MINISTRY OF HEALTH

NATIONAL EYE HEALTH STRATEGIC PLAN

ZAMBIA

(YEAR 2012-2015)

Developed and Compiled by

National Prevention of Blindness Committee (NPBC)

Technical Committee

December 2011

THEME FOR THE NEHSP 2012 TO 2015

Enhancing Clean, Caring and Competent Eye Health Service Delivery across the country

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ABBREVIATIONS AND ACRONYMS

ADR	Alternative Dispute Resolution
AIDS	Acquired Immune Deficiency Syndrome
CHAZ	Churches Health Association of Zambia
CME	Continuous Medical Education
CMV	Cytomegalovirus
CMVR	Cytomegalovirus Retinitis
CSR	Cataract Surgical Rate
DCR	Dacryocystorhinostomy
DCCDS	Director Clinical Care and Diagnostic Services
DM	Diabetes Mellitus
DR	Diabetic Retinopathy
FAMS	Financial Administration Management System
GG	Geneva Global
GET 2020	Global Initiative to Eliminate Trachoma
GRZ	Government of the Republic of Zambia
HAART	Highly Activated Antiretroviral Therapy
HIV/AIDS	Human Immune Virus/Acquired Immune Deficiency Syndrome
HMIS	Health Management Information Systems
HSRP	Health Sector Reform Process
HTEP	Harmful Tradition Eye Practices
HZO	Herpes Zoster Ophthalmicus
IAPB	International Agency Prevention of Blindness
IEC	Information Education Communication
IEW	Integrated Eye Worker
IOL	Intra-Ocular Lens
IOP	Intra-Ocular Pressure
ITI	International Trachoma Initiative
IVV	International Vision Volunteers
KCH	Kitwe Central Hospital
LAN	Lions Aid Norway
LAT	Leadership, Accountability and Transparency
LCD	Liquid Crystal Display

LEH	Lusaka Eye Hospital
LV	Low Vision
LVD	Low Vision Device
MDA	Mass Drug Administration
MoH	Ministry of Health
MoU	Memorandum of Understanding
HTEP	Harmful Traditional Eye Practice
NCH	Ndola Central Hospital
NECC	National Eye Care Coordinator
NEHSP	National Eye Health Strategic Plan
NGO	Non-Governmental Organization
NHSP	National Health Strategic Plan
NPBC	National Prevention of Blindness Committee
NTD	Neglected Tropical Disease
NTTF	National Trachoma Task Force
OCO	Ophthalmic Clinical Officer
OCT	Optical Coherence Tomogram
OEU	Operation Eyesight Universal
ON	Ophthalmic Nurse
OPD	Outpatient Department
OSEA	Ophthalmological Society of Eastern Africa
OSSA	Ophthalmological Society of Southern Africa
ROP	Retinopathy of Prematurity
RTSA	Road Transport and Safety Agency
SICS	Small Incision Cataract Surgery
SSI	Sightsavers International
TAP	Trachoma Action Plan
USD	United States Dollar
UTH	University Teaching Hospital
VF	Visual Fields
WCO	World Congress of Ophthalmology
WHO	World Health Organization
ZFDS	Zambia Flying Doctor Service
ZOS	Zambia Ophthalmological Society

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FOREWORD

The provision of eye health services is now more appreciated in Zambia than ever before as can be seen from the number of patients being treated at our various hospitals and health centres. The need to attain the "***V2020-The Right to Sight for all"*** to which Zambia is a signatory has been yet another impetus for the development of this second National Eye Health Strategic Plan 2012 to 2015. Zambia is on course with the Vision 2020 initiative whose main goal is to reduce avoidable blindness by the year 2020.

Zambia, with a population of 13 million people, has over 130,000 blind people in the country. Over 80% of these cases could be avoided if only adequate preventive and curative measures were in place. Among the major causes of blindness, which include cataracts, glaucoma, trachoma, refractive errors and corneal opacities, cataracts account for 50% of all the cases.

Visual loss has a tremendous economic impact on the individual, the family and the nation as a whole, especially for a developing country like Zambia where the social safety net is not fully developed. It is within this context, that this National Eye Health Strategic Plan has been developed so as to serve as a path and a framework to guide in the planning, delivery, management and implementation of clean, caring and competent eye Health services at community, district, provincial and national levels. This document sets out what eye care services the Zambian government wants to deliver to its citizens in the sixth National Development Plan and in line with the National Health Strategic Plan 2011-2015.

For the above reason, it is my hope that all the relevant stakeholders, including implementing agencies and cooperating partners, will refer to this strategic plan for any eye care programmes in which they would like to participate. This way, we can join hands and work together effectively and efficiently to accomplish this strategic plan in order to reduce avoidable blindness which has deprived most of our people the privilege to enjoy good health for a long time.

In the past 10 years, Government, through MoH, has enjoyed cordial relations with the eye care partners and the private sector in the delivery of NEHSP 2006 to 2011, and remains confident that the same shall be the case in the implementation of the NEHSP 2012 to 2015. Therefore on behalf of the Ministry of Health and indeed my own behalf I wish to extend my invitation to the key cooperating partners to come forth so that whilst working together, we can successfully accomplish the implementation of this strategic plan and make a difference in the lives of our people.

Dr. Peter Mwaba

Permanent Secretary

Ministry of Health

Executive Summary

Zambia, with a population of 13, 046, 506, is one of the highly urbanized countries in Africa with 52% of its population living along the line of rail. The influx of people from rural to urban areas has strained the government's ability to provide quality and equitable basic social services, including education, adequate water, sanitation and health care.

In an endeavour to improve the quality of health care services, the Government of Zambia has implemented a policy of bringing clean, caring and competent health services as close to the people as possible. This is achieved through the following:

i) Decentralization of resources and decision making to the provincial and district medical offices
ii) Retaining the Ministry of Health as a policy making body.

From 1991 to date, the health reform policies have been guided by the National Health Strategic Plans (NHSP), whose vision and goal are:

Vision: "To provide Zambians with equity of access to cost effective quality health care as close to the family as possible."

