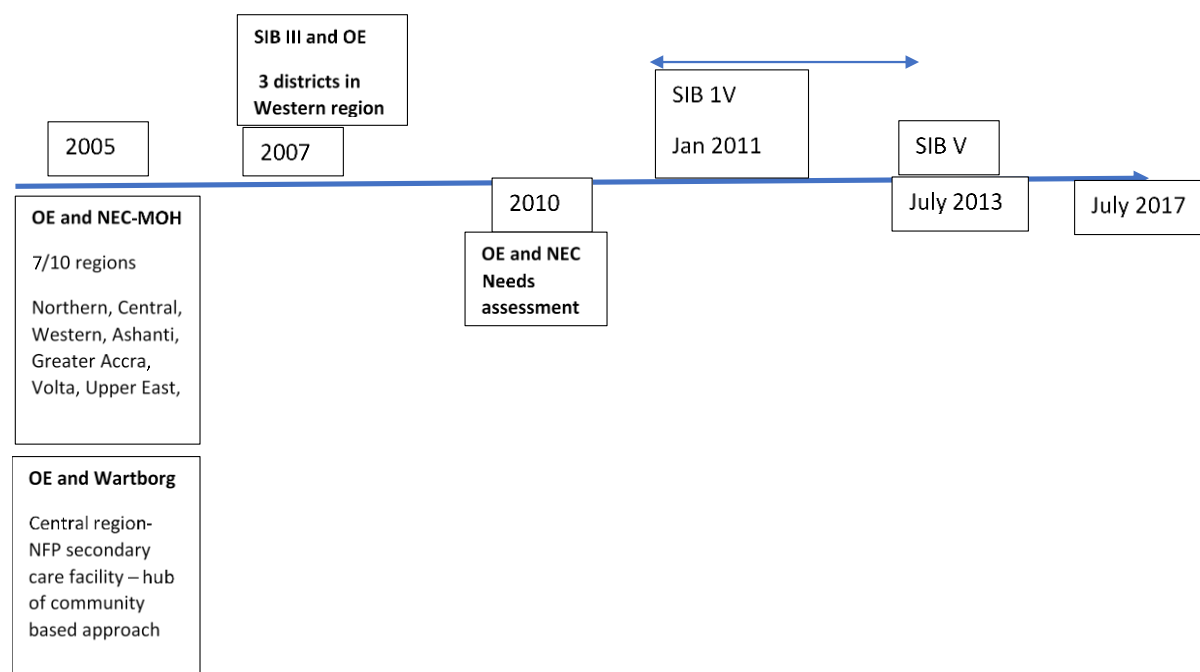
In Nairobi in 2012, International Agency for Prevention of Blindness (IAPB) Africa defined ***“PEC is an integrated, participatory and inclusive approach to the eye health component of PHC consisting of promotive, preventive, curative and rehabilitative services”***.

In Ghana, based on the PHC structure, to a very large extent, primary eye care had been achieved at one level of the PHC ie the district level, level C. Most of the district hospitals had at least one trained ophthalmic nurse who provided eye care services and conducted outreach programmes to basic schools and communities. Eye health components made it into the NHIS and essential drugs list.

Still, at the population level, uptake of eye health services remained low. Avoidable visual impairment due to cataract, glaucoma, refractive errors including presbyopia and increasingly diabetic retinopathy and pterygium was still a national problem. Cataract surgery, though one of the essential surgeries and numbers had increased, was provided mostly on an intermittent outreach basis and was still the leading cause of visual impairment. Though two eye health related neglected tropical diseases- onchocerciasis and trachoma were near elimination using community based strategies at level A, other primary eye health services were not integrated at that community level.

Over a decade, OEU had worked alongside other eye health NGOs to improve the eye health services especially in the areas of disease control, human resource development and provision of some equipment, drugs dressings and consumables as shown in the evolution table below, a foundation on which to build.

EVOLUTION AND TIMELINE FOR EYE CARE SERVICES AND SIB V



In recognition of the need for primary eye health services at all levels of the PHC, the opportunities posed by government's commitment to the CHPS strategy, and the strength of level C (district) in eye health services, OE sought to further reduce avoidable visual impairment, and the barriers to access. It wished to address the weak primary eye health which was virtually absent from primary health care services at levels B and A, a lack of awareness and the long distance and travel time to available points of care in level C of the PHC.

*However, in practice this would mean within CHPs; "a close to client care that includes clinical care of minor **EYE** ailments, promotive and preventive care **and tracing of visually impaired** delivered through house to house visits, emergency **EYE** service delivery at the CHPs compound, follow up of defaulters and discharged patients, health education, counselling and community mobilisation" and at the sub districts inclusion of eye health in the population based programmes. The health workforce would be those working within CHPs (CHNs and volunteers) and the sub districts (non-ophthalmic/general health workers). It would thus align with the IAPB definition of PEC ("**PEC is an integrated, participatory and inclusive approach to the eye health component of PHC consisting of promotive, preventive, curative and rehabilitative services**").*

With a population of over 28 million living in 10 regions with 216 districts, a variable topography from coastal areas to plateaus to dry northern arid regions, a variable access to services, it would have been ideal but impossible to simultaneously address all 216 districts. The project chose to address all 10 regions, by selecting districts per region and developing customised models which could thereafter be taken to scale across the remaining districts. The project **Quality Eye Health For All** was launched in 2013.

Project

The goal of the project as shown in the box below was to go beyond advocacy and improve eye health of Ghanaians through **integration of primary eye care into primary health care** across the 10 regions of Ghana. In June 2017, Operation Eyesight Universal completed implementation of its project.

Project location(s)	Ashanti, Greater Accra, Volta, Western, Central, Northern, Upper West, Eastern, Brong Ahafo and Upper East regions
Project name	Quality Eye Health For All
Project budget	\$1,249,963 USD
Donor(s)/ funding sources	80% from Seeing is Believing and 20% from Operation Eyesight Universal
Project duration	July 2013 to June 2017
Implementing agency and partners	Operation Eyesight Universal in partnership with Ghana Health Service

The strategy was, in partnership with the Ghana Eye Care Unit and based on needs assessment conducted in SIB Phase IV, to select thirty-five districts across the ten regions. In each selected district, a model made up of the district eye care centres in existing hospitals plus the primary health care centres at sub district level down to CHPS level in the same district to demonstrate a **functioning, integrated, replicable** and **sustainable** primary eye care services within primary health care services.

The project planned to achieve this through the specific objectives:

- Creating and nurturing strategic partnerships with other non-government organizations to advocate for necessary primary eye health care and community infrastructure.
- Creating awareness campaigns throughout the ten regions to promote eye health-seeking behaviour and increase by 300 percent patients' ability to access and receive quality comprehensive eye care screening and medical treatment.
- Quality screening and assertive case-finding in 35 districts to identify eye problems and conditions that can ultimately cause blindness if left untreated.
- Improving the comprehensiveness of community-based primary eye health care to cover 75 percent of the population in the catchment area through referral of patients with eye problems, and coordination of care when eye problems co-occur with other problems.
- Equip at least 10 hospitals with modern ophthalmic equipment.

Operation Eyesight (OE) was to continue being a local implementing partner providing technical expertise in management, clinical services from their ophthalmologist and the optometrist when needed. The project management included the use of the log frame, IAPB

project and financial reporting formats and risk management, regular joint planning, reviews and monitoring of the project with partners.

As part of assessing the impact of the project, this evaluation was commissioned.

Purpose and Objectives of the Evaluation

“The purpose of the proposed evaluation study is to juxtapose the project's set objectives and targets against what the project has achieved. The specific objectives of the evaluation study are:

1. To assess the extent to which the objectives of the project were consistent with beneficiaries' requirements, country needs, institutional priorities and partner and donor policies.
2. To assess the extent to which the objectives and targets of the project were achieved, taking into account how economically the project resources/ inputs (funds, expertise, time, etc.) were used.
3. To assess the sustainability of project results and benefits and determine whether the target communities would continue to receive the benefits after the closure of the project.
4. To identify any significant gaps in implementation of the project
5. To identify and document the best practices followed in the project and assess if any significant gaps existed in promoting them.
6. To come out with recommendations for the benefit of the donor agency, OE, implementation partner hospitals, and Ghana Health Services, among others”

Methodology of the Evaluation

The methodology of the evaluation was developed by the lead evaluator, Prof H Faal in consultation with and coordination by the Country Manager of Operation Eyesight Universal Ghana- Mr E Kumah. The scope included the other sponsoring and implementing partners, beneficiaries, the field staff and visits to facilities and communities in selected districts.

The main components were:

- I. A desk review of documents; Annex 1
 - a. the agreement between the International Agency for the Prevention of Blindness and Operation Eyesight in which was included the project proposal, the planning tool/log frame, the project GANNT chart and the detailed budget,
 - b. the half yearly project reports,
 - c. the SIB phase IV Needs assessment of selected eye facilities in Ghana
 - d. the memoranda of understanding with a partner NGO, Brien Holden Vision (BHVI) Institute Foundation (Africa) Trust, Faculty of Public Health, Ghana College of Physicians and Surgeons
 - e. a sample of an memorandum of understanding (MOU) with a region/district; Shai Osudoku District Health Management Team
 - f. Eye Care- a Shared Vision. The National Eye Health Programme- Ghana
 - g. For All The World to See- Strategic Plan 2017-2020. OEU

- h. Other relevant documents and references
- II. A constant dialogue and analysis of the project with the OEU country team and others guided by an attributes of activities tool
- III. Coverage of each stakeholders group;
 - a. Standard Chartered Bank
 - b. National government stakeholders
 - c. Districts health services and their eye health services
 - d. Communities Health services and communities, patients, beneficiaries, schools, teachers and students
- IV. Purposive selection of project sites to be visited
 Since the project intervention targeted 35 districts and all could not be visited, a purposive selection was done guided by the OEU country team and partners to provide a wide, representative and in depth study of the project. All the regions were visited except Volta region and the three Northern regions which were logistically too far to visit within the time frame of the evaluation.
 Dialogue was used at each site to explore the objectives of the evaluation, identify gaps and suggest recommendations with the purpose of making the evaluation as participatory as possible.
- V. Direct observations were made at the facilities; equipment and other materials provided, service delivery, awareness creation activities where possible.
- VI. Communities; particular attention was made to evaluate the community health structure, project activities, the bridging between the facilities and the communities and possible impact on the community by conducting field visits, direct observations, dialogue with beneficiaries and providers alike.
- VII. With permission, photographs were taken to document observations and dialogues
- VIII. Since this was a largely oral methodology, permission was also taken to record dialogues as an aide memoire for the report writing especially for case studies.
- IX. Mentoring: The lead evaluator requested for a younger team member to join the evaluation with the dual objective of mentoring him and sharing the work load- Dr Isaac Baffoe, an optometrist and programme coordinator of the OEU country team. His in-depth knowledge of the project was particularly useful during the field visits.
- x. Annex 2 (Evaluation schedule) provides information on the itinerary, service levels covered, issues explored, persons met and their designations, places visited, travel.

Constraints/Limitations of the methodology

The main constraint was the wide geographical spread of the project. It was not possible to visit the Northern regions- Northern, Upper East and Upper West and Volta region; these regions may have unique findings which the evaluation may have missed.

The eye services in Ghana have been in development for over three decades and more recently, supported by Seeing is Believing phases III and IV. Some districts have recently been created out of old districts. Some districts double as regional headquarters. The effect is that districts are at various stages of development and so it is not so easy to attribute impact observed entirely to the current project.

Though the evaluation made every attempt to be as participatory as possible, not having a Ghana Health Service staff from its monitoring and evaluation (M&E) unit as a member of the evaluation team may be a limitation on the ownership of the report.

Output and Audience of the Evaluation

The output of the evaluation is the report to the commissioning organisation, Operation Eyesight. The results will also be shared with the partner hospitals, district administrations in the beneficiary regions and districts for their use. It is hoped that it will be acted upon by Ghana Health Service, Operation Eyesight Universal and Seeing is Believing (hopefully other stakeholders) to help improve their future projects and programmes and the primary eye health services especially at levels A and B of PHC.

Format of the report

The findings are aligned to the goal and specific objectives of the project (page 10), and then discussed in relation to the purpose and objectives of the evaluation (page 11).

PROJECT OBJECTIVES AND EVALUATION FINDINGS

Objective One

Creating and nurturing strategic partnerships with other non-government organizations to advocate for necessary primary eye health care and community infrastructure.

