



SITUATIONAL ANALYSIS

CHILDREN'S EYE HEALTH NEEDS AND SERVICES IN KEY STATES IN NIGERIA

Seeing is Believing (SiB) is a collaboration between Standard Chartered Bank (SCB) and the International Agency for the Prevention of Blindness (IAPB) committed to eliminate avoidable blindness by 2020 by raising US\$100 million for projects in countries across 4 continents. SiB had supported adult cataract and comprehensive eye care projects in Nigeria from 2004. From January 2013, SiB supported specific children's eye health projects in Kenya, Uganda and Tanzania in East Africa through two consortia of eye health nongovernmental agencies, led by Christoffelblindenmission (CBM) and Brien Holden Vision Institute (BHVI). Other members of the IAPB were also delivering the activities across East Africa e.g. Sightsavers, Fred Hollows Foundation, Operation Eyesight, alongside ministries of health, government and mission hospitals, ministries of education, schools etc. SiB now aims to support a similar Child eye health US\$5 million project in Nigeria starting in 2016.

The **purpose** of the situational analysis was firstly to review the East Africa experience and deduce lessons to be shared with Nigeria. Secondly in Nigeria, it was to give an overview of existing and potential partners for a consortium approach, provide an overview of resources available to the health and education sectors in key states and make recommendations for priority areas for investment in the development of comprehensive child eye health services including relevant eye care services for within the education and disability sectors.

The study was conducted in 2015 by a three-member team using mainly questionnaires, face to face meetings, review of documents, information on web sites and email correspondence. Based on prior SiB and NGOs projects, presence of tertiary child eye health centres (TCEHC) and the SCB foot print, nine states were selected for field visits and in depth study. Information was collected from key stakeholders- partners, service delivery and training institutions, ministries and international agencies; with a special focus on children, their eye health, education and disability.

Overview of Nigeria

Nigeria has an estimated population of 177.5 million distributed in 774 local government areas which make up the thirty-six states and the Federal Capital Territory (FCT). Children (0-15 years) who make up almost fifty percent of the population are supported by adults whose life expectancy is 53 years, whose minimum monthly wage is US\$ 90.00 and 70% of whom live below the poverty line. In 2013, the infant mortality rate was estimated at 74/1000 live births and the measles coverage rate was 59%. The compulsory free universal basic education has increased the primary school net enrolment rate to 70% but the free health services is just for children under 5 years and only at the primary and state public health facilities. Government allocation to health is 7.5% of GDP and out of pocket expenditure is 66% of total health expenditure. A community based insurance scheme is being piloted.

Services e.g. for ophthalmic paediatric surgery at tertiary level are neither free nor included in the insurance package. Cost of services and indirect costs of the several visits inherent in child eye health services is a major challenge for uptake of such services.

Various studies, mainly hospital based, show that over 70% of blindness in children is avoidable, the lead causes are lens related and glaucoma. Refractive error is the lead cause of visual impairment and ocular morbidity is mostly due to vernal conjunctivitis, infections and trauma. The prevalence of blindness in children in two studies is estimated at 0.09% and 0.2%, a wide range, indicating a need for validation.

Nigeria has a three tiered health administrative structure; federal, state and local government area (LGA). In addition, for health care needs, the private, traditional and spiritual sectors, community drug providers are all patronised by the population. Though a similar structure operates in the educational system, there is very limited linkage between health and education at all levels.

KEY FINDINGS -East Africa

Within the SiB support to child eye health in East Africa (ChEH East Africa), and to create sustainable improvements to child eye health, CBM and its consortia members prioritised building health systems at secondary and tertiary levels, for enhanced service delivery; and BHVI and its consortia members concentrated on school eye health organisation and delivery plus education of the BSVI children. The highlights to date for this review are:

Health management information system (HMIS): The project achieved or is still working on:

- New tools for the classification of surgical data, disaggregation of data, standardisation across programmes and countries and follow up of children for eye health, for LV and education services
- A customised management system for equipment and instruments
- Monitoring system for post-operative visual outcomes.