Goal: "A society in which Zambians create environments conducive to health, learn the art of being well, and are provided with basic health care for all."

National Eye Health Strategic Plan 2006 to 2011

Although challenges remain in the eye care delivery system, the first National Eye Health Strategic Plan 2006-2011 accomplished a lot in the strategic delivery of eye care services through the development of human resources, infrastructure and provision of equipment and supplies. Trachoma surveys were performed, and the prevalence of trachoma, which was found to be 21%, was successfully mapped in 7 districts. This strategic plan was successful in setting up the National Eye Care Coordinator's office and in establishing training programs for ophthalmologists, ophthalmic nurses, ophthalmic clinical officers and optometry technicians.

In 2010, ophthalmic equipment was purchased for the University Teaching Hospital, which is the national tertiary health care institution. The existence of an active NPBC has been another positive development. However, there is still need to build its capacities for it to effectively and efficiently function. The funded eye care structure in the civil service has to be established in order to carter for all trained cadres.

National Eye Health Strategic Plan 2012 to 2015

This second National Eye Health Strategic Plan contains specific strategies to address the many eye problems that our people face in this country, which are caused mainly by cataract, glaucoma, trachoma and cornea opacities due to measles, vitamin A deficiency, traditional eye practices, ophthalmia neonatorum and ocular injuries. The focus in the NEHSP is on the following key components:

i) Further infrastructure development in eye care
ii) Further mobilization of equipment, instruments and procurement of consumables
iii) Further development and deployment of human resources for eye health delivery
iv) Strengthening of the Trachoma Country Programme
v) Bringing in sub-specialized services in ophthalmology
vi) Improving the current National Eye Care Human Resources Structure by creation of funded eye care positions in civil service establishment

The Ministry of Health has appointed the NPBC to formulate, coordinate, implement, evaluate and monitor eye care programmes in Zambia.

The estimated budget for the NEHSP 2012 to 2015 is **USD 52, 197, 143.70** for four years. The Ministry of Health is committed to funding 65% of this budget with the cooperating partners funding the rest for efficient and successful implementation of the NEHSP 2012 to 2015.

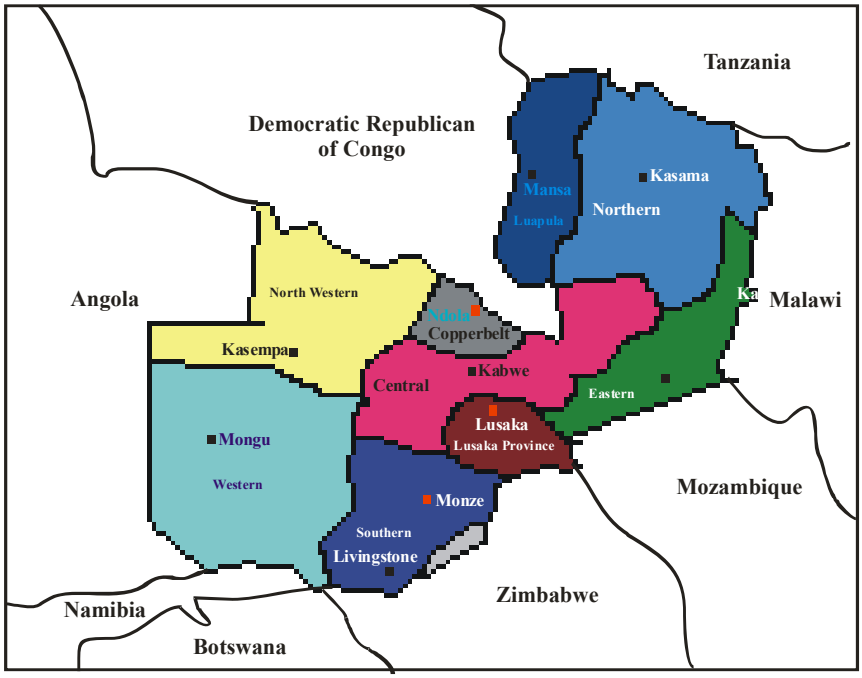
This National Eye Health Strategic Plan 2012 to 2015 will supersede all eye programmes that have been implemented based on the 2006 to 2011 National Eye Health Strategic Plan. Therefore there may be need to review certain programmes and MoUs in order to conform them with the provisions, recommendations and aspirations of this National Eye Health Strategic Plan (2012 to 2015).

1.0.0 INTRODUCTION

Zambia is a landlocked country surrounded by eight (8) neighbouring countries (see map below). It has 10 provinces and a population of 13, 046, 506. It is one of the highly urbanized countries in Africa with 52% of the population living along the line of rail. The influx of people from rural to urban as well as retention of more people in urban towns has strained the government's ability to provide quality and equitable basic social and health services, including adequate water, sanitation and health care.

The problem has further been compounded by a continued shortage of appropriately qualified human resources to provide the required number in the health sector. Currently, there is one (1) physician for every 17,000 inhabitants.[1] The scenario is worse for delivery of eye care services where one (1) ophthalmologist is responsible for 1,000,000 citizens.[2] The under-five mortality rate is about 119 per 1,000 and only 50% of the entire population has access to safe water.[3] It is therefore imperative that appropriate strategies are revised or developed and implemented to improve the prevailing scenario.