Partnerships

The project had two groups of partners; the main partners and the *customised* others. The main partners were -Standard Chartered Bank (SCB) – a strategic partner based on her corporate social responsibility and the Ghana Health Service the implementing partner at its national, regional and district levels. The “customised” partners were those in which the partnership was developed based on the strength of the partner, what it could contribute to the project, and specific tasks it could perform. Some of these were brought on board later in the project as the opportunities arose eg Brien Holden Vision Institute (BHVI). A Memorandum of Understanding spelt out the terms of the partnership where indicated, flexibility allowed engagement at differing levels. Frequent communication, participation and transparent reporting made for the mutual support and fairly maximum contribution of each partner.

Standard Chartered Bank Ghana

The *Seeing is Believing*(SIB) is a global programme established by global Standard Chartered Bank in collaboration with leading eye care agencies mainly the International Agency for the Prevention of Blindness (IAPB) with the objective of contributing to sight restorations and eye health care worldwide. In this regard, IAPB assesses suitability of projects and benefitting charities and national eye care bodies, administers the funding and has an oversight function. In this case; the project was Seeing is Believing Phase V, benefitting charity -Operation Eyesight and the National entity was the National Eye Care programme, Ghana. OE had managed SIB III and IV. see diagram of evolution and eye care services and had had working relationships with SCB.

In this project, the partnership continued a close working relationship between Dr Bo Wiafe, the then OE Africa Director and currently OE Director for Quality and Advocacy, the OE country staff and senior SCB contacts in Ghana and West Africa. Specifically, the partnership had facilitated the foundational activities of needs assessment in Phase IV which informed the selection of the 35 districts.

This project proposal contained the following for the SCB Ghana /OE partnership:

1. Opportunities for SCB staff engagement across the 35 districts of the project
2. Active engagement in sharing their marketing, business and financial skills with the partner institutions (OE and beneficiary districts/hospitals) in order to increase opportunities for financial sustainability and awareness creation.
3. Opportunities for awareness creation

4. Participation of local SCB branches in regional/district stakeholder meetings in order to share their expertise on various topics such as marketing, customer service and financial advice with partner implementing institutions.
5. Joint monitoring activities with OE, Ghana Ministry of Health (MOH) and SCB; monitoring visits at least once a year if possible to each district partner and submission of all necessary activity reports to SCB.
6. Helping the SCB embed the “Here for Good” brand over a larger area and population
7. SCB Branding of all major media campaigns
8. SCB logos on all donated equipment/consumables and IEC/BCC materials
9. SCB collection of images and films for publicity and education purposes with permission in line with national policy.



Launch of SIB Phase V by Minister of Health, Photo Credit, OE

These activities were evaluated in participatory dialogues with SCB, the health workers, the public and direct observation of IEC materials.

Findings

The high-level staff of SCB (CEO, head of Corporate Affairs etc) and OE staff, the then OE Africa Director and currently OE Director, Quality and Advocacy, involved in the project guaranteed the success of the partnership. Ms Asiedua Addae – the SCB Head of Corporate Affairs, Brand & Marketing – rated the partnership overall as excellent. *“Though over the period of the project there had been changes of staff in SCB, the continuous induction of the new staff by the OE staff ensured a smooth continuity. This was further enhanced by the OE staff transparency, expertise and insight of the programme activities and their support of SCB staff in programme activities”.*

By nature of the differing selection criteria for the bank branches (bank financial basis) as compared to the target districts, a geographical proximity between bank and field work though desirable could not be guaranteed; nevertheless, wherever possible, local branch employee volunteers participated in and enjoyed screening activities. In the sharing of skills, though mentioned in the project proposal, since the partner institutions already had their financial systems, it was not necessary for the bank to share theirs. In the future, however, should partner health institutions venture into setting up and running optical workshops for revenue generation, the bank could contribute to the development of business plans and setting up of financial systems.

The high-profile launch of the project by the Minister of Health and SCB, participation in World Sight Day activities, production and distribution of posters and patient information leaflets contributed to achieving the objective of awareness creation and brought a population focus to SIB phase V. These posters and leaflets were found displayed in all visited health facilities.

On the other hand, the SCB staff participation in screening activities, having their visual status assessed and receiving treatment when necessary, handing over donated equipment raised their awareness on eye health. As agreed, the SCB certainly achieved embedding its **Here for Good** brand over the entire population.

The joint monitoring activities strengthened the relationship between the SCB staff and the implementation partners. The use of its own monitoring checklist contributed to the transparency of the project. The SCB felt that the training of trainers' strategy and its cascade effect would contribute to the sustainability of the project.

An innovative approach was introduced to meet the objective of increasing uptake of services where the SCB staff ran *customer service workshops*, -a reorientation of health workers to the advantages of a "delightful customer service".

Moving forward, SCB stated that it is highly committed to the dissemination of the results of the Blindness and Visual Impairment Survey, adapting presentations to the differing target audiences and doing advocacy to policy makers and others as required and advantage should be taken of its offer.

This project benefitted from the global status of the SCB, its corporate sector experience and the longstanding successful relationship between OE and SCB. Their added value clearly lies in advocacy particularly at the top of national governance beyond health and in population focused awareness creation.

The qualities of trust, transparency and mutual support solidified the partnership. The SCB component of the project achieved most of its targets and performed most of its activities. SCB is already moving into partnership with another NGO, Orbis in child eye health in Ashanti region and no doubt will take with it the experience gained from the partnership with OE. However both partners accepted that this could be enhanced by being proactive in "pulling in the bank" more and earlier into field activities.

Ghana Health Services

Being the implementing partner and the main beneficiary, GHS needed to align with government policy and structure as well as ensure implementation at each level of the health structure. The project related to each level of the MOH, national, regional and especially the PHC three-tiered structure as required to achieve the components of the project.

The strategy of signing tripartite MOUs; OE, the district health services and witnessed by its supervising level, the Regional Health Director, ensured an ownership within the government structure. This principle of alignment with the structure of the health system, be it the Clinical Engineering Unit, or the national eye care unit or the information management system etc may be one of the strongest hopes for the sustainability of the project because of its major attempt at integration into the administrative structure, it is an example of strengthening/aligning the **Leadership and Governance** Building Block of the Health Systems Framework.

Other Non-Governmental Organisations.

The eye health services in Ghana have benefitted from a long history of partnerships with NGOs. SIB Phase V adopted a strategy of determining a baseline through a needs assessment which helped it determine previous work by other NGOs and location of same. Continuing dialogue between NGOs even at the district level ensured collaboration and prevention of duplication in choosing the districts. Communication with same NGOs, in particular Sightsavers (SS), Swiss Red Cross (SRC) also



helped in identifying aspects of the work it could collaborate with each; eg Sightsavers – build on district eye health services in Eastern Region, SRC – use of their volunteers in Northern Region. Though it was mentioned in the project proposal, partnership with World Vision International did not take place due to change of staff in World Vision International.

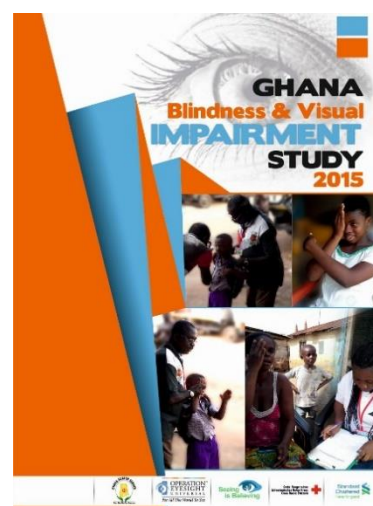
New Opportunities

Department of Foreign Affairs, Trade and development (DFATD) Canadian International Development Agency (CIDA) was not originally in the project proposal but in 2014, an opportunity came up for partnership and access to resources to fund further penetration into the community by investing in the training of CIDA supported workers ie the CHNs, MCH, school health coordinators, other general nurses in eye health. a good example of integration and possible sustainability.

Brien Holden Vision Institute (BHVI) helped the project make the most of the increase in optometrists employed in the public sector, an unforeseen aspect of the human resources for eye health (HReH) services, a new cadre as front line and public health eye workers. BHVI expertise ensured the training of optometrists in low vision introduced its inclusion in the package of district eye health services and school health.

Ghana College of Physicians and Surgeons (GCPS)—Faculty of Public Health

The project rightly aimed at assessing the impact of its interventions by a baseline needs assessment, project reports etc. However, a laudable achievement of the project was how it was able to mobilise resources in cash and expertise through partnership with various groups to conduct a ***National population based Blindness and Visual Impairment Study***. During the evaluation, the survey turned out to be one of the most appreciated and anticipated outputs of the project. An MOU with Ghana College buttressed the partnership with OE and the actual planning, conduct, analysis of data and publication has been a win-win collaboration. The evaluation team could not interview the GCPS. Preliminary results (personal communication- OEU) are overall prevalence of blindness is 0.74%, Cataract remains the leading cause at 54.8%, Glaucoma- 19.45%, Posterior segment diseases -12.9%, Corneal opacity -11.2%, Others- 1.7%. The global data estimates for 2015 have just been published and for the first time, presbyopia figures featured. Hopefully when published, information on visual impairment and refractive errors will be available. From experience from other national population based surveys, the results would provide a very powerful advocacy tool with all stakeholders, provide an assessment of input into eye care in Ghana and a baseline for future plans.



Objective Two

Creating awareness campaigns throughout the ten regions to promote eye health-seeking behaviour and increase by 300 percent patients' ability to access and receive quality comprehensive eye care screening and medical treatment.

Awareness Creation throughout the ten regions to promote eye health seeking behaviour to increase patients accessing care by 300%.

The following strategies were adopted

1. A National high profile and widely publicised launch of the project by the Minister of health and SCB in September 2013
2. The annual World Sight Day activities, walks, screening, television and radio talks for 4 years
3. Reproduction and distribution of materials developed in SIB IV
4. Media commercials; radio and television
5. Research on impact of TV commercials showing it not to be cost effective hence discontinued.
6. Radio talks on local FM stations with penetration of the remote communities
7. Community information system using mounted village megaphones
8. Spread by word of mouth by the patients, families, volunteers and the community governance structure especially of cases with good outcome, one to one counselling by CHNs in home visits.
9. The health talks at all service delivery points by the ophthalmic nurses; clinics, outreach screening, schools screening.

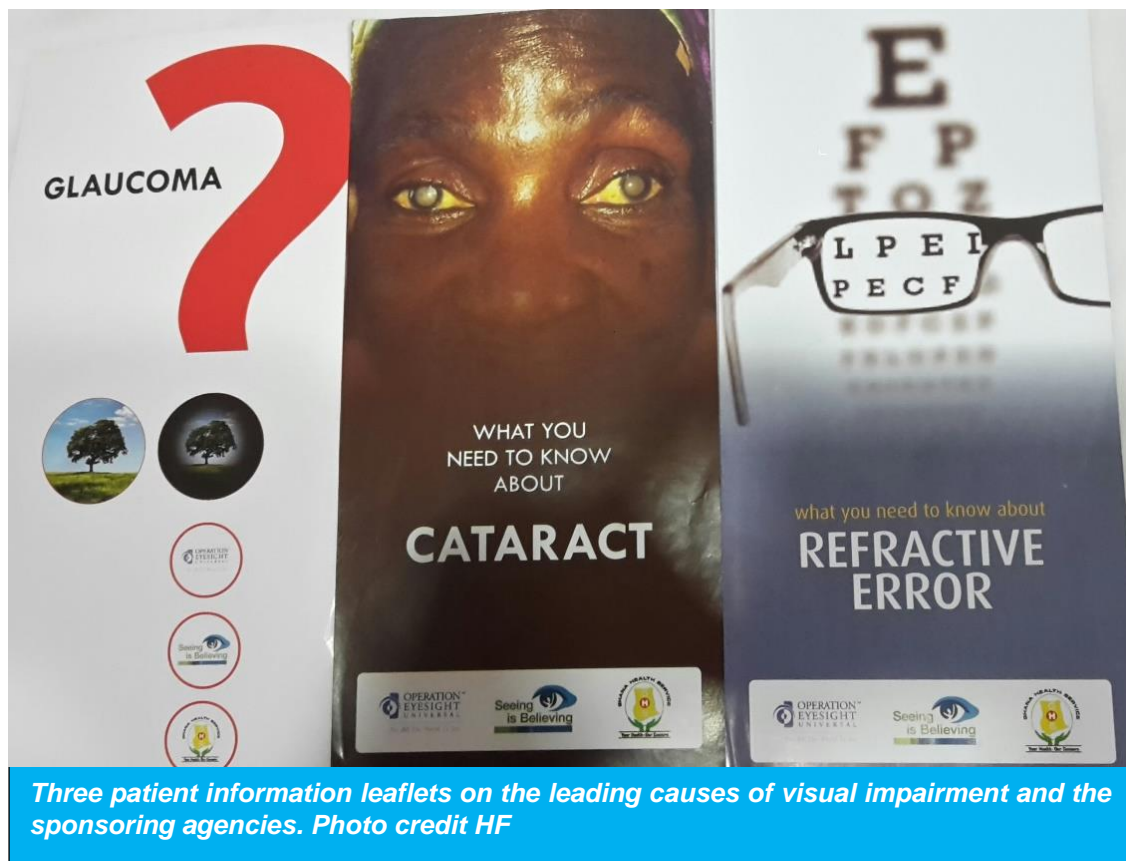
Findings

The project reports that as at December 2016, over 15 million people had been reached with eye health information, exceeding the target by 4% and it is expected that when the figures for January to June 2017 are added, this figure and percentage will be much higher.