Education information management system (EMIS): Perkins helped put in place a child focused tagging and tracking system as part of an EMIS.

The HMIS and EMIS provided information for advocacy and got integrated into the general health and education information systems.

Service delivery

The educational system was used extensively for screening using vision corridors, vision champions and teachers. As well as enabling services to be provided directly to children with URE, this approach yielded a high harvest of children with ophthalmic problems which posed a challenge for eye health services provision. Including 'paediatric-orientated' ophthalmologists in the overall team helped increase the cataract surgical output. The location of optical shops within hospitals improved access to glasses for adults and children. Low vision services were not emphasised in all locations.

For human resources, a team **approach** was adopted at each service delivery level in the composition, training and coordination of members of the team. At the TCEHC, the core staff were the eye health staff paediatric ophthalmologist, optometrist and ophthalmic nurse. They are assisted, as required, by the paediatric anaesthetist, oncologists and paediatricians, and other support staff – counsellor, low vision staff.

Infrastructure and equipment: since facilities were at different levels of development, a baseline assessment was conducted, gaps identified and this advised procurement and distribution. Other strategies were the training of technicians and the engagement of the government to facilitate importation of equipment.

Leadership and governance: Since this was a multi -faceted project involving three countries and multiple partners, i.e. training institutions, professional colleges, lead NGOs and their implementing partners, the Standard Chartered Bank branches, coordination and collaboration was key. The project successfully adopted strategies which provided synergy in policies, planning, monitoring, evaluation and advocacy.

Research: East Africa project implemented a baseline survey of disease burden and health systems assessment and a monitoring system for programming and quality assurance. Further research questions have now been agreed across each country and COECSA to help improve child eye health services further.

Geographical clusters and the child eye health 10 million population unit

The IAPB recommends a population coverage of 10 million by a (TCEHC) supported by a network of satellite/secondary facility based on a foundation of a robust primary health care and community system. East Africa adopted this strategy. The project tried to address problems of working across countries, health levels, administrative health structures, between facilities and between health and education within a single management and reporting system.

Standard Chartered Bank

Within East Africa SCB expanded their role beyond fundraising for the project to include awareness raising, media targeting, profile raising and branding of the project, advocacy, lobbying government at the highest level and joint monitoring of progress.

Consortium approach

This initially posed challenges of harmonising organisational systems of the lead NGOs and the operational systems of the several implementation partners but these were addressed fairly successfully during the project through their leadership and governance strategies. The consortium approach enabled the INGOs and government to provide more seamless services for children with specific needs. It facilitated key INGOs to deliver on their key strengths and link with others and with government services to provide the whole range of skills required for each child.

KEY FINDINGS – Nigeria

Health workforce

The general child health workforce at secondary and primary levels is fairly adequate in facilities but the public health interventions are weak as evidenced by the poor health indicators of a persistent high IMR and poor vaccination coverage. There is marked maldistribution of the health workforce between geopolitical zones, being highest in the south west and lowest in the north east. Even within states, there is a rural/ urban inequity. Orientation to child eye health is rudimentary except in the very few pockets where TCEHCs work with satellite centres and use key informants.

Specialised eye health workforce is small; 16 paediatric ophthalmologists across 10 centres; majority of whom are in Federal teaching hospitals in the SW and SS states. In TCEHCs, the team approach is adopted, made up of a paediatric ophthalmologist, a trainee ophthalmologist, a paediatric oriented optometrist and ophthalmic nurse, a counsellor, a low vision staff and sometimes a coordinator with links to a network of key informants. The team also draws on anaesthetists, and pathologists oriented to paediatric care.

The 550 general ophthalmologists and 1,500 optometrists plus the 170 ophthalmic nurses graduating per annum make up a potential pool for specialist training in child eye health. Similarly, while there is an adequate number of paediatricians, there is less so of anaesthetists, pathologists and plastic surgeons to draw from for orientation to child eye health.