Map of Zambia



Official Name: Republic of Zambia, Capital: Lusaka, 1,198, 996 inhabitants (2010 census)

Other cities: Ndola; 455,194 inhabitants, Kitwe; 504,194 inhabitants, Livingstone; 136,897, (2010 census)

2.0.0 OBJECTIVES OF THE NATIONAL EYE HEALTH STRATEGIC PLAN 2012-2015

The objectives of this second National Eye Health Strategic Plan are as follows:

i) To provide a framework for the planning, delivery, and management of quality eye care services at all levels of eye health delivery systems in Zambia

ii) To provide guidance to cooperating partners for areas that require their support

iii) To provide policy direction on eye care provision in Zambia

iv) To provide guidance to the various eye care training institutions on how to structure their programmes in line with the NEHSP

v) To ensure equity distribution of eye health services across the country

vi) To ensure accountability, transparency, honesty, integrity and corruption free in the implementation of eye health programmes

3.0.0 NATIONAL PREVENTION OF BLINDNESS COMMITTEE (NPBC)

The National Prevention of Blindness Committee is a body appointed by the Ministry of Health to provide policy direction and guidelines for the delivery of eye health services in Zambia. Although the NPBC was first established in 1981 as a working group, it is only now that this important committee has been considered for appointment by the Secretary to the Cabinet in order to give it legal impetus. The NPBC is comprised of the Technical and Expanded committees. The Technical Committee, which is made up of technical people who are ophthalmologists, is the core committee for policy direction, whereas the expanded committee that comprises the technical committee and other members such as the cooperating partners and others as may be determined by the Technical Committee, forms an implementing body of eye health services in the country.

The Director of Clinical Care and Diagnostic Services of the Ministry of Health is the chairperson for the NPBC whereas the National Eye Care Coordinator (NECC) provides the Secretariat for the NPBC. The NECC is a full-time officer of the Ministry of Health and is instrumental in the running of the National Eye Care coordination office.

3.1.0 Composition of the NPBC

The NPBC shall comprise of the following members:

- Ministry of Health Director Clinical Care and Diagnostic Services as Chairperson
- Ministry of Health National Eye Care Coordinator as Secretary
- An ophthalmologist from each tertiary institution
- An ophthalmologist from each province
- An ophthalmologist each from 3 private eye health institutions

3.2.0 Terms of Reference of the NPBC:

1. Recommend eye care policy to the Ministry of Health so as to be in line with overall Government priorities and programmes in the National Health Strategic Plan
2. Develop the National Eye Health Strategic Plan (NEHSP) for every five year period to run concurrently with the NHSP
3. Coordinate and supervise all eye care activities being carried out by Governmental and Non-Governmental Organisations in Zambia
4. Advocate and lobby for support for Eye Health programmes, within and outside Zambia
5. In liaison with the Research and Ethics Committee, sanction research work on eye health so as to be in line with government policy on research
6. Supervise and monitor all eye health facilities and optical centres in Zambia to ensure that maximum standards are maintained
7. Approve training curricula and provide technical guidance on training in various eye health training programmes and supervise all eye care training conducted in Zambia
8. Appoint subcommittees in eye care as need may arise
9. Advise MoH on implementation, information management, monitoring and evaluation of the eye health activities
10. Formulate policy for publicity and sensitization of the NPBC and its work
11. Maintain a database on all eye health services in Zambia such as Human Resources, Infrastructure, Equipment, Optometry, Cooperating Partners, Visual Impairment and Blindness
12. Devise the tools for monitoring and evaluation of eye care services
13. Monitor and evaluate the performance of eye care services in both public and private facilities
14. Conduct ophthalmic CMEs through MoH and ZOS
15. Make recommendations to MoH on how NECC can proceed in delivering eye care services
16. To work with Road Traffic and Safety Agency (RTSA) to regulate the issuance of driving licences.
17. Maintain Register for the blind and the visually impaired

3.3.0 Appointment of NPBC by cabinet

The proposed composition of the NPBC technical committee to be appointed by cabinet is as follows:

- Dr. Gardner Syakantu, Director Clinical Care and Diagnostic Services – Chairperson
- Dr. Kangwa Ichengelo Mulenga Muma, National Eye Care Coordinator – Secretary
- Ophthalmologists from tertiary institutions:
    - Dr. Grace Chipalo – Mutati, University Teaching Hospital (UTH)
    - Dr. Asiwome Seneadza, Kitwe Central Hospital (KCH)
    - Dr. Misa Funjika, Ndola Central Hospital (NCH)
- Ophthalmologists from each province:
    - Dr. Consity Mwale, Luapula Province
    - Dr. High Monze, Southern Province
    - Dr. David Kasongole, Western Province
    - Dr. Simon Chisi, Eastern Province
    - Dr. Mary Miyanda, Central Province
    - Dr. Elijah Mutoloki, Northern Province
- Ophthalmologists from the private sector:
    - Dr. D. J. Kwendakwema, Beverly Eye Centre, Ndola
    - Dr. Edith Pola – Smith, Mine Hospitals – Copperbelt
    - Dr. Janie Yoo, Lusaka Eye Hospital

4.0.0 NATIONAL HEALTH POLICY STRATEGIC PLANS

In 1991, government embarked on the Health Sector Reforms Programme (HSRP) whose ultimate aim was to provide equity of access to cost effective and quality health services as close to the family as possible. The major objective was the development of district health systems by providing Basic Health Services to all parts of the country. The process entailed decentralization of administrative and financial powers to the districts and provincial level hospitals and the district health boards in order to ensure active involvement and participation of local communities in the decision – making process.

The reform process involved redefining Ministry of Health (MoH) as the health policy making body responsible for the delivery and implementation of the Health Reforms. The major thrust in the formative stage of the reform was system development at the district level to support the decentralization programme. This led to the establishment of the Health Information Management System (HIMS) and Financial Administration and Management Systems (FAMS) so as to enhance Leadership, Accountability and Transparency (LAT).

It is against this background that MoH and cooperating partners jointly developed the framework for the implementation of the services in the country. As a result, a basket fund was created for pooling of resources by all stakeholders so as to support priority programmes at the district.

In 1999, a Memorandum of Understanding (MoU) was signed by MoH and cooperating partners, which heralded a new beginning in the Health Sector Reform process. The immediate focus was to develop the action plans for MoH as well as production of the National Health Strategic Plan 2001-2005. Since then, the National Health Strategic Plan has been used as a tool to enhance health delivery services in Zambia and all the other national strategic plans developed by specific health programmes draw their aspirations from this fundamental document. The Government has since developed the sixth National Development Plan, into which the National Health Strategic Plan is incorporated. The National Eye Health Strategic Plan 2012-2015 is part of this National Health Strategic Plan.