Awareness of the project activities was evident at each level of the health service from national through to community health services at all points visited during the evaluation.

The tools used, posters, patient leaflets were also widely distributed, and the quality and content of the messages were appropriate. It was, however, not possible to confirm the patients' or publics' interpretation of these materials.

To reach the wider audiences, the community health information systems (HIS) were used, the community megaphone, the radio in homes and these were confirmed during field visits.



The penetration of communities was confirmed in Patahon 1, a small farming community of about 10 households, 25 kilometres from Tarkwa district eye unit along a country road when the evaluation team visited Mr. Kwabena Kumah, a local farmer and chair of the health committee at his home. (Annex 6 case studies) He shared with us the talks he had heard on



Radio in Mr Kumah's home
Photo Credit IB OE

his radio on traditional medicine, nutrition and "not to fear surgery". Within the community, health education messages also went out on megaphones mounted on a pole in the evening when most farmers would have come back from their farms. The same community information system was used to announce outreach dates. This had adapted the village town crier method, a system sustained by the community. The team saw similar megaphone poles in other communities.

A satisfied patient seemed to be the best awareness raising strategy. And so, it was that Mr

Kwabena Kumah also informed us of his mother who had had bilateral cataract surgery at the district hospital in Tarkwa with such good results that she was always away working in the farm. Unfortunately, he had been a victim of the strategy where teams perform outreach, collect patients to Accra, perform surgery and return them to the village without post-operative care. He had developed complications and lost sight in his left eye. He said the



good outcomes at the Tarkwa eye unit spread by word of mouth results in “everyone going to Tarkwa eye unit”

The evaluation team also saw first-hand, the CHPS compound strategy; Daniel Johnson a community health nurse staying and working in the “compound”- his home and a clinic in the same structure located within the village. He was in charge of three villages about 6 km apart with a total population of about 2000 persons. The main part of the CHPS community health nurse tasks is home visits during which families are made aware of primary eye health messages, available services, counselling and encouraged to take up services. Same is also achieved through schools’ health screening exercises. The evaluation team noted his knowledge of homes and familiarity with villagers. He knew Nath by name – a determined three year old boy who took his time to walk to the school playground.



Daniel Johnson, CHN in front of his clinic in Pataho 1. The other door opens into his accommodation.

Photo Credit IB OE

The local FM stations, in this case, the one in Tarkwa were also used for health education; the sessions once a week on Thursdays are included in the district health services work plans. The ophthalmic nurses used these for eye health talks.

This project also invested in radio commercials and TV commercials initially but a research on the cost effectiveness showed the TV commercials to be too expensive for the audience and this was stopped. The team was informed that radio commercials are used by other (traditional) health providers to mislead the public eg many of eye problems including glaucoma were said to be due to “piles” and the treatment being sold would cure the problems.

The feasibility of these strategies; one to one during home and clinic visits, community health information system, district sponsored health messages being replicable across the remaining districts is high. Preserving and using distributed posters and patient information leaflets will need to be continued by the health workers. The cost of replication and further distribution would be lower as the higher cost of development has already been met. Sustainability through

media commercials will be a challenge as the government does not usually fund awareness campaigns or media commercials.

Objective Three

Quality screening and assertive case-finding in 35 districts to identify eye problems and conditions that can ultimately cause blindness if left untreated.

In implementation, activities and outputs under this objective were achieved through the various training courses. A cascade training strategy was adopted; a training of trainers and refresher courses for the frontline ophthalmic staff who in turn trained community health workers; i.e. community volunteers, primary health workers and school teachers. The training included promotive and preventive components and referrals for treatment to the frontline ophthalmic staff. A referral system including a referral form was put in place. From the reports, 3,337 primary eye care workers and 92 frontline ophthalmic nurses and optometrists were trained across the 35 districts and it is estimated that 393,956 primary cases benefitted,

A random check by the evaluation team found that community health nurses could test visual acuity and make decisions based on the lines on the visual acuity chart for referrals; ie urgent or later. They had full visual acuity charts, registers and said they had been given 6m strings. Basic eye examination was with personal torch lights.

Screening of schoolchildren was done by a variety of personnel, a community health nurse from a CHPS compound in Pataho1, by a school health coordinator in Abesim Methodist Basic school, and in some cases by ophthalmic nurses on outreach. A total of 150,292 school children were screened. The CHPs in Pataho 1 seemed to have screened all age groups as seen in his register but the school health coordinator in Abesim screened ages 11-17years.

Assertive case finding presumes identification of cases outside routine health services. This was exemplified in the Abesim school screening where children were identified, referred to the optometrist who examined, refracted, prescribed glasses, dispensed same and followed up the children for utilisation. The team was also told of volunteers taking outreach staff into homes of visually impaired persons who did not come out to meet the staff- Asene health centre.

However, in the communities, assertive case finding during home visits is not yet routine as this is not a monitored activity; ie it does not appear in the monitoring check list which is checked by the supervisor and so its performance is not assessed. It was felt that for this reason, the CHNs do not feel obliged to do this or report on it.

On direct questioning, midwives practice Crede's prophylaxis using Tetracycline eye ointment to prevent eye infection in the new-born (neonatal conjunctivitis) and said they saw very few cases of neonatal conjunctivitis. Deliveries by traditional birth attendants are outside the health system so there was no information on Crede's prophylaxis.

Referral and Feedback

The referral system is not yet entrenched. The team found referral handwritten notes and heard of several examples of the use of the phone to refer patients. Most of the referrals were acute cases; redness, pain or injury. The community health worker would phone the frontline

ophthalmic nurse to inform her of the referral. It seemed use of the mobile phone was the easier and the preferred practice to using referral forms.

Self-referral to the ophthalmic nurse /eye unit seemed to be common too. Since the community level CHN/CHO does not provide treatment, patients self-assess, decide that they will need treatment and go to an over the counter pharmacy shop and self-medicate skipping the community level CHN or go directly to the district facility with an eye personnel of their choice. The evaluation team enquired why patients can access antibiotic eye drops themselves in nearby shops but community health workers are not allowed to provide any treatment. The answer was that community health workers would delay referrals if they could treat.

Feedback from ophthalmic nurses/district level to CHNs and follow up of treated patients by CHNs to ensure treatment compliance and keeping of appointments, tracing of defaulters does not seem to be standard practice.

In conclusion, the screening and assertive case finding seems to be in a transition phase. It is being done through outreach to communities and schools by ophthalmic nurses, is being done to a limited extent by general nurses in school services and is yet to be taken over by CHNs and CHPs. If the goal of universal eye health coverage, ie provision of primary eye care within all levels of primary health care to all at all ages and always, advantage needs to be taken of the government CHPs policy.

Improving the comprehensiveness of community-based primary eye health care to cover 75 percent of the population in the catchment area through referral of patients with eye problems, and coordination of care when eye problems co-occur with other problems.

In evaluating this objective, the evaluation team checked on eye health services across the health centres at the levels B and C of the PHC. In Nwawusua, the team started off at a health centre (level B), the midwife said she practised Crede's prophylaxis and the store was well stocked with essential medicines including chloramphenicol eye drops. A patient (Kwadwoso Francis Annex 5 case studies) walked in with a 3-day history of? trauma, he was welcomed by Lawrence Amoah, the community health nurse who examined him, testing the vision, making the right decision based on the degree of visual loss, writing a referral note and conducting a one to one counselling. The health centre had the vision testing chart and primary eye care poster and like most other places, the mobile phones provided light for examination. Referrals were mainly through phone calls to the ophthalmic nurse.

The team then moved to the village in the company of a community health volunteer, Kyeremeh Francis, who assured the evaluation team that he knew all the visually impaired persons in his community. He also demonstrated his skills of being able to check vision and make the right decision ie to refer based on his findings on an elderly man. The community health nurse, Lawrence Amoah had been working with the volunteer in many community based programmes (Kyeremeh was wearing a Stopes T shirt!) and now eye health is included in community programmes, he said. The evaluation team was told that almost all community targeted programmes worked through these volunteers.

But the patient with a three-day history of pain had delayed accessing service and the elderly blind patient had not been referred.

At Asene Health Centre, which exemplifies a CHPS zone, we met a larger team shown above; a mid-wife in-charge, Beatrice Ansah, Disease Control Officer: Comfort Asamani, Staff

Nurses: Dominic Asamaniwa and Gloria Eva Frimpong, Community Health Nurse: Sarah Nkansah. The well displayed notice board had a full display of an integrated work plan focused



Asene Health Centre team and their ophthalmic nurse

Photo Credit IB OE

on the programmes already mentioned including school health. Asene health Centre covers a population of almost 9 thousand in 5 communities, the furthest was 7 km away, had 4 CHPs, covered 15 schools in which they ran quarterly screening in target classes 5-6. There was no eye medication, the midwife practised Crede's prophylaxis with tetracycline eye ointment purchased by the staff and gave talks on the local FM radio. Any eye patient was referred to the district ophthalmic nurse but no feedback or connection with the patient after the visit to the ophthalmic nurse is provided.

The working relationship was based mostly on outreaches conducted by the ophthalmic nurses to communities with the knowledge and participation of the CHPS zonal staff.



Evelyn Mante – ophthalmic nurse performing funduscopy

Photo Credit IB OE

In summary, community volunteers and CHNs based in the communities successfully mobilise communities and recruit patients for the intermittent screening and primary clinical services provided at the outreaches by ophthalmic nurses. The ophthalmic nurse identifies patients, provides primary treatment and refers to the district eye units for treatment thereafter and or surgery.

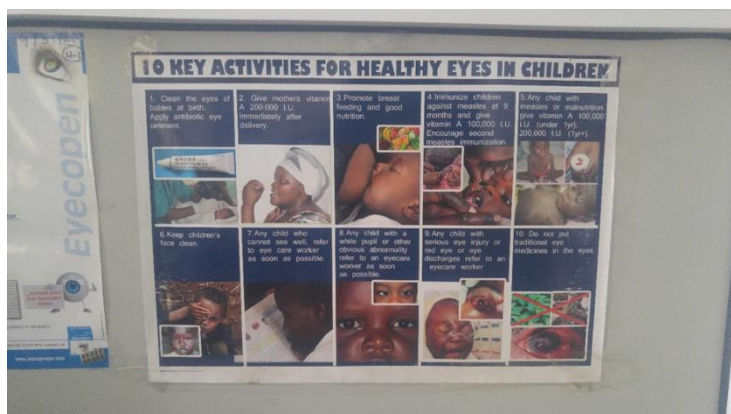
Sometimes the outreaches are to sub district health centres/CHPS zones.

Teachers, school health coordinators who have been trained in vision testing conduct screening in schools. Public health nurses and CHNs who have been trained in vision testing conduct screening in schools as part of their school health service work plan. Ophthalmic nurses also visit schools and conduct school screening.

The project has successfully shifted through training, the primary eye health knowledge and skills to general nurses at level B and CHNs at level A with referrals to the district level ophthalmic nurses at level C. However, this has not been matched by availability of eye drops or glasses to give to patients at levels A and B but provided only through outreaches by ophthalmic nurses or borrowed from other programmes (maternal health) or by the staff.

District eye units

The district eye units are the backbone of the eye health services and there is full coverage of districts by ophthalmic nurses. The units every are within the district hospitals and are managed directly by the district hospital management. Their work plan consists of service delivery at the base units and outreaches. The objective of improving the comprehensiveness of community based eye health approaches included the provision of services at the district facilities and during outreaches. From the project reports, 393,956 patients benefitted from eye examinations, and at outreach surgical camps another 1,816,602. These figures reflect a high uptake of services. It also reflects the impact of outreaches where the highest numbers screened were recorded. The reports do not distinguish cases seen at each level A, B, C of



the PHC nor the patients with co-morbidity.

The evaluation team visited six district eye units. The eye health workforce available at each district eye unit was variable, from one ophthalmic nurse to a full team of ophthalmic nurse, optometrist, dispensing optician, staff nurses. The team at the district eye units delivered on their objectives of the project.

Awareness creation: most eye clinics had a wide variety of posters and patients' leaflets used mainly for individual patients and their carers who attend the eye clinics. Some of the posters were useful to maternal and child health programmes as below and others were from previous projects.