Training of paediatric ophthalmologists had until 2012 been undertaken in other countries. The Nigerian Paediatric and Strabismus Society (NIPOSS) in collaboration with the Ophthalmological Society of Nigeria (OSN) and the West African College of Surgeons (WACS) has set up a one-year modular fellowship programme to be undertaken after the 3-year membership residency in general ophthalmology. It has accredited six centres and trainers are from the existing pool of paediatric ophthalmologists. Six paediatric ophthalmologists have so far been produced in country with one in training. This effort has been supported by ICO, Vision 2020 Links, CEHC and in future by the Moorfields /WACS collaboration. A few faith based facilities complement the government facilities especially in providing high volume of patients. Short courses are also available for other members of the team. The modular approach in the fellowship allows for the training of paediatric oriented ophthalmologists. Fifteen general ophthalmology accredited centres have 150 doctors in training and graduate about 30 per annum.

The Nigerian College of optometry offers a 4-year fellowship programme in sub specialties including paediatric optometry but so far general optometrists have provided paediatric services in TCEHCs.

The five ophthalmic nursing schools produce about 170 ophthalmic nurses per annum. State governments run Colleges of Health Technology producing a wide variety of middle level and support staff including health information management workers, biomedical technologists, CHEWs. Six of these Colleges of Technology train dispensing opticians. There is no orthoptist course in Nigeria, optometrists are supposed to provide orthoptic services.

Service delivery

Only TCEHCs were assessed for service delivery and responses were received from 4 teaching hospitals and the one private TCEHC. Commonest conditions seen are refractive errors, allergy and paediatric cataract and the commonest surgeries done were for paediatric cataract, glaucoma, squint, and two centres mentioned trauma and retinoblastoma. In 2014, about 600 paediatric cataract surgeries were performed in 7 centres, over half of these in two centres- one private and one mission. Three centres reported 6000 outpatient attendances. In 2011, at a sub Saharan Africa meeting on child eye health, Nigeria reported 2,500 paediatric surgeries. There has been no information on quality of outcome of surgery.

From the five centres which responded to questionnaires, most have been providing paediatric services for about 8 years and two for over 20 years. All conduct outreach, have optical shops, offer low vision service, have at least one school for the blind in close proximity and two of the five conduct school eye health activities. Patients come from an average of 8 nearby states except in EFH, Lagos where they come from all over the country. The centres, linked to state wide community programmes, satellite centres or periodic school screening exercises have a higher volume of

patients. The volume and range of child eye health services at secondary and primary level is not known. Cost of service to the patient is often prohibitive; cost of cataract surgery ranged from \$100 in the private sector to \$300 in one of the TCEHCs and the cost of glasses from \$15 to \$50.

The gaps in service delivery are in the quantity, the range and complexity of cases, the continuum of care especially in promotion, prevention, secondary care, particularly low vision services outside the TCEHC and links into education and rehabilitation.

The major system weaknesses are in HMIS and quality assurance. All government TCEHC centres described the status of equipment as inadequate.

School health and school eye health

The global initiatives e.g. deworming, nutrition, Vitamin A supplementation, neglected tropical diseases are implemented in some schools but there is no comprehensive school health programme. School eye health is virtually synonymous with sporadic school screening mainly for refractive errors and prescription of glasses supported by NGOs including optometric associations. Lagos state government supports a state eye care programme which includes a fairly comprehensive school health/eye health programme providing proof that it is feasible in Nigeria.

Education and disability

There are about 20 special needs (pan-disability) schools of which some offer services for BSVI children. The public preference is for special needs schools for the primary level and integrated schools for the secondary level and a preference of boarding over day schools. There are no government systems for assessment, referral or linkages between the health and education and rehabilitation services. Support for the centres are mainly from the non-government sectors and individuals.