5.0.0 EYE HEALTH PARTNERS

The ambitious plan of the Ministry of Health through the National Eye Health Strategic Plan cannot be achieved without the support of cooperating partners. In the past 10 years various cooperating partners have come on board to work with the Ministry of Health in the delivery of eye care services. Some of these partners include international NGOs such as Sightsavers International (SSI), CBM, Operation Eyesight Universal (OEU), Geneva Global (GG), Vision Aid Overseas (VAO), Swiss Lions, Lions Aid Norway (LAN), Orbis International, International Vision Volunteers (IVV), International Trachoma Initiative (ITI), as well as local NGOs like Lions Club and Rotary Club.

The realisation of the V2020 goals cannot be achieved without the participation of the private eye care sector, which caters for a significant portion of our population. Other service providers include Mine hospitals, private clinics, and mission hospitals such as Lusaka Eye Hospital, Mwami Adventist Hospital, ST. Francis Mission Hospital and Chikankata Salvation Army Hospital. All these mission hospitals fall under Churches Health Association of Zambia (CHAZ). These have been providing financial and technical support to compliment government effort, and have since contributed to implementation of full-fledged programmes in various parts of the country. GRZ, through MoH has enjoyed cordial relations with the eye care partners and the private sector in the delivery of NEHSP 2006 to 2011, and remains confident that the same shall be the case in the implementation of the NEHSP 2012 to 2015.

All partners are expected to work within the Ministry of Health's National Eye Health Strategic Plan and, where necessary or as determined by the NECC, to sign a Memorandum of Understanding (MoU). Such co-operation will enhance the overall realisation of the National Eye Health Strategic Plan. The partners shall be guided by the NPBC through NECC on how to fit in the eye care system and where to take investment in eye care in order to ensure equity distribution of eye care service across the country and to avoid duplication of investment in some areas.

To achieve these efforts the NPBC has realised the importance of staff motivation through government and partners to support and retain the small number of ophthalmologists present in the country.

5.1.0 Aims

a. To enhance collaboration and partnership between government and various eye care partners
b. To enhance specified support to various programmes

5.2.0 Strategies

a. To provide an enabling environment for the partners to work in or to bring in investment in eye care
b. Ministry of Health to provide guidance and leadership in the operations of partners in eye care in order to ensure equity and quality resource distribution
c. Programmes supported by partners to have clearly outlined objectives
d. Support offered to be specific and visible
e. Clearly spelled out MOUs to be drawn between government (MoH) and partners
f. Encourage collaboration between the various partners with government
g. Partners to work together without conflicts or suspicions among one another
h. To ensure accountability, transparency and integrity among all the eye care partners and government

6.0.0 EYE HEALTH AND EYE CARE SERVICES IN ZAMBA

Currently, eye care services are available mainly at provincial and tertiary centres. The existing eye care outreach programmes are inadequate and confined to selected parts of the country. Until the year 2003, the Zambia Flying Doctor Service (ZFDS) provided regular mobile eye services to Eastern, Luapula, Northern, North-Western and Western Provinces. Other service providers include mission hospitals under CHAZ such as Lusaka Eye Hospital, Mwami Adventist Hospital, ST. Francis Mission Hospital and Chikankata Salvation Army Hospital. Also non-governmental organisations such as Cheshire, Lions Club, Sightsavers International (SSI), Operation Eyesight Universal (OEU) and CBM have been providing financial and technical support to compliment government effort.[2]

MoH remains committed to provision of clean, caring and competent eye care services across the country through providing infrastructure, the procurement of equipment, instruments, medical and surgical consumables and funding training for eye care staff in various sub-specialties of ophthalmology and also by providing an enabling working environment for the various partners. Furthermore, the ministry together with the eye care partners has introduced eye care services at the primary level which are accessible free of charge.

The current situation on eye care services and disease burden in Zambia is as shown below in Table 1. This table also shows the expected situation by the years 2015 and 2020.

Table 1: Current situation and expected situation by years 2011-2020

	Current Situation (2011)	**2015**	**Preferred Situation by 2020**
1.0 Prevalence of blindness	Estimated at 1% (130,000). Childhood blindness estimated at 0.9% per 1000 children (11, 700). Estimated 24,000 children need spectacles for refractive errors	0.8%	Prevalence of blindness will be reduced to 0.5%
2.0 Main causes of blindness	Cataract (50%), *Trachoma (21%), Glaucoma (15%), Corneal opacities (12%) and Others (2%)		
3.0 Human Resource **3.1** Ophthalmologists	Total: 16 (+ 6 ophthalmologists in administration) • Lusaka: 3 in GRZ, 6 in private practice • Kitwe: KCH 2 in GRZ and 1 in private practice • Ndola: 1 in GRZ and 1 in private practice • Mufulira: 1 in GRZ • Central province: 1 in GRZ • Western province: 1 in GRZ • Eastern province: 1 in GRZ supported mission hospital • Northern province: } 1 each in • Luapula province: } 1 each in • Southern Province } 1 each in Administration • Muchinga province: Nil • Northwestern province: Nil	35	50 (to train 3 per year)
3.2 Ophthalmic Clinical Officers (Cataract Surgeon)	Total of 10: 7 in GRZ 3 in private	15	15
3.3 Ophthalmic Clinical Officers	44 (36 GRZ, 5 mines, 3 private)	70	120
3.4 Ophthalmic Registered Nurses	33 (6 UTH, 1 Sesheke, 11 Copperbelt Province, 4 Eastern Province, 2 Southern Province, 2 Northern Province, 2 Central Province 3 mines, 2 LEH, 2 Lusaka District)	40	70
3.5 Optometrists	5 (all in private practise)	10	15
3.6 Optometry Technician	1 (Unemployed)	8	25
3.7 Ophthalmic Enrolled Nurse	4	4	4
3.8 Ophthalmic Instrument Technician	5 (2 Mwami, 1 KCH, 1 UTH, 1 LEH)	15	30
3.9 Optical Technicians	37 (All in private sector)		
4.0 Cataract Surgical Rate	Estimated at 1500 per million populations per year (the recommended minimum for Africa is 2000)	2000	2500
5.0 Optical Workshops in GRZ and Mission Hospitals	10 (Mwami, Mansa, St. Paul's Mission Hospital, St Francis, Mukinge Hospital, Kasempa, LEH, KCH, UTH, Kabwe)	25	50