Training

The district eye nurses formed the bulk of the trainers of the PHC workers. The project produced an excellent 190-page Primary Eye Care Trainers manual which from the opinion of the evaluator covers all clinical competencies and could be used as reference document by the ophthalmic nurses or used in training primary medical personnel; staff who can prescribe eye medications.

Service Delivery at District Hospital Eye Clinic

All district eye units provided primary eye care clinical services, refractive error services and low vision services where there was an optometrist. The latter also provided clinical



Dr E Babai, optometrist at Saltpond District Eye Unit with kit

Photo credit I Baffoe, OE.

consultations beyond refractive error services and in most cases, the demand for this was higher than for refractive error services. Information on refractive errors was not collected at the start of the project but as the government increased employment and posting of optometrists to district eye units, the project responded by providing spectacles to needy and poor patients. As at December 2016, 1,100 spectacles were dispensed. Later in the project, optometrists were given low vision training and one of the achievements of the project is that low vision services is now available at the district level.

At the Saltpond Government Hospital eye unit, Dr Elizabeth Barbai developed a school eye health model in which she worked with the Deputy Director for Planning and Statistics at the Ghana Education Service- Ms Sabina Otoo to integrate school eye health within the district education services. She also extended vision screening to captive populations in government ministries and companies thus addressing refractive errors especially presbyopia and the need for presbyopic glasses. This eye unit demonstrated what could possibly be a model; collaboration with the Ministry of Education, integration with school health services, screening and services to captive populations in ministries etc and low vision services.

The combined intervention of having optometrists in the public sector at district level and increasing attention to primary eye care within primary health care facilitated by this project has begun to address the second major cause of visual impairment; refractive errors and presbyopia.

Outreaches and Surgical Services

Apart from going out on outreaches, the district eye units serve as outreach surgical recipient point from visiting ophthalmologists. Dr Wiafe from Operation Eyesight regularly conducts

outreach surgery in response to calls from district ophthalmic nurses who have accumulated cases from their clinics or from outreaches to communities. The evaluation team was not able to ascertain the frequency of surgical outreaches nor the coverage.

Though the evaluation team could not assess the numbers, the increase in primary eye care services increased the uptake in cataract services thus addressing the leading cause of avoidable blindness.

In spite of the considerable revenue from the surgery fees generated by hospitals during outreach surgical camp, the project had to subsidize outreach activities and provide drugs, dressings and consumables to facilitate the implementation of outreach activities. Some facilities had not received their NHIS reimbursement for over a year so could not fund outreach activities. This will be discussed further in the section on the NHIS.

Districts and Human Resource Development

Though not mentioned in the project, the evaluation team found that some district eye health centres were a major resource for human resource development in eye health. The Ga West District eye centre being a surgical outreach point with a high volume of patients' attendances, a full complement of staff and being fairly well equipped, close to Accra was a training centre for residents from the Department of ophthalmology of Korle Bu Teaching Hospital, Accra.

The Sunyani District Eye Centre also received students from various institutions of allied health personnel for training in primary eye care. It was not possible for the evaluation team to assess the content of such programmes.

Management at the District level—Level C

The Ghana health service is unique in having two parallel management structures; the district hospital management directorate in charge of the district hospital and the District health management directorate in charge of the district health systems, the sub districts and the community health system. Both were visited at each district and extensive dialogues held with the staff.

In relation to eye health, the district eye units were under the hospital management who funded their outreaches. The District Health Management Directorate was responsible for individual public health programmes such as nutrition, maternal and child health, school health or into national priority health programmes such as the CHPS strategy as well as the levels A and B of the PHC. The district health management largely responsible for promotive, preventive, care-public health services and intersectoral collaboration and management systems such as their health information system.

The hospital was largely responsible for the treatment of patients who came to hospital or outreach care points (curative/treatment) when their staff went on such outreaches.

Health Management Information System (HMIS)

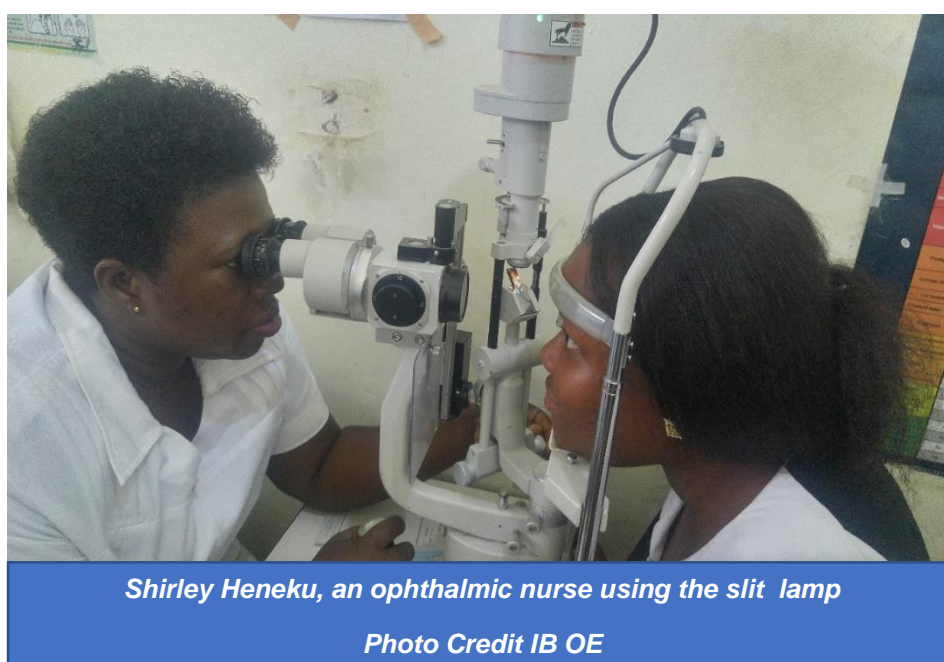
The HMIS is particularly important not just for the information but for its connection to performance appraisal, monitoring check lists, tasks which are expected to be performed, and

what the district health management and NHIS funds. The project thus included the training of district HMIS officers in eye care.

The district eye clinic kept a register which recorded biodata and diagnoses. The monthly eye report submitted to the District Health Information Management Service (DHIMS) records eye care utilization/attendance figures disaggregated by age and sex; total number of attendances, by disease- cataract, glaucoma, corrected refractive error, trachoma and surgeries.

The Form C of the District Health Management Directorate Services is a monthly Child health Returns which includes school health services with numbers examined in target classes, number of referrals with eye problems. Data are collated by the national HMIS and in more detail by the NECU. The Seeing is Believing Phase V has a primary eye care report which responds to the requirements of the project.

The inclusion of health information officers in the training programmes oriented them to the



health information needs of eye health services. The health information officers interviewed really appreciated the training and exposure and suggested ways of integrating eye health into existing data collection tools, eg including the eye health target classes in the school health services, the inclusion of eye health in the special section of the growth monitoring guidelines.

This way, the information on the public health and primary component of eye health (Levels A and B) will be collected as an integral part of primary health care, will go into activities of the public health system, monitored and funded by the district health management directorate.

The HMIS officers have been trained in eye health offered to take on the task of mainstreaming eye health into the community /PHC component of the HMIS.

Most of the directorates assessed that the project had been successful, committed to scaling it up to the other districts through presentations of successes in their districts at regional meetings and a few suggested sustainability strategies through integration into existing funded public health approaches and innovative financing schemes beyond the NHIS.

Objective Four

Equip at least 10 hospitals with modern ophthalmic equipment.

In SIB IV, a situational analysis of equipment needs of three selected eye care facilities per region in six regions was conducted. Based on this assessment, in SIB V, 10 district health facilities were selected to receive ophthalmic equipment and 10 regional equipment technicians were trained in maintenance of ophthalmic equipment.

The project also provided equipment to other facilities; drugs, consumables, spectacles and low vision aids as part of comprehensive services and to meet beneficiaries' requirements particularly when NHIS reimbursements had not been made.

The evaluation team felt that this objective as stated was a proxy indicator for alignment with the health system building block on infrastructure, technologies, drugs, dressings and consumables. All of these were evaluated at all the service delivery points; schools, CHPs compound, health centre, district eye unit.

Findings

District Health centre

Some centres eg Tarkwa got the first package of equipment from government when the hospital was built in 2008. Others eg Eastern Region had got equipment from other NGOs eg Sightsavers. SIB phases III and IV had also supplied equipment to some of the 35 selected centres. Thus, a gap filling approach based on the needs assessment was adopted in Phase V and equipment supplied in 2014.

What the team saw in the visits was the cumulative impact of the various sources and times of supplies. In terms of quantity and variety, most of the centres had equipment. However, the functionality was variable; fully operational equipment in Ga West and Salt pond. By contrast, Tarkwa had the full complement of equipment but very few were functional. The government procurement system was protracted and complex and so in this project, procurement was done centrally by OE who also chose the equipment brand and model. Clearing and delivery was done by GHS. Installation of new equipment was done either by OE or the government technician.

Though the equipment were supplied to the district level facilities, in 2015 regional (not district) equipment technicians were trained on the recommendation of the regional health authorities using an on-site training approach. The training included installation, preventive and other maintenance. In practice, however, the ophthalmic nurses contacted OE for slit lamp bulbs and the technicians provided service in response to calls. Routine scheduled maintenance trips by the regional team is supposed to occur though in practice these have funding difficulties. Where it does occur, the eye trained technician is not yet part of the team. It seems that since this activity is by staff from one Budget Management Centre (BMC) level (regional) to another BMC level (district), the service falls between the cracks. A similar problem with the two BMCs at district level.

The provision of equipment was probably the most appreciated component of the project. The ophthalmic nurse felt very empowered that they could use slit lamps and do more detailed eye examinations. They felt that the technology of a slit lamp impressed the patients and made them have more confidence in the service. The equipment technicians and the management were quite happy that expensive equipment which would not be supplied by government to the district level had been provided by a donor. The optometrists were also quite happy with the package for refractive error services and low vision services, the latter helped them deliver on the low vision training which they had received from BHVI. Where district centres were outreach centres for ophthalmologists, the slit lamp was considered essential. Surgical kits; minor and major were said to be available although the evaluation team could not check.

For outreach, the ophthalmic nurses used whatever infrastructure was available. Diagnostic equipment, VA charts, ophthalmoscope etc were taken along by the outreach team.

The evaluation team also assessed equipment, infrastructure etc at the other levels of care. Infrastructure and other materials were adequately supplied at levels A and B of the PHC, communities had community megaphones and the volunteers had visual acuity charts. The schools had laminated full visual acuity charts, registers, referral forms. The CHPS compound had adequate infrastructure, diagnostic equipment of a full Snellen acuity charts, torch light (personal) and 6 metre string and notebooks for registration.

Infrastructure

Though not mentioned in the project or the evaluation, infrastructure was highlighted by the ophthalmic nurses. In Ga West, a full eye team functioned in one room for consultations and minor procedures. Vision testing was done outside in the open. In contrast, in Saltpond and Tarkwa, the eye unit had adequate infrastructure provided by government. In each unit, the number of rooms provided seemed to match the age of the facility as the more recent hospitals were bigger and had given priority to eye services.

The following technology issues were discussed with the Ghana Eye Care team and National Eye trained clinical engineers and suggested as a way forward

- Standard lists of equipment and infrastructure should match the health administrative structure level, package of services to be delivered and level of expertise of the eye health team. This may already be part of a national eye health policy document.
- A recommended small pool of equipment models and spares to ensure quality and availability of spare parts and consumables. By tradition, it seems that eye health equipment provision has been largely left for NGOs and so a wide variety of models existed. This recommendation can be addressed on the International Non-Governmental Organization (INGO) forum platform.
- An integrated routine preventive maintenance schedule by the regional trained technicians (general and eye specific) adopting the Ghana government OTSS strategy (On-site training and supportive supervision) working with the staff (end user and technician) at each facility should be adopted.
- An equipment management information system made up of asset lists per location of the equipment, status of operationality, maintenance (preventive and repair) schedule and a replacement schedule.

Drugs, dressings and consumables

The evaluation team directly observed, interviewed the eye staff, hospital and health centre pharmacy staff, visited a **licensed over the counter shop** to investigate this complementary component of PEC.

At the district eye units, basic diagnostic drugs and consumables including intraocular lenses were said to be available as needed by patients. The district hospital pharmacy used the government system of tenders and suppliers to ensure continuous availability. Prescribed drugs were also available through a variety of sources; the national health insurance scheme, by direct sale to patients (cash and carry), direct sale by the ophthalmic nurses during outreach and from pharmacy outlets.

This project provided drugs and intra ocular lenses (IOLs) so that the patients would not have to purchase despite being covered under the NHIS.