Access to low vision services is particularly low, routine assessment carried out only in 2 centres. BHVI has invested in training and strengthening of 40 service units for all ages with no systematic link to TCEHCs.

Research

The two professional groups, ophthalmologists and optometrists conduct research to meet training requirements and for career progression. The topics are mainly epidemiological, refractive error focused, in restricted geographical areas and in schools for the blind. (detailed list in the addendum) The national survey on blindness and eye disease in 2005 was limited in scope as it only looked at children 10-15 years old.

Funds

Most of the paediatric ophthalmologists identified cost as a major barrier to service provision and uptake. Though basic care is free for children in state health facilities, it is not free in TCEHCs where almost all specialised care is available. Child care requires several repeat visits and since TCEHCs are usually located far from most patients, transport and associated costs for child and carer are prohibitive.

Policies environment, programmes and ministries at national and state level

Nigeria is signatory to almost all major global conventions which impact on children, education and disability e.g. the Convention on the Rights of the Child, MDGs and SDGs, Vision 2020. Programmes

are supported mainly by international agencies. Interviews with national government officers and focal persons in WHO and UNICEF highlighted the fact that though eye health and child eye health were not specifically addressed, there were opportunities for integration particularly where policies were being reviewed, e.g. PHC policy, manuals developed and programmes initiated e.g. Carter Centre and school health. The SDGs emphasise inclusion and could provide opportunities for the education of the BSVI children and neglected children e.g. children in nomadic and internally displaced people's camps and Islamic primary schools.

Organisations of the disabled including the blind do exist in Nigeria but do not have any specific activity geared towards children.

The general consensus was that Nigeria had excellent policies but implementation and allocation of funds to match was limited. Stakeholders identified the need for advocacy, evidence to back and measure impact, a structure and strategy to implement. A unique example of the power of advocacy is the Kwara state Child Sight Protection Bill enacted as the result of NIPOSS advocacy.

The states have the responsibility for implementation of policies and programmes. Eye health and child eye health is low profile except where sponsored by NGOs. Particularly relevant to the child eye health 10 million population unit concept which needs collaboration by contiguous states, the team did not know of any examples of programmes which were implemented in a cluster of contiguous states.

Partners

Sightsavers, CBM and BHVI are the NGOs which SIB has worked with in Nigeria. Each has worked with local partners to deliver on projects; Sightsavers on a comprehensive state eye care programme in Zamfara state, CBM coordinated a two site project in ECWA Kano and a group of Catholic hospitals in south west Nigeria and BHVI a school eye health focused project in Abuja. These NGOs and a few others were willing to go into a consortium and to provide the 20% counterpart funding. On the consortium approach however, each felt that they needed to have a planning, preparatory and bonding phase prior to the consortium proposal submission.

Standard chartered Bank in Nigeria has about 900 employees in 42 branches located in 13 cities with a preponderance in the south west zone. To date, they have adopted a fund raising approach raising \$900,000 in the 9 consecutive events.

DISCUSSION AND KEY RECOMMENDATIONS

1. Learning strategy and objective - East Africa / Nigeria

It would be advantageous to facilitate cross learning and shorten the learning curve in Nigeria by facilitating transcontinental exchanges by the consortium of NGOs, the local partners, the professional bodies, Standard Chartered Bank. This would lead directly into joint planning for smooth implementation. Other sources of learning are the documents from previous child eye health meetings in Nigeria (organised by KCCO in 2010) and for sub Saharan Africa by Orbis in 2011. The new project could consider liaising with IAPB, ICO, ICEH and African child eye health interest groups to support the relevant aspects of the project e.g. ICO and training of paediatric ophthalmologists

2. A child focused/centred approach

A child eye health programme cuts across health, education and disability sectors and their social determinants, and this is why a consortia approach is required. It also needs to be implemented across all three levels of the health administrative structure, and needs a 10 million population base to feed patients into one TCEHC. To achieve this across all these components seamlessly and effectively, an approach which is centred on, tags and tracks the child is best. A child focused/centred approach should be the guiding principle in all decisions. The East Africa innovation by Perkins of tagging and tracking the child is recommended for adaptation in Nigeria.