*This is from the two surveys done in 7 districts.[4,5,6]

7.0.0 NATIONAL STRATEGY ON PREVENTION OF BLINDNESS

7.1.0 The Vision

To provide Zambians with equity of access to cost effective clean, caring and competent eye care services as close to the family as possible and within the global initiative for the reduction of avoidable blindness – **V2020: The Right to Sight for all.**

7.2.0 Aims

a) To provide guidelines for awareness and sensitisation activities at primary health care level in order to reduce preventable blindness
b) To provide therapeutic services against diseases that cause blindness (e.g. Corneal ulcers, Vitamin A Deficiency, Trachoma)
c) To provide surgical eye services for the treatment of avoidable and curable blindness such as Cataract, Trachoma and Glaucoma.
d) To provide appropriate technology, including the production of low cost spectacles
e) To incorporate community based rehabilitation in the provision of comprehensive eye care services

7.3.0 Strategies

a) Increase number of Ophthalmologists trained in order to achieve the WHO recommendation of 1 per 500,000 population by the year 2020
b) Development of Information Education Communication (IEC) materials
c) Provision of school eye health services
d) Train medical officers, clinical officers and nurses to provide eye care services against the common blinding diseases as integrated eye workers
e) Train ophthalmic nurses/ophthalmic clinical officers (18 - 24 months) to achieve a WHO ratio of 1 per 250,000 population by the year 2020
f) Provide spectacles, low vision aids, drugs, surgical equipment, and consumables to ensure that the trained eye workers have resources to provide the services
g) Provide basic eye care services at community level

7.4.0 Priority areas

a) Control causes of avoidable visual loss in children
b) Introduce eye health services at primary health level
c) Provision of school eye health services
d) Reduce blindness caused by cataract, trachoma and glaucoma through provision of surgical services
e) Implement the Trachoma Action Plan (TAP) for Zambia
f) Control of endemic blinding ocular infections e.g. Trachoma (**GET 2020)**
g) To provide retinal services at two tertiary centres; UTH and KCH
h) To enhance provision of paediatric eye services at tertiary level
i) Enhance vitamin A administration

8.0.0 CONTROL OF DISEASES THAT CAUSE AVOIDABLE BLINDNESS

8.1.0 Cataract

Cataract is the opacification of the crystalline lens in the eye. It is the major cause of blindness in Zambia and accounts for at least 50% of blindness. It is estimated that at least 1 person per 1000 population goes blind every year. It is mainly caused by the normal aging process beside other causes which include eye injuries, uveitis and diabetes mellitus. In children, it may present as a congenital abnormality. There are no known ways of preventing cataract due to aging. Treatment involves surgical removal of the natural lens then replacing it with an artificial lens called intraocular lens (IOL) and subsequent correction of the resultant refractive error.

The cataract surgical rate (CSR) is a measure of the availability of cataract services; it is the number of cataract operations per year per million population. In Zambia the CSR is about 1,500 compared to Europe where it is 2,500 or more.

8.1.1 Aims

a) To reach more people and provide a clean, caring and competent eye care services at a cost which is affordable
b) To provide affordable and accessible clean, caring and competent cataract surgical services in order to eliminate the backlog of blinding cataracts and cater for new cases per year
c) To attain a Cataract Surgical Rate of 2,000 operations per year per million population

8.1.2 Strategies

a) Expand and strengthen outreach services
b) Provide accessible and affordable clean, caring and competent cataract surgical services
c) Carry out biometry as a Gold standard on all cataract patients
d) Provide standard equipment, instruments, medical and surgical consumables for cataract surgery services
e) Conduct capacity building training for community based volunteers and health workers to assist with identification of patients and provide follow-up services
f) Conduct awareness campaigns and eye health education through the churches, traditional leaders, drama, print and electronic media

8.2.0 Trachoma

It is an infectious disease involving the eyes and has been categorized as one the neglected tropical diseases (NTD). It is one of the leading causes of preventable blindness worldwide and is caused by *Chlamydia Trachomatis*.

Worldwide, 41 million people have active infection whereas 1.3 million people are reported to be blind. This is an infection which can be prevented through improved community sanitation and personal hygiene. Trachoma is endemic and hyper-endemic in some districts as listed: 24.2% Mufulira, 19.4% Choma, 32.7% Kaoma, 9.7% Mpika, 14.3% Sinazongwe, 28.2% Chienge, and 17% Nchelenge.[4,5,6] The average prevalence of trachoma in Zambia is 21%.[4,5,6] However, there is need to undertake more surveys to complete the district mapping to determine the overall prevalence of the disease in the country. The Trachoma Action Plan (TAP) has been developed and provides details on tackling this problem of trachoma. [4]

8.2.1 Aims

a) To implement the Trachoma Action (TAP)
b) To determine trachoma prevalence rate and its risk factors in the country
c) To prevent avoidable blindness from Trachoma
d) To march with Global Elimination of Trachoma by the year 2020 (GET 2020)
e) To integrate trachoma into the National NTD programme

8.2.2 Strategies

a) Conduct nationwide trachoma mapping
b) Ensure an active Trachoma Task Force is in place at district, provincial and national levels
c) Establish a position for a National Trachoma Programme Officer
d) Develop a National Trachoma Teaching Manual
e) Provide eyelid surgery for all patients with trichiasis in endemic areas
f) To enhance SAFE strategy
    a. Train medical officers, clinical officers and nurses in endemic areas to carry out eyelid **S**urgery (S)
    b. Treat communities with active trachoma infection using **A**ntibiotics; Zithromax through Mass Drug Administration (MDA) or Tetracycline Eye Ointment 1% when Zithromax is not available (A)
    c. Conduct health education campaigns to promote regular daily **F**ace washing (F)
    d. Promote general **E**nvironmental sanitation (E)
g) Improve community water supply through sinking of boreholes
h) Enhance the function of the National Trachoma Task Force (NTTF)

8.3.0 Childhood blindness

The prevalence of childhood blindness is estimated at 0.9 per 1000 children (approximately 11, 700). Childhood blindness occurs in children aged 15 years and below. The main causes being corneal opacities due to infections, injuries, malnutrition, vitamin A deficiency, measles and harmful traditional eye practices (HTEP). Other causes include congenital glaucoma, congenital cataract, tumours, hereditary conditions and retinal disorders[7].