The Ghana National Essential Medicines list (NEML) is in the following categories:

Level A: Community

Level M: Midwife

Level B1: health centre without doctor

Level B2 health centre with doctor

Level C: District Hospital

Level D: Regional/Teaching Hospital

Level SD: Specialist

Level PD: Programme Drugs.

These levels are also reflected in the NHIS list of medicines which dictate what can be reimbursed when prescribed or used at the levels A, M, B1, the levels which concern this project. The national Ghana Essential Medicines list has tetracycline eye ointment listed under B1 “health centre without doctor” and chloramphenicol eye drops listed under M: Midwife. **The community level A has no eye drugs** though it has a wide range of drugs for other conditions of public health priority eg malaria. In some level B centres, there was chloramphenicol eye drops and in others, staff said they bought tetracycline eye ointment.

Community health nurses (CHNs) are not yet allowed to prescribe or use eye medications because it is thought by the ophthalmic nurses that this would lead to their delaying referrals. The licensed over the counter drug shop stocked antibiotic eye drops. Patients can buy antibiotics to self-medicate or skip the CHN and self-refer if they feel that they would need to receive medication.

Intraocular Lenses

Intraocular lenses were made available by the project. Though provided by the project, it seems that biometry and customised IOLs are not yet routine for cataract services. When scaling up, as preferred practice and as a response to beneficiaries’ requirements, use of biometry and a range of IOLs should be adopted at whatever level cataract services are provided.

Spectacles

To meet beneficiary requirements, the project supplied spectacles but this is not in the essential list of consumables.

Health financing and Revenue generation

Though not part of the evaluation, the financing of services to patients came up repeatedly in discussions. The cost to patients is also an important component of UHC. The Ghana Eye care services has succeeded in the inclusion of essential eye medications and services in the National Health Insurance scheme. Of recent however, the NHIS has a backlog of payments to health facilities and suppliers of over 12 months. This has negatively impacted on supplies, on service delivery and uptake of services and will affect sustainability and replication of gains made by this project. The team thus felt it was essential to explore the issues.

Most staff interviewed mentioned that eye health had historically been left to donors and NGOs but major gains had been made in the inclusion of procedures including cataract surgeries in the NHIS and essential surgeries list and eye drugs in the lists except at levels A, M and B1. With the emerging problems with the NHIS, it was encouraging that management and staff had begun to think of alternative strategies. One suggestion was an on-site banking of revenue generated with an agreed percentage recycled to the generating unit eg the eye unit. A second was revenue generation from the sale of glasses and other optical items. The latter would need a proper business plan and marketing expertise which SCB could assist with.

National Health Insurance Scheme (NHIS)

Since the project had to fund activities because of the shortfall due to a lack of reimbursement by the NHIS with serious implications for sustainability, the evaluation team wanted to understand the NHIS and so visited the District Health Insurance unit in Ejisu Juaben. The evaluation team saw evidence of the high demand for registration, a well set up process and were given a full explanation of the NHIS by the District Municipal National Health Insurance Manager, Mr Kwame Boakye.

The National health insurance is a social intervention and is said to rest on three stools; the scheme, the subscriber and the provider with contracts between the NHIS and the subscriber and the NHIS and the provider but not between the provider and the subscriber. Ages 70+, children less than 18years, indigents, blind, and the socially challenged pay no premium, a plus for eye health beneficiaries. The process however involves a visit to the NHIS office by almost all clients to get registered which may be difficult for the elderly and the visually impaired.

The NHIS document also states that "eye care services are covered including Refraction, Visual Fields, Scan, Keratometry, cataract removal, eye lid surgery" which was very impressive. The tariffs for eye care services are attached in annex 4.

High demand for registration for the NHIS.

When facilities are not reimbursed by the NHIS, the hospitals/facilities cannot pay their suppliers and thus even though patients do have an insurance cover, they may still have to

buy their drugs, IOLs, pay for services especially surgeries. The Supply Officer at the Hospital Pharmacy in Saltpond, Prince Cobblah said that the hospital does try to stock the required drugs. Poor health financing if not tackled by innovative financing, will adversely affect the goal of universal health coverage and reduction of avoidable visual impairment.



High demand for registration for the NHIS

Photo Credit IB OE

ANALYSIS AND DISCUSSION

This is based on the purpose and objectives of the evaluation.

Evaluation Objective One

To assess the extent to which the objectives of the project were consistent with beneficiaries' requirements, country needs, institutional priorities and partner and donor policies.

The elimination of avoidable blindness and universal health coverage are goals shared by International Agency for the Prevention of Blindness, The Standard Chartered bank, Operation Eyesight Universal, the Ghana health service and National Eye Health Programme. These partners have worked together in previous projects SIB III and IV towards the goal of elimination of avoidable blindness. The Ghana Health Service has prioritised universal health coverage using the CHPS approach to achieve national coverage geographically and the National Health Insurance scheme to achieve social and financial coverage. The National Eye Health Service has strategized and implemented down to the first level of the primary health care structure, the district. The beneficiary's requirement was to have the eye services into the communities and homes not just on an intermittent basis but on a routine integrated basis. The institutional priorities were to be strengthened to deliver on the anticipated demand. The objectives of the project of strengthening the district level services, developing and institutionalising community based approaches, investing in the human resources (HR) of the primary health care structure and prioritising awareness creation were very much aligned to and consistent with beneficiary's requirements, country needs, institutional priorities, partner and donor policies. In particular, in response to beneficiary's requirements, awareness creation was maintained throughout the life of the project.

Evaluation Objective Two

To assess the extent to which the objectives and targets of the project were achieved, taking into account how economically the project resources/ inputs (funds, expertise, time, etc.) were used.

The project resources and inputs to a large extent were used economically. An analysis of the usage of time is shown in Annex 5 analysis of time...which relates the achievements to the proposed. To a large extent all proposed activities were implemented in the time frame of the project. All activities which depended solely on the project OEU team and just over 50% of the partner dependent activities were achieved as scheduled. The time was managed in a flexible manner as mentioned in their project reports in that where targets were not achieved in a scheduled period, efforts were made to make up and achieve within the time frame of the project.

The project also responded to the need to adhere to the structure of the government in the signing of the MOU involving the region as well as the district in order to achieve ownership and integration. The supply of equipment ideally should be after the involvement of the responsible government structure so that they take ownership of the process from

procurement to maintenance and eventual replacement. The reverse happened, training took place after the supply of equipment. This was outside the control of OE.

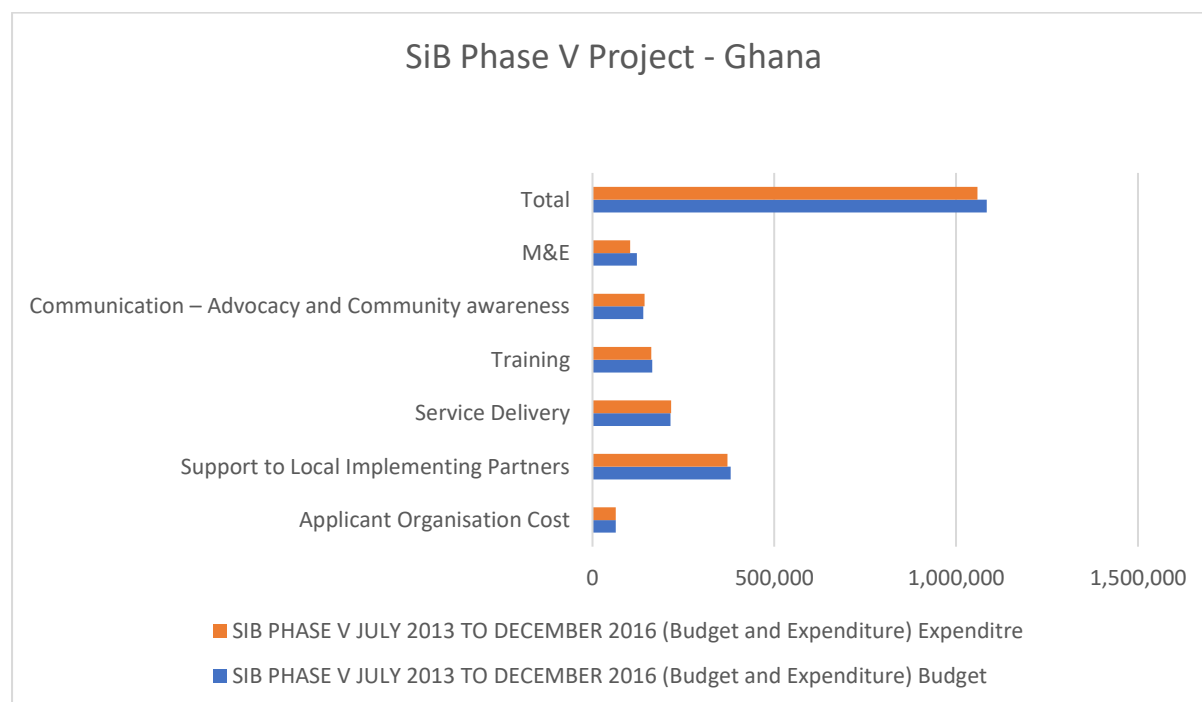
An excellent example of responsiveness to time: in recognition of the paramount importance of the beneficiary requirements in service delivery, the project took on the supply of consumables when the NHIS reimbursement stalled. Seizing opportunities within the time frame to include health information officers in the training pool and most significantly being able to conduct the national population based survey within the project time frame.

Project Funds

The project implementation was mostly within the budget along most of the budget lines. The applicant organisation cost percentage was strikingly low, an excellent cost effective application of the project funds. The apparent high proportion of support to local implementing partners includes the use of their technical and managerial expertise in the project implementation, outreach assistance, cost and maintenance of a vehicle. The table below also shows that by the end of the project the variance was minimal.

Not reflected in budgetary terms but contributing to the success of the project is the mobilisation of resources from other partners. Ghana health service met some of the advocacy costs, BHVI contributed in trainers' expertise, Ghana College contributed in expertise to the national Survey and CIDA to the training of generic PHC staff.

An audit report will be produced as part of the project management, an indication of fiscal prudence.



Figures are in USD

Expertise was freely provided from OEU and the GHS eye staff. From OEU, the expertise of Dr Wiawe as ophthalmologist in performing outreach surgeries, Dr Baffoe as optometrist and sometimes doubling as technologist. Within the national eye care programme,

ophthalmologists, optometrists and ophthalmic nurses frequently filled gaps in the service through outreaches, covered staff leave periods and sometimes combined this with administrative duties.

Evaluation Objective Three

To assess the sustainability of project results and benefits and determine whether the target communities would continue to receive the benefits after the closure of the project.

The evaluation team adopted a participatory approach in evaluating sustainability positioning it as an attribute of the project objectives and explored it with the OEU country team and with implementing partners especially budget management centres officers. Annex 3.

Overall, most thought that the results and benefits would last beyond the project period especially the impact of training of health workers. It was also noted that the CHNs have a high turnover rate in the system and the investment in their orientation to eye health needs to be maintained in refresher courses. Investment in preservice training of all primary health workers in primary eye health, school teachers, inclusion/integration of an eye health module in generic PHC priority programmes eg MCH were suggested.

Evaluation team thought there seemed to be a shift in the view of other health service staff seeing eye health as the purview of non-governmental organisations but more work is required to change this view. The Budget Management Centres, (BMC) ie the district directorates (hospital and administration) particularly the public health could identify opportunities of integrating eye health activities into existing PHC budget lines and this needs to be investigated. In almost all discussions, the point of eye health not being government health priority was made. The advocacy opportunities of the results of the national survey must be harnessed to reverse this opinion and make eye health a priority. Evidence from other studies show that ocular morbidity affects about 15% to 20% of the population and 50% of ocular morbidity can be managed at primary level. The change required going forward, is to make a cut off visual status (eg 6/12 and N8) desirable in all health assessments/screening. The inclusion of some eye conditions under minor ailments components of the CHPs policy and inclusion of at least antibiotic eye drops and drops for allergic conjunctivitis in the essential drugs list of levels A and B of PHC.

Target communities continuing to receive the benefits after the closure of the project is work in progress but the project has laid the foundation. The awareness creation through the media will probably be maintained at a lower but steady level by integrating into the existing health education and health promotion of government. The transition from outreach for direct service delivery to outreach for onsite training and supportive supervision which is already government policy(OTSS) integrating eye health in the CHPS philosophy, workplans, HMIS, empowering the CHNs and the communities to participate in their own eye health is the change and work required to consolidate and increase on the gains made.

The clinical services and especially surgeries can be maintained and increased at district eye units if the challenges of the NHIS are addressed and alternative innovative health financing strategies are developed.