3. Comprehensive child eye health 10 million population demonstration model

This is the WHO and IAPB recommended population unit with at least one TCEHC responsible for the 10 million population coverage. The TCEHC is supported by a network of secondary satellite centres. A strong base of integrated primary and community level health services which also link with education and disability services is key. It would provide a continuum of care across the child's life span, the child's locations in home, schools and play, across health, education and disability etc. and most importantly integrated into eye health, child health and general health services. This model achieves universal eye health coverage in alignment with the SDGs. Nigeria is a large country with a high population and a national programme cannot be achieved by SIB. A demonstration model with strategies for documenting lessons for replication is recommended.

4. Suggested clusters of key states.

This is based on population size, location of TCEHCs and feasible population coverage responsibility, the Standard Chartered bank footprint, previous and current presence of major eye health NGOs, previous SIB projects, current support from other sources e.g. V 2020 links. Consideration was also given to security risks as in the north east states. Long distances and travel time between the furthest community and any TCEHC will need to be addressed during the design of the project. Details are in the Table1 and Map 1 below.

Table 1
Clusters of key states, advantages and possible lead NGOs

Contiguous key states, approximate population and their TCEHCs	Key advantages	Possible NGOs
Sokoto 3.7 Zamfara 2.8 } 6.5 National Eye Centre, Kaduna	Comprehensive child eye health programme in Sokoto and Zamfara and an education of SVIC model in Zamfara supported by Sight savers. Children can be referred to Kaduna or Kano for tertiary services	Sightsavers
Katsina -5.8 Jigawa -4.4 10.2m	Kano state; build on previous SiB and V2020 Links support to ECWA Kano which is an established TCEHC and already has clear links with local community child education services developed. In addition, there are retinoblastoma services supported by CBM	CBM HANDS

ECWA Kano	Katsina and Jigawa states are now added in this cluster as there is already a history of working with ECWA, Kano, and to build on the previous good experiences in Kano State.	
Oyo, Osun, Ogun -12.3m UCH, Ibadan	Build on SIBs support for comprehensive eye health but which will now require much support for school screening and primary level / community services. UCH, plus model of network of secondary/satellite facilities of the Catholic hospitals	CBM
Cross River, Akwa Ibom and Rivers -8.8m UCTH, Calabar and UPTH, Port Harcourt	Cross River – TCEHC in Calabar, State wide comprehensive child eye health, primary level by TCF, school health, HR (dispensing optician course) development and low vision services by BHVI and school for the blind by Catholic mission Akwa Ibom state- TCEHC satellite centre at Mercy Eye Hospital, Abak, NIPOSS resident in training from Uyo teaching hospital TCEHC in Port Harcourt is a possible training resource, newly set up link to a rehabilitation centre for ages 3-20 years, the paediatric ophthalmologist is a member of the scientific bureau of the World Society of Paediatric Ophthalmology and Strabismus.	BHVI, TCF
FCT, Plateau and Nassarawa -4.6 m UJTH, Jos	Build on SiB, urban child eye health model, school health link by BHVI, and education support, but still needs help for primary / community level services. Need for strengthened tertiary centre at UJTH and new network of secondary/satellite facilities in FCT and nearby state of Nassarawa	CBM HANDS
UBTH, Benin City	UBTH as training asset for overview of curricula across primary, secondary and tertiary institutes for the different cadres of team members	No major eye health NGO

Report prepared by

- Adjunct Professor Hannah B Faal, (Team leader) University of Calabar Teaching Hospital, Calabar, Nigeria
- Prof Oseluese Dawodu, Paediatric ophthalmologist, University of Benin Teaching Hospital, Benin City, Nigeria
- Dr Ngozi Musa, Paediatric optometrist, Dunamis Eye Centre, Lagos