8.3.1 Aims

a) To develop preventive programmes in order to reduce eye diseases and visual loss
b) To provide medical and surgical services to treat children with cataract, glaucoma, corneal opacities, keratoconus and strabismus.
c) To provide optical and low vision devices for children with refractive errors and low vision respectively.

8.3.2 Strategies

a) Promote eye screening programmes for detection and referral of common treatable eye diseases like refractive errors and low vision in all schools
b) Establish fully equipped and functional paediatric units at tertiary centres; one in the Northern region (at KCH) and another one in Southern region (at UTH) of the country.
    i) Train Paediatric Orientated Ophthalmic Teams
c) Train teachers in schools in taking visual acuity and in identification of common eye conditions
d) Provide refraction and low vision services
e) Develop IEC materials on eye health

8.4.0 Glaucoma

Glaucoma is a group of disorders characterised by Optic nerve damage and subsequent visual field loss. It is responsible for 15% of the blind population in Zambia.

8.4.1 Aims

a) To reduce blindness due to glaucoma through early detection
b) To provide treatment and follow-up to patients with Glaucoma
c) To increase awareness among high-risk population of the need for regular check-up

8.4.2 Strategies

a) Encourage Ophthalmologists and other eye care workers to do fundoscopy on all patients aged 40 years and above
b) Provide necessary equipment for early detection of Glaucoma
c) Ophthalmic personnel to have a high index of suspicion in groups at risk
d) To sensitize primary eye health workers on Glaucoma
e) Raise public awareness on glaucoma

8.5.0 Onchocerciasis

Onchocerciasis has not yet been identified in Zambia despite the fact that the disease is common in some neighbouring countries like Malawi, Democratic Republic of Congo and Tanzania. It may be necessary to carry out research to establish the prevalence of the disease and to determine the existence of the disease, especially along the border with above named countries.

8.5.1 Aim

To investigate the presence of Onchocerciasis in the country

8.5.2 Strategy

a) Conduct a survey for Onchocercias in the areas of Zambia bordering with endemic countries

8.6.0 Diabetic retinopathy

According to Vision 2020, at least 171 million people worldwide have diabetes, a figure that is likely to double by the year 2030. After 15 years of having the disease, 10% develop severe visual loss and about two percent become blind. After 20 years of having diabetes mellitus, more than 75 percent of diabetic patients will have some form of diabetic retinopathy (DR).

Diabetic retinopathy is now responsible for 4.8 percent of the 40 million cases of blindness due to eye diseases throughout the world (i.e., 1.8 million persons). It is now emerging as one of the fastest growing causes of visual loss. WHO reports that DR has increased in the sub Saharan Africa and certainly in Zambia. It ranges from 7% to 12%. The treatment for DR is laser photocoagulation, to reduce leakage from the retinal blood vessels. This treatment is more effective at preserving sight if the retinopathy is detected and treated early. In severe proliferative retinopathy (when abnormal blood vessels have formed), some people need an operation called vitrectomy to improve vision.

8.6.1 Aim

a) To establish a comprehensive retina service at the 2 tertiary hospitals, namely UTH and KCH

b) To make the service easily accessible and affordable to all through a good referral system
c) Provide equipment, instruments, medical and surgical consumables

8.6.2 Strategies

a) Train retina team for the two tertiary hospitals
b) Sensitize Health Workers on need to refer diabetic patients on first diagnosis to an Ophthalmic personnel
c) Encourage health workers to advise diabetic patients about risk factors and to have regular eye check ups
d) Promote awareness Programs on Diabetic Retinopathy through the media
e) Establish laser centers at the secondary level institutions
f) Establish Community Based Screening programmes through the use of Fundus Camera and Database through screening protocols

8.7.0 Refractive Errors and Low Vision

Refractive errors and low vision are two eye conditions that are predominantly prevalent among majority population in Zambia. Meanwhile, they are easy to treat. Although treatment for low vision requires specialised attention, refractive errors can easily be managed by way of prescribing spectacles such as reading glasses.
The simple procedure applied in the treatment of refractive errors could save sight for more than one third of the Zambian population.

The plans are meant to ensure that problems arising from the two conditions are not left out in the process of delivering and strengthening eye care services in the country. They set out targets, strategies and activities that must be incorporated into the general health care work-plans and budgeted for at all levels of the existing systems and structures.

8.7.1 Aim

a) To offer easily accessible and affordable refractive services in Zambia
b) To offer refractive services to at least 1, 750, 000 people by the year 2015

8.7.2 Strategies

a) Improve number of eye referral per district
b) Conduct training on eye cases identification for treatment and referral
c) Further develop refractive services in the public sector
d) Improve accessibility to specs in public sector
e) Increase uptake of glasses and refractive services
f) Improvement of services with available equipment
g) School screening reports referral to refractive centres
h) Incorporation of the tool in district and provincial performance tools
i) Improvement of services with available equipment
j) Offer Low vision services at 2 tertiary centres in Zambia
k) The assessment kits and LVDs procured
l) Coordinate LV activities in the country
m) Improve update of low vision services
n) Incorporate LV into district and provincial assessment tool

8.8.0 HIV/AIDS related eye diseases

8.8.1 Cytomegalovirus retinitis

Cytomegalovirus retinitis (CMVR) has been the most common opportunistic ocular infection and the leading cause of visual loss in AIDS patients representing about 90% of all infectious retinitis in this patient population. Despite its well-characterized clinical course and the multitude of high-quality studies on the treatment of this common disease, new forms of CMV infection are being described as immune recovery secondary to combination drug therapy.