The HReH health will continue to have challenges, the high turnover rate of CHNs, the evaluation team was told, the career movement of the ophthalmic nurses out of frontline district eye services and the dearth and skewed distribution of ophthalmologists. The increasing number of optometrists and their posting to district level services is an added advantage. The evaluation team found that optometrists were quite busy and happy providing primary clinical services just like the ophthalmic nurses and less so of refraction services. A Workload Indicators of Staffing Needs (WISN) study may help to objectively define the workload of each group of staff and guide the scope of practice, job description and indicate numbers required.

Overall sustainability of the results and benefits will last beyond the project period but further support will be required not in direct delivery but in paradigm shifts and systems support.

Evaluation Objective Four

To identify any significant gaps in implementation of the project

The significant gaps relate to the role of the GHS in the health system building block of infrastructure and technology at the district eye units. The rationale at the onset of the project was that the ophthalmic nurses were well trained but needed to be equipped and the project achieved that. There was an ideal balance of infrastructure, staff and services in Salt Pond and a gross mismatch in Ga West where only one room was available for all the services offered, the full eye team and full complement of equipment.

The health system dealing with technology generally needs addressing and maybe beyond the limits of this project. In this project, there was an investment in training of end users and technicians at the regional level which has not yet translated to strengthening the system at the district and its PHC level.

Health financing system; the government and WHO and NGOs have committed to universal health coverage which is a double component aspiration; health to ALL people, ALL ages especially the weakest without pushing anyone into poverty, ie free to the poorest. Within the project, this was achieved as the project filled the gaps in drugs, dressings and consumables. The significant gap is the attention to and engagement by the health financing arm of government. Again, this is beyond a single NGO and will need the galvanising of other NGOs, perhaps the corporate sector to engage with government and explore innovative health financing strategies.

In setting out the objectives, since the overall goal was integration of primary eye care into a three-tiered primary health care, objectives 2 and 3 could have been set out more explicitly to align with the structure of PHC, ie align objective 2 with the levels A and B and the district health administrative structure of PHC and objective 3 with level C of PHC, the district hospital management structure of PHC. The evaluation report has attempted to report this way.

Quality was mentioned in connection with screening but was not expanded in the main body of the project. Within the time frame, it would have been difficult to include quality systems assessment particularly if quality assurance has not been a focus in the eye health services though most ministries of health do have a quality assurance unit.

Urban populations

Globally, urban population are increasing and so are the underserved in these populations. The “community based approach” for urban populations may not yet be fully developed in Ghana but it may be worth considering the integration early enough particularly with the growing challenge of diabetic retinopathy and glaucoma.

Evaluation Objective Five

To identify and document the best practices followed in the project and assess if any significant gaps existed in promoting them.

Best practices followed in the project are in the project design, partnership and implementation. The highlights will be mentioned.

- Building on existing foundation, conducting a situation analysis to identify gaps, gap filling and in agreement with implementation partners was an excellent practice to make the best use of resources and cement partnership. This evidence based approach has now been replicated in the national survey on blindness and visual impairment.
- The ability of the OE staff to gain the trust and confidence of major partners like SCB achieving SIB grants III, IV and V is best practice.
- The alignment with the national health systems and structure in the signing of MOUs at region and district level, training of regional technicians for district intervention.
- Joint detailed implementation planning, reviews and monitoring with partners.
- On-site training as the preferred method but not in all training programmes.
- Prioritising beneficiary requirements and stepping in to fill the gaps when the NHIS failed to provide for service delivery consumables

RECOMMENDATIONS

To come out with recommendations for the benefit of the donor agency, OE, implementation partner hospitals, and Ghana Health Services, among others

Consolidation of the gains made by this project.

The gains have been mentioned earlier.

Partnerships

A celebration of achievements would highlight the SCB/OE partnership as best practice to the country and similar agencies showcasing achievements in advocacy, awareness creation and innovation of customer service workshops.

Should there be an opportunity to explore sustainability through revenue generation from district eye unit's optical workshops, the SCB would be a great asset in business techniques and planning. The customer service training module already implemented would be useful.

This project worked well on the one to one relationships with eye INGOs. Though there is a national INGO forum, it is recommended that this is strengthened with an annual work plan, performance targets, rotating chairmanship with a fixed tenure (OE is current chair) with clear terms of reference (TOR) and modus operandi. It will help with maximising the impact of the work of the NGOs, simplify relationships with government, avoid duplication of efforts and target areas and generally respond to Best Practice as set out in the Paris declaration.

National Survey of Blindness and Visual Impairment

A wide and intensive dissemination process will be required.

A partnership of GCPS and OE lays the foundation for the best practice of raising research questions by programme implementers, getting the evidence, dissemination of same and translating into policy and practice. It is recommended that this partnership forms the nidus for the strengthening of a **research committee** made up of the current stakeholders and others as necessary. The mandate of the committee could be extended to include quality assurance and clinical governance.

Awareness Creation

Taking health into homes – recognition of and use of the power of the community information system and the word of mouth in a largely rural and agrarian population.

Translation into all local languages and inclusion in the community information system

Inclusion in the monitored tasks of in-service CHPS, and especially the public health nurses at the district and sub district levels.

Eye health should be integrated routinely in the local FM radio health sessions sponsored by the district health services.

Inclusion in the training of CHPS nurses (preservice and in service,) and volunteers and the training of teachers (preservice and in service).

Research into the negative effects (delay in treatment and harmful effects) and cost to health of misleading health commercials to provide evidence for a policy to regulate such radio and TV commercials.

All the above could be approached centrally at policy level by the health promotion unit of GHS.

School Eye Health

In addition to vision screening of pupils, the full package of school eye health can be introduced and implemented including screening of teachers and access to presbyopic glasses for the teachers. The increasing number of optometrists posted to the regional and district facilities could be responsible for the school eye health programme. A model in Saltpond has been described which can be adapted and adopted, most importantly in engagement or ownership by the Ministry of education.

Universal Eye Health and CHPS

To achieve universal eye health, especially those who are hidden in their homes, ie the blind and visually impaired elderly /child, the at-risk groups who are symptomless or coping (glaucoma, diabetic retinopathy, presbyopia) needs more aggressive integration of PEC into PHC at the directorate of health administration, the sub-districts, the CHPS zones and compounds and particularly into homes. Based on these specific sub population needs, define especially the non-clinical tasks of volunteers, non-eye health worker, agree on competencies, any minor task shifting required. Based on these, review the training packages to include predominantly non-clinical competencies, reduce the clinical knowledge and skills and provide the basic eye drops to match the commonest eye problems (allergic conjunctivitis). Presbyopia and provision of spectacles for near vision is globally identified as a major need and this can be addressed within PHC at levels a and B.

Opportunities exist in that there are several public health programmes which go into homes and keep a data base of all members of households. Introducing a simple vision assessment with a cut-off point of visual acuity of 6/12 and non-literate N8; for all or a defined age group into the household annual data base would focus attention on vision, raise awareness and provide population data on a continuing basis.

Outreach Strategy

The outreach strategy is currently an event for the target community in screening, treating primary cases on the spot and referring others and having the community workers as mobilisers for the ophthalmic nurse. This introduces a delay factor as patients and health workers alike wait for the next outreach. This could be replaced by a strategy preferred by the

Ghana Health Service. **OTSS – on site training and supportive supervision** which empowers the community health workers and the community. The Ophthalmic nurse would go and work alongside the community workers conducting home visits, screening, transferring skills and supervising. Ophthalmic nurses giving a feedback to and linking up patients to their CHNs would keep the CHNs engaged and have them track defaulters, check drug compliance, keep appointments encourage and counsel the visually impaired to take up services and register with the NHIS.

The next stage would be for the ophthalmic nurse to do OTSS with the official supervisors of the community health nurses ie the public health nurses and transfer the OTSS to them and thus achieve full integration of primary eye health into primary health care. Integrating these into the district public health work plans and budget will achieve full integration and sustainability.

Cataract surgery as discussed is a major part now of the monitoring of universal eye health and universal health coverage. The quality of outcome is increasingly important. The CHPS by going into homes can “fish” out the visually impaired, ensure they receive services, track them post operatively, measure visual outcomes, increase the word of mouth impact. These steps for cataract as well as other causes of avoidable visual impairment are what is required now that Ghana has achieved quite good coverage by ophthalmic nurses and anticipates good coverage by optometrists. Similarly, presbyopia and near vision needs can be addressed.

Innovations- Mobile phone and similar technology

The use of the mobile phone in PHC is already pointing to a preferred method. Eye health technology innovations are being developed which will affect the screening, eye examination, distance consultations, referral and follow up. Technology for HMIS and training, health education even payment for services are being implemented at increasing pace. Ghana should be prepared to adapt and adopt these innovations.

Research and Evidence

Evidence based decision making; for these and any proposed strategies, operational research should be conducted to provide the evidence for policy change. The strengthening of the NGO platform, the formation of a research/evidence committee to conduct/facilitate research for new or a change in policy.

Technology

Support by NGOs should be for the provision of equipment as well as for strengthening the health system block for technology. This is a policy issue. The eye health programme does not seem to have evidence for policy enactment, to show the impact of idling/non-functioning equipment on service delivery, quality of patient care, loss of revenue and staff morale and performance. This could be a topic for the research committee. We were told that a national eye care policy document has been developed but still needs to get signed off by the Minister of health, Attorney general, parliament and President. The INGO forum may take on the advocacy to achieve the sign off.

CONCLUSIONS: INSIGHTS INTO THE FINDINGS

REASONS FOR SUCCESSES AND FAILURES

In each selected district, the project hoped to have a model made up of the district eye units in existing hospitals plus the primary health care centres down to CHPS level in the same district to demonstrate **functioning, integrated, replicable** and **sustainable** primary eye care services within primary health care services. It largely succeeded in doing so; the district eye units are functioning, integrated, replicable and sustainable and where there are gaps in matching infrastructure to service delivery and human resource competencies, these will be addressed. The direct targeting of the population through awareness creation is functioning and will need ownership by the district health services for integration and sustainability. The services required at the levels A and B of the PHC are not yet fully agreed nor defined, the tasks and thus the competencies. When this has been achieved, appropriate training material, the OTSS schemes can be agreed, applied and integrated into the PHC levels A and B. Once that is achieved, scaling up of the model from the 35 districts to all 216 districts is feasible if accepted by the MOH as it implements the CHPs across the country.

Ghana's strength in eye care is the wide coverage by the ophthalmic nurses. As the highest level of PEC, they are best placed to agree and define services, tasks and competencies at levels A and B, design training materials, OTSS schemes, apply and integrate into PHC levels A and B supported by the District Health Management and their District Hospitals.

The opportunity offered by the inclusion of eye health in the PHC aspect of the Non-communicable diseases (NCDs) population based programme; ie cataract, glaucoma, refractive error and presbyopia, diabetic retinopathy, cancers etc should not be missed. Rehabilitation and inclusive education offered as part of the **continuum** of care as stated in PHC is yet to be implemented.

A reason for success has been the foundation of eye health services so far achieved in Ghana, the wide coverage by district ophthalmic nurses, the inclusion of eye components in the essential package and NHIS. The SIB V project has been successful in building on this foundation and has pressed forward with bringing eye health closer to the community. The partnership strategy adopted, and the innovation of doing so with the corporate sector SCB is a reason for success.

Dr Wiafe is the chairperson of the IAPB Africa primary eye care working group, a leading expert in the field probably a reason for the project's success. It is hoped that the pressure will continue to further integrate eye care into the levels A and B of PHC, implement the full package of school eye health and have it taken over by the Ministry of Education.

The national blindness and visual impairment study is a major achievement and it will be an excellent advocacy and planning tool. It should be disseminated widely and be audience friendly. Surveys tend to focus on visual impairment and their causes. Equally important is the delivery of services for non-vision impairing ocular morbidity eg allergic conjunctivitis, trauma -an occupational hazard in the largely farming community of Ghana. Dissemination of the survey report should be accompanied by the definition of the eye services required to address vision impairing and non-vision impairing conditions, co-morbidity and the promotive, preventive, curative, palliative, and rehabilitative strategies to achieve UHC.

ACRONYMS

BHVI	Brien Holden Vision Institute
BMC	Budget Management Centre
CHN	Community Health Nurse
CHO	Community Health Officer
CHPS	Community-based Health Planning and Services
CHV	Community Health Volunteer
CIDA	Canadian International Development Agency
CSC	Cataract Surgical Coverage (<i>proportion of people with bilateral cataract who have received cataract surgery in one or both eyes (at 3/60 and 6/18 level)</i>)
DFATD	Department of Foreign Affairs, Trade and development
DHIMS	District Health Information Management System
DHMT	District Health Management Team
GAP	Global Action Plan
GDP	Gross Domestic Product
GCPS	Ghana College of Physicians and Surgeons
GHC	Ghana Cedis (currency)
GHS	Ghana Health Service
HIS	Health Information System(s)
HMIS	Health Management Information System
HR	Human Resources
HReH	Human Resources for Eye Health
IAPB	International Agency for the Prevention of Blindness
ICD	Institutional Care Directorate
IPCHS	Integrated People Centred Health Services
INGO	International Non Governmental Organization
IOL	Intra Ocular Lens
KATH	Komfo Anokye Teaching Hospital, Kumasi
KBTH	Korle-Bu Teaching Hospital, Accra
LMIC	Low and Middle Income Countries
MDGs	Millennium Development Goals
M&E	Monitoring and Evaluation

MOE	Ministry of Education
MOH	Ministry of Health
MOU	Memorandum Of Understanding
NCD	Non-Communicable Disease(s)
NECU	National Eye Care Unit
NEML	Ghana National Essential Medicines List
NGO	Non-Governemtal Organization
NHIS	National Health Insurance Scheme
NTD	Neglected Tropical Disease(s)
OE	Operation Eyesight
OEU	Operation Eyesight Universal
ON	Ophthalmic Nurse
OPD	Outpatient Department
OTSS	Onsite Supportive Supervision
PEC	Primary Eye Care
PHC	Primary Health Care
RAAB	Rapid Assessment of Avoidable Blindness
RO	Regional Ophthalmologist
SCB	Standard Chartered Bank
SDGs	Sustainable Development Goals
SIB V	Seeing Is Believing Phase Five
SRC	Swiss Red Cross
SS	Sightsavers
TOR	Terms of reference
UHC	Universal Health Coverage
WHO	World Health Organisation
WISN	Workload Indicators of Staffing Needs

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- ✓ All the communities and persons who so freely, let us into their homes and communities and shared their time, thoughts, experiences, allowed eye examinations, photographs
- ✓ The staff at the various facilities; CHPS compounds, sub district health centres, health centres who welcomed us, educated us on their work and shared insights into eye health and PHC
- ✓ The eye care teams especially the ophthalmic nurses at the district health centres, the backbone of the eye health services who welcomed us and shared their commitment and passion with us
- ✓ The many district directorates, hospital and administrative for their welcome, time, and insights
- ✓ The Juaben District National Health Insurance manager for taking time to expound on the scheme
- ✓ The Eye Care Unit, our Ghana Health Service host for providing the opportunity and sharing the background and context of the project
- ✓ The Standard Chartered Bank for the time and for imparting their enthusiasm for the project
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- ✓ Dr Wiafe; Director Advocacy and Quality OEU for the invitation to evaluate and the opportunity to see at first hand much of what he has achieved in Ghana through his dint of hard work, devotion and particularly walking the talk of primary eye care.

To Ghana for its proverbial hospitality and friendship.



The Evaluation team

Happy at Asene Health centre, Birim Central Municipal District, Eastern Region.

 **Prof Hannah Faal - Lead**

 **Dr Isaac Baffoe**
Programme Coordinator, OEU
Ghana

 **Mr Benedict Osei**

Annexes

1. List of documents and references
2. Evaluation schedule
3. Tool- Attributes of activities
4. Tariffs for eye Centres NHIS
5. Analysis of project time
6. Case studies- 3

Annex 1 List of Documents and references

OEU

Agreement between International agency for Prevention of Blindness and Operation Eye Sight; Dated 5 July 2013 Sib Phase V proposal

For All the World to See, Strategic Plan 2017-2020 Operation Eyesight Universal - January 2017

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The Right to Health UNHCR and WHO fact sheet
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Annex 2 EVALUATION SCHEDULE- SEEING IS BELIEVING **PHASE V**

DATE	NATION AL/REGI ON	DISTRI CT	ISSUES EXPLORED	SERVICE LEVEL/ACTIVITY MEETING	PERSONS MET and DESIGNATION	TRAVEL
June 18 th 2017 to			Correspondence on schedule, methodology, and review of documents and references		Dr Wiafe Boateng- Director for Quality and Advocacy- Mr Emmanuel Kwasi Kumah- Ghana Country Manager of OEU Prof H Faal -Evaluation consultant	
Sunday 9 th July 2017	National		Brief overview of project Review of evaluation schedule	Meeting at Coconut Grove Regency hotel	OEU TEAM Dr Wiafe Boateng- Director for Quality and Advocacy- Mr Emmanuel Kwasi Kumah- Ghana Country Manager of OEU - Dr Isaac Owusu Baffoe - Programme Coordinator for OEU Ghana-	Lagos Accra by air
Monday 10 th July, 2017	National		Objectives of evaluation Implementation of project Evaluation schedule	OEU Project Team OEU project office Meeting	Mr Emmanuel Kwasi Kumah – Ghana Country Manager of OEU, Dr Isaac Owusu Baffoe – Programme Coordinator for OEU in Ghana)	
Monday 10 th July, 2017	Greater Accra	GA WEST	Overview of district health services Components of project and scoring of the attributes	Municipal Health Directorate	Dr Doris Afua Arhin – Municipal Health Director, Davide Ofori -Administrator Aso Denkyi-Municipal Public Health Nurse	Accra - Amasaman (Ga West District) return

			Eye health services within the district hospital Budgeting for eye health services	Management of Amasaman Government Hospital –	Dr Ntiamoah Sarpong – Medical Director	
			Eye unit activities Functioning of district level eye health services Relationship with regional level and Evaluation of Project activities Financing of eye health services Training	Eye Unit Staff	Ophthalmic nurses <ul style="list-style-type: none"> • Aso Denkyi • Evelyn Mante • Mercy Amofa • Shirley Heneku Optician -Francisca Akomeah –	
			Case study	Patient Beneficiary	Lordia Okyere (A JHS 2 student at Adusa MA JHS)	
Tuesday 11 th July 2017	National		Partnership with OEU Project activities and attributes Opportunities-INGO Forum, research Challenges	National Eye Care Unit, Ghana Health Service	Dr James Addy – Head of eye care unit Gifty Boafo - -Administrator	Accra
			Systems: Procurement, Installation, Maintenance Training Evaluation attributes and the technology component of project	Biomedical Engineering Unit, Clinical Engineering Unit GHS	Mr Robert Forson - Chief Clinical Technologist Mr Kwabena Mensah - Chief Clinical Technologist	
			Partnership Activities Evaluation attributes	Standard Chartered Bank, Corporate Affairs	Ms Asiedua Addae – Head of Corporate Affairs, Brand & Marketing	
Wednesday						Travel by road from

12 th July 2017						Accra to Tarkwa, spend night
Thurs day 13 th July 2017	Western	TARK WA NSUA EM		Hospital management	Mary Yvonne Amissah – Nursing Administrator Mr Michael Danso – Hospital Administrator	
			Project activities and eye unit Evaluation of Attributes Equipment and services	Eye unit staff	Ophthalmic nurses <ul style="list-style-type: none"> Augustina Aduse Poku Rebecca Kissi Optician -Daniel Mensah	
		Patah o CHPS comp ound and comm unity	Outreach, training, PEC resources, screening and referral, facility linkages with community members) Awareness creation Uptake of services School screening	Trained CHN, Volunteer and Community member/patient	Daniel Johnson – Community Health Nurse Mr Kwabena Kumah, Patient/Beneficiary)	Travel Tarkwa - - Pataho return Travel from Tarkwa to Cape Coast, spend night
		MFAN TESA MAN	Integration of district eye health activities into other district health activities Eye health information management Health financing	Mfantseman Municipal Health Directorate	Municipal Health Director- Georgina A.Y Graham-Hayfron Municipal Health Information Officer- Mr. Isaac Awittor– Municipal Deputy Public Health Nurse- Vida Brown Municipal Nutrition Officer - Mr Oware Mengyah Accountant- Mr Gaeten Zagbour	
				Saltpond Municipal Hospital Management	Supply Officer at the Hospital Pharmacy Prince Cobblah Hospital Accountant Daniel Dadzie	
			Referral and Data Management Low Vision Training and practice School screening	District Eye Unit	Ophthalmic Nurse-Gladys Apau Optometrist-Dr Elizabeth Babai Optician- Miriam Owusu Marfo Deputy Director for Planning and Statistics at the Ghana Education Service-Sabina Otoo,	
		Abead ze	Training, resources,		Ophthalmic Nurse Gladys Apau	Travel back to

		Domin ase Health Centre	screening, referral Link between health centre and eye unit. Integration into health centre public health activities		Snr Staff Nurse Joshua Tei Kumah Snr Staff Nurse for Public Health Fia Godsway –	Accra, spend night
Monday 17 th July 2017	Ashanti Region					Travel by Air to Kumasi
		EJISU JUABEN	NHIS and eye health services	Municipal Health Directorate NHIS management	Municipal Health Director- Josephine Atsufe Ahorsu District Municipal National Health Insurance Manager Mr Kwame Boakye	Travel to Ejisu Juaben
			Budgeting for eye care, Procurement issues, Stocking of eye drugs (pharmacist)	Juaben Government Hospital	Deputy Hospital Administrator Mr Agyin Asiedu – Hospital Pharmacist - Mr Felix Ada Opare	
				Eye Unit staff	Optometrist- Dr Afua Asantewaa Nkansah Opticians: Matina Afriyie and Felicia Antwi.	Travel to Sunyani, spend night
			Availability and cost of over the counter eye drops.	Local pharmacy		
Tuesday 18 th July 2017	Brong Ahafo	SUNYANI	Role of regional ophthalmologist	Brong Ahafo Regional directorate Regional Hospital management	Deputy Director -Brong Ahafo region Regional ophthalmologist for Brong Ahafo region, Sunyani Municipal hospital... Dr Kofi Amoh Kodie	Travel by road to Nwawasu
			Sustainability			
			Optometrist and school screening, refractive error services	Eye Unit	Ophthalmic nurse: Ellen Danso Ankamah Optometrist- Ben Adu-Saforo	
		Abesim Methodist Basic School	School screening, refraction, supply of glasses, student beneficiaries	Basic School	Head teacher- Mr Daniel Gyan School health coordinator- Mr Joel Afrifa Kyei	
		Nwawasua health centre	Midwife and eye health CHN vision testing and eye examination Trauma and referral	CHIPS zone health centre level	CHPs- Lawrence Amoah Community health Nurse- Kwadwo Francis Community health volunteer- Kyeremeh Francis Patient - Kwadwo Francis	Travel by road from Nwawasu to Kumasi, spend night

Wednesday 19 th July 2017						Travel by air to Accra
Thursday 20 th July 2017	Eastern	AKIM ODA BIRIM CENTRAL DISTRICT	Optometrist role in primary eye care consultations	Municipal Health Directorate	Municipal Public Health Nurse: Vida Danquah Municipal Biostatistician: Vida Honyadzi	Travel by road Accra to Oda Oda to Asene Asene to Accra
			Record keeping in district eye clinic	Municipal Hospital management – Eye Unit Staff	Visiting Optometrist: Dr Nazif Mohammed Ophthalmic Nurse: Gladys Amankwah	
			Eye health and integration into the full CHPS health centre/zone facilities Outreach activities	Asene CHPs	Facility In-charge, Midwife: Beatrice Ansah Disease Control Officer: Comfort Asamani Staff Nurses: Dominic Asamaniwa and Gloria Eva Frimpong Community Health Nurse: Sarah Nkansah	
Friday 21 st July 2017	National		Round up Budget analysis Photos analysis Questionnaire to the three non-visited northern regions	OEU Project Team	Mr Emmanuel Kwasi Kumah – Ghana Country Manager of OEU, Dr Isaac Owusu Baffoe – Programme Coordinator for OEU in Ghana)	Total road and air travel within Ghana 1,726 kilometers
Saturday 22 nd July 2017						Travel by air Accra Lagos
From July 12 th to July 30 th 2017	Report writing- Draft					
To August 5 th 2017	Report Writing Final					

Annex 3 ATTRIBUTES AND ACTIVITIES, Points for discussion

To Project Team

Eg 1. What is your definition of a **functioning** human resource?