The diagnosis of CMVR can be made clinically in the vast majority of patients and is supported by a favorable response to anti-CMV therapy. Following the introduction of HAART into AIDS management, immune recovery has become an increasingly common phenomenon.

8.8.2 Squamous cell carcinoma

Squamous cell carcinoma is an important clinical indicator of AIDS. It is seen mostly when CD4 is ≤ 200 cells / μl. It tends to affect young females more than males in a ratio of 4:1 and if left untreated can result in death. Antimetabolites therapy has been reported to be producing good results if the ocular surface tumours are treated early when they are small in size.[8]

8.8.3 Herpes Zoster Ophthalmicus

Herpes Zoster Ophthalmicus (HZO) is an important early clinical marker for AIDS, especially in high-risk younger patients. These patients have a higher incidence, greater severity, and prolonged course of corneal and uveitic involvement, as well as post herpetic neuralgia compared with immunocompetent patients with HZO. All young patients with HZO should be tested for HIV.

8.8.4 Aims

a) To diagnose and treat HIV/ AIDS associated opportunistic infections
b) To encourage close follow up of patients at risk especially those with CD4 counts below 100 cells/microlitre
c) To make available drugs used in treatment of these infections e.g. Forscanet, Ganciclovir, 5-fluorouracil and mitomycin.
d) To disseminate information on HIV/AIDS associated eye diseases

8.8.5 Strategies

a) Train ophthalmic personnel in the diagnosis and treatment of HIV/ AIDS associated infections
b) Provide adequate equipment to make a diagnosis or retinal and conjuctival lesions as quickly as possible
c) Encourage early diagnosis of HIV to ensure those infected are commenced on HAART appropriately
d) Ensure availability of drugs
e) Provide education and sensitization on HIV/AIDS associated eye infections

9.0.0 OTHER CAUSES OF VISUAL IMPAIRMENT AND BLINDNESS

The other causes of blindness include retinopathy of pre-maturity, ophthalmia neonatorum and trauma.

9.1.0 Aim

a) To provide services for these diseases as part of comprehensive eye health strategy to prevent blindness.

9.2.0 Strategies

a) Identification of the important diseases, which cause blindness in any area
b) Development of a preventive/curative strategy to control these diseases
c) Procurement of appropriate equipment to diagnose the ROP
b) Raise public awareness
c) Train ophthalmologists on management of the conditions

10.0.0 DEVELOPMENT OF HUMAN RESOURCE FOR EYE CARE SERVICE DELIVERY

The human resource shortage has indeed adversely affected the prevention of blindness. Creation of adequate established funded positions for eye care personnel has not been addressed. This plan, therefore, has put in place strategies to ensure that eye care personnel are trained and recognised in the public service salary structure in order for them to be appropriately remunerated if they are to be retained in the public workforce.

Inadequate and mal-distribution of the workforce, brain drain of highly skilled manpower and staff turnover have for a long time characterized the Zambian Health System. Sickness and death due to HIV/AIDS have added to the staff shortages. This has increased workload for the remaining staff resulting into burnout and frustrations.

In order to address issues related to shortage of qualified eye care personnel, deliberate efforts have been made to train Ophthalmologists, Ophthalmic clinical officers (OCOs), Ophthalmic nurses (ONs), Optometry technicians, other health care providers and community health workers. The Chainama College of Health Sciences is training OCOs/ONs and more recently Optometry technicians. Furthermore, the University of Zambia through government support has introduced a Master of Medicine (M. Med) course in Ophthalmology. However, there is much more that ought to be done if Zambia is to meet the ***V2020-The Right to Sight*** goals whose key issues include the following:

- Inadequate and improper placement of eye care personnel at all levels of the eye care delivery system
- Inadequate infrastructure, equipment, medical/surgical consumables and transport
- Streamlining eye care services into primary health care
- Strengthening the eye care referral system from health centres through to tertiary centres
- Strengthening the partnership between government and private eye care service providers.
- Inadequate funds for eye health through integration into the NHSP