2. What were/are your indicators for measuring?

3. Scale achievement of each activity: Excellent/Good/Fair

4. What would you do differently?

5. What was poor practice?

6. What was best practice?

These questions are repeated for each attribute

Activities /Attributes	Functioning	Integrated	Replicable	Sustainable
Human Resource Development				
PEHC				
Awareness Creation				
Service delivery				

Annex 4 NHIS TARIFFS FOR EYE CENTRES- G-GRG REVISED 2016

MDC-OPHTHALMOLOGY

G-DRG	CORE GHANA DIAGNOSTIC RELATED GROUPING	TARIFF (GH¢)
OPHT03A	Removal of superficial foreign body >=12 Yrs	20.05
OPHT03C	Removal of superficial foreign body <12 Yrs	18.62
OPHT05A	Removal of intraorbital foreign body >=12 Yrs	264.66
OPHT05C	Removal of intraorbital foreign body <12 Yrs	242.81
OPHT06A	Eyelid surgery >=12 Yrs	149.21
OPHT06C	Eyelid surgery <12 Yrs	151.56
OPHT07A	Scleral and Corneal surgery >=12 Yrs	129.76
OPHT07C	Scleral and Corneal surgery <12 Yrs	122.02
OPHT08A	Anterior chamber washout >=12 Yrs	146.55
OPHT08C	Anterior chamber washout <12 Yrs	141.32
OPHT09A	Glaucoma surgery >=12 Yrs	153.19
OPHT09C	Glaucoma surgery <12 Yrs	153.48
OPHT10A	Cataract surgery >=12 Yrs	185.37
OPHT10C	Cataract surgery <12 Yrs	180.45
OPHT12A	Incision and curettage of eyelid >=12 Yrs	101.78
OPHT12C	Incision and curettage of eyelid <12 Yrs	99.65
OPHT13A	Reconstructive surgery of eyelid >=12 Yrs	125.04
OPHT13C	Reconstructive surgery of eyelid <12 Yrs	128.08
OPHT14A	Nasolacrimal drainage system surgery >=12 Yrs	176.13
OPHT14C	Nasolacrimal drainage system surgery <12 Yrs	144.31
OPHT15A	Incision and drainage of abscesses >=12 Yrs	149.65

OPHT15C	Incision and drainage of abscesses <12 Yrs	146.86
OPHT16A	Examination under anaesthesia >=12 Yrs	39.01
OPHT16C	Examination under anaesthesia <12 Yrs	37.21
OPHT17A	Uveitis Management	19.76
OPHT18A	Cataract Surgery with Implants >=12 Yrs	230.44
OPDC05A	Eye Adult (without procedure)	13.87
OPDC05C	Eye Child (without procedure)	13.51

All prices are in Ghana Cedis

Differences with the 2011 NHIS tariffs for different facility types—which includes all other facility types

Annex 5 ANALYSIS of PROPOSED AND ACTUAL TIMETABLE OF ACTIVITIES

ACTIVITIES	DESCRIPTIONS	TIME							
		Year 1		Year 2		Year 3		Year 4	
		Q1/2	Q3/Q4	Q1/2	Q3/Q4	Q1/2	Q3/4	Q1/2	Q3/Q4
1	Proposed Employment of Project Assistant								
	Actually Ended up with a Project Coordinator								
2	Proposed Semi-Annual Reports to SiB								
	Actually Sent Semi - Annual Reports to SiB								
3	Proposed Financial Audit								
	Actually Audited Accounts Yearly								
4	Proposed Development of Training Materials								
	Actually Developed Training Materials								
5	Proposed Refresher Courses for Ophthalmic Personnel Commenced								
	Actually Organised On Site Training for Ophthalmic Nurses								
	Actually Organised Low Vision Refresher Training for Optometrists								
6	Proposed PEC Trainer Candidates Selected								
	Actually Selected Trainer of Trainers								
7	Proposed PEC Training of Trainers Commenced								
	Actually Trained PEC Trainer of Trainers								
8	Proposed PEC Candidates Selected at District Level								
	Actually Selected PEC Candidates at District Level								
9	Proposed PEC Training Commences								
	Actually Commenced PEC Training								
10	Proposed Equipment Technicians Training								
	Actually Trained Equipment technicians								
11	Proposed Orientation for Ophthalmologists								
	Actually Oriented Ophthalmologists								
	Actually Trained Regional Health Information Officers On Eye Health Indicators								
12	Proposed Selection and Confirmation of Districts								
	Actually Selected Districts								
13	Proposed Baseline Survey								
	Actually Conducted National Blindness and Visual Impairment Study								
14	Proposed Partner MoUs Negotiated and Signed								
	Actually Signed MoU with Partners								
15	Proposed Detailed Implementation Planning and Annual Review								
	Actually Reviewed Plans with Partners								
16	Proposed Partner Monitoring Visits								
	Actually Conducted Monitoring Visits								
17	Proposed Partner Capacity Building Workshops (various themes)								
	Partner Actually Participated in a Workshop								
18	Proposed Impact Assessment								
	Actually Conducted Project End Evaluation								
19	Proposed Equipment (invoices, procurement, & delivery)								
	Actually Procured, Delivered and Installed Equipment								
20	Proposed Consumables (invoices, procurement, & delivery)								
	Actually Procured and Delivered Consumables								
21	Proposed Awareness Creation Drive Commences								
	Actually commenced Awareness Drive								
22	Proposed Screening/Treatment/Referral of Patients Commenced								
	Actually Screened, Treated and Referred Patients								

Annex 6 Case Studies

LORDIA OKYERE	<u>The role of the various components of PEC</u>	Project
<p>Lordia Okyere is a 16-year-old student living in a village called Osoro Dompe in the Ga West District of the Greater Accra Region. It is a small farming community with only 13 mud houses. The family depends on relations for their daily bread since the mother can no longer farm due to her blindness. Her brother who is 22 years old works as a labourer on farms of other people in order to raise money to support the family.</p> <p>She is a Junior High student at the Adusa MA basic school which is about two kilometers from her village. Her father is deceased. She lives with her mother, brother and two sisters. Both her mother and elder sister (who is 25 years old) are blind from corneal scar. Their history show that they had poor vision and they tried to use herbal preparations to cure their poor eye sight which led to the development of the corneal scars. Her brother also has a refractive error and is currently using spectacles that was donated to him by a good Samaritan. A community volunteer brought her to an outreach screening programme at Adusa another village which is about three kilometers from the village of Lordia. This eye screening was organized by the ophthalmic team from the Ga West Municipal Hospital.</p> <p>At the time that she was first seen her vision was 2/60 in the Right Eye and 6/36 in the Left Eye. She has lived with this poor vision from childhood. She had never sought help in any hospital mainly because the family could not afford it.</p> <p>After the outreach eye screening, she was seen by the ophthalmic nurse at the Ga West Municipal Hospital in Greater Accra Region of Ghana. She was then referred to the Korle Bu Teaching Hospital in Accra for further examination and management. From her village to the Korle Bu Teaching Hospital is about 30 kilometers.</p>	<p>The socio-economic determinants of health</p> <p>Poverty, father loss, distances from services.</p>	<p>Need to engage with stakeholders on SDH</p>
	<p>Two family members blind no rehabilitation services.</p>	<p>No links yet to rehabilitation services.</p>
	<p>Traditional services—accessible, affordable, preferred and harmful</p> <p>Traditional health services is it part of PEC?</p>	<p>Awareness creation achieved but not yet active engagement with traditional practitioners and activities</p>
	<p>A congenital eye condition -aniridia, congenital cataracts, probably genetic, mother? three siblings was not diagnosed or noticed at the neonatal or child health clinics— (presuming her mother used the services)</p> <p>Integration of eye health into Maternal and child health services-- PEC</p>	<p>Training of MCH staff done, policy to integrate and monitor activities not yet</p>
	<p>Donated glasses without eye examination</p>	<p>Policy on management of family members and on donated glasses is required</p>
	<p>Community volunteer</p> <p>Role of tracing the eye health needy, persuading and taking to service.</p> <p>CHW Competency for PEC</p>	<p>More aggressively active role of CHW in finding and getting service for visually impaired is required</p>

<p>She was diagnosed with aniridia with bilateral posterior sub capsular cataract and refractive error</p> <p>She was prescribed a pair of spectacles which was ordered for her by the Ophthalmic nurse at the Ga West Municipal Hospital. With the spectacles, her vision has improved to 6/24 in both eyes.</p> <p>She has been referred again by the ophthalmic nurse to go for low vision assessment at the Watborg Eye Services.</p> <p>She said “I am very happy now. I can see better in school now than I was able to see before I got the spectacles.”</p> <p><u>Lordia and her ophthalmic nurse</u></p> 	<p>School services</p> <p>A junior high school student...10 to 11 years of schooling with poor vision...must have been noticed but no referrals or links to health</p> <p>School health and PEC</p>	<p>School health vision screening links to refraction by optometrist and provision of spectacles and provision of glasses achieved</p> <p>Ownership by Ministry of education required</p>
	<p>Outreach team from level C of PHC to level A of PHC</p> <p>First time of vision assessment and by an intermittent outreach service...</p> <p>Vision assessment and PEC. when and where?</p>	<p>Outreach supported by project. Policy on vision assessment required. .as close to patient as possible and as early/frequent as possible ie —Level A of PHC</p>
	<p>Referral systems</p> <p>From primary district level past the secondary regional level to tertiary level – a must have for PEC</p> <p>Ethical PEC—must have levels above</p>	<p>Project empowered the referral system. Ghana eye care services has the secondary and tertiary and in this case subspecialty levels</p>
	<p>Glasses ordered for her by ophthalmic nurse -level C of PHC</p> <p>Low vision services arranged</p> <p>Patient centredness and PEC</p>	<p>Project achieved this? informal. System needs to be formalised and strengthened</p>
	<p>Vision and education and gender equity-SDGS</p> <p>In this case 16 years lost, one child salvaged, a visually impaired girl child needing lifetime care.</p>	<p>Project achieved for this child, sight and education. Lifetime care needs to be assured.</p>

	Mr Kwabena Kumah	<u>The role of the various components of PEC.</u>	Project
<p>Mr Kwabena Kumah is 59-year-old farmer at Pataho, a village in the Tarkwa Nsuaem Municipal. He lives with his wife at Pataho. He was diagnosed with Cataract by a team that came to his village to conduct an eye screening camp. Though there is a hospital in the Municipality (Tarkwa Municipal Hospital) which has the capacity to conduct cataract surgery, Mr Kumah and many others were transported by the team to a hospital in Accra for cataract surgery. Like many others who were transported to Accra for the cataract surgery Mr Kumah could not return to Accra for post-operative review and further management and as a result developed complications and severe pain in the operated eye.</p> <p>During an outreach by the ophthalmic team of the Tarkwa Municipal Hospital, to Pataho, the community health nurse at Pataho brought Mr Kumah, to see the ophthalmic nurse. He was then referred to the Tarkwa Municipal Hospital where his condition was managed. Now his eye is settled and all the pain has stopped. He said he is very happy and continues to praise the ophthalmic nurse as his deliverer.</p> <p>As a result of his satisfaction for the services that was provided for him at the eye clinic at the Tarkwa Municipal Hospital he took his mother who was blind from cataract to the hospital for cataract surgery. He said his aged mother can now see very well and as a result she does not stay at home any more, she goes to her farm every day.</p> <p>He said, “I realized that none of the people who had cataract surgery at the Tarkwa Municipal Hospital complained of any pain or had any problem with their eyes when I visited the hospital, however many of the people who travelled with me to Accra for the surgery complained of pain and other problems with their eyes. I regret going to Accra. I will advise anybody I come across with an eye problem to come to the Tarkwa Municipal Hospital for treatment.”</p>	Outreach and eye screening camp The blind is detected Is this PEC?	Pre-project practices	
	Bussing patients to service Is this PEC?	Pre-project practices	
	Performing free surgery at tertiary level Is this secondary eye service and affordable care?	Pre-project practices	
	By-passing existing services Lack of co-ordination and alignment with government by NGOs	Pre-project practices	
	No post-operative care Unethical services	Pre-project practices	
	Causes of blindness; cataract and absence of QUALITY, SAFETY.	QUALITY ASSURANCE POLICY IMPLEMENTATION	
	CHN brings patient to Outreach screening Role of CHW in PEC	Project achievement	
	Outreach ophthalmic team. assessment and referral	Project achievement	
	Outreach surgery at district level and post-operative care at district level—meeting point of PEC and secondary care	Project achievement	
	WORD OF MOUTH and awareness creation... and PEC.	Project achievement on awareness creation; research on role of word of mouth	

Case study MR KWADWO FRANCIS	The role of the various components of PEC.	Project
<p>Mr Kwadwo Francis lives in a village called Nwawasua in the Sunyani Municipality. He is a farmer. He experienced pain, tearing and redness in the left eye for 3 days. He does not know what caused the condition. He was suffering and when he realized there was no improvement, he met the community health volunteer (Kyereme Francis) who counseled him to visit the Nwawasua CHPS. The community health nurse (Lawrence Amoah) at the Nwawasua CHPS center examined him and with his pen torch suspected that he might have developed a corneal lesion. He gave him an antibiotic eye drop to start with and then referred him to go to the eye clinic at the Sunyani Municipal Hospital for further management.</p>	Patients role in early uptake of service	Further emphasis
	Community volunteer and counselling	Counselling- non-clinical task, needs further emphasis in training of CVs.
	CHN at CHPs health center	Project achieved
	Antibiotic eye drops at CHPs health centre level B	Policy to ensure availability
	Referral and support of next level up	Project achieved. feedback to be strengthened.



CHN Lawrence Amoah testing Mr Kwadwo's vision