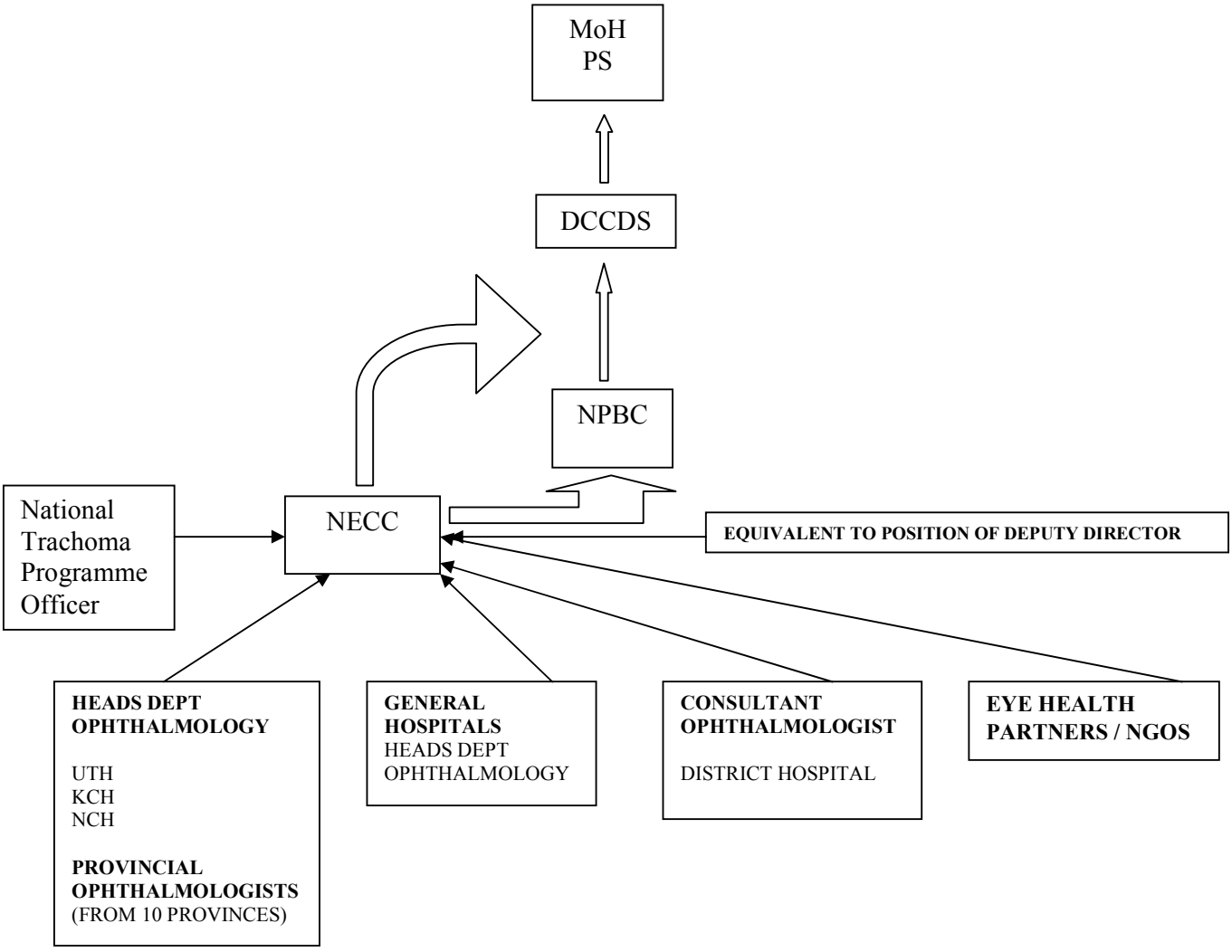
The following cadres have been identified as essential:

- Ophthalmologists
- Ophthalmic Medical Licentiates (Ophthalmic Clinical Officers and Cataract Surgeons)
- Registered Ophthalmic Nurses
- Optometrists
- Optometrist technicians
- Refractionists
- Opticians
- Ophthalmic Instrument Technicians
- Low Vision Therapists

Table 2: Duration of training according to type of eye care personnel

Type of Eye Worker	**Period of Training**	**Cost of Training**	**Location of Training**
Ophthalmologist	48-60 months	40, 000 to 63,000 USD	Kenya, Malawi, Tanzania Zambia, Zimbabwe
Ophthalmic Clinical Officer	12-18 months	12, 550 USD	Malawi/Zambia
Cataract Surgeon	12 months	17,600 USD	Gambia, Kenya, Malawi, Tanzania
Ophthalmic Nurse	12-18 months	12, 500 USD	Gambia, Malawi/ Zambia
Integrated Eye Worker	3-12 Weeks	1,350 USD	Health Facility, Zambia
Community Eye Worker	1 week	950 USD	Community level, Zambia

FIG 1: Proposed National Eye Care Coordination (NECC) Structure



The above diagrammatical representation of the eye care structure shows a technical structure and flow of eye care information. The structure will however follow the procedural structure as provided for by Ministry of Health.

Table 3: Proposed positions and number of officer per position for various institutions

POSITION	UTH	TERTIARY (KCH, NCH)	2ND LEVEL (GENERAL HOSPITAL)	1ST LEVEL (DISTRICT HOSPITAL)
CONSULTANT OPHTHALMOLOGIST	6	4	1	1
SENIOR REGISTRAR	6	4	2	-
OPTOMETRIST	2	1	-	-
ORTHOPTIST	2	2	-	-
CATARACT SURGEON	-	-	1	1
OPHTHALMIC NURSE	17	15	12	3
OPHTHALMIC CLINICAL OFFICERS	-	-	3	2
LOW VISION THERAPIST	1	1	-	-
OPTICIAN	2	2	2	1

10.1.0 SPECIAL SKILLS TRANSFER

Special skills transfer is encouraged and this shall be sought through training of staff at highly specialised centres where officers will be sponsored to attend the training. Another way of tapping such skills will be through the attachment of experts with such required skills to the centres needing the skills in order to transfer the skill to the local people. Such arrangements will have clearly spelled out objectives of the skills transfer and a time line agreed upon by the concerned parties.

10.2.0 Aims

a. To increase eye care human resource capacity through establishing eye structure
b. To have various specialised ophthalmic workers trained and distributed countrywide

10.3.0 Strategies

a. To create a clearly defined eye care structure
b. To have the various ophthalmic positions recognised by cabinet
c. To have funded eye care positions created in the civil service structure
d. To enhance training programmes of the various eye care professionals
e. To build faculty for the various ophthalmic training programmes in the different training institutions

11.0.0 INFRASTRUCTURE DEVELOPMENT

Currently there is a full fledged eye hospital at Kitwe Central Hospital and another one is under construction at Lewanika General Hospital. The construction of the ultramodern eye hospital at the University Teaching Hospital (UTH) in Lusaka has stalled. Ndola central hospital has no eye infrastructure so the eye unit has to fit in the existing infrastructure at the hospital. Most of the secondary level hospitals if not all have to place the eye units within the existing infrastructure as there is no infrastructure dedicated to the eye care service delivery. The same is the situation at the primary level of health care. There is an urgent need to put up quality eye care infrastructure across the hospitals in the country.

Through the NECC, the NPBC shall recommend where to construct, renovate or upgrade the eye hospital or infrastructure. The NPBC shall recommend through MoH to the Ministry of Works and Supply on the construction of all eye infrastructures in the country. A period over which construction should be done shall be clearly specified at the beginning of the construction. Should the construction go beyond the prescribed period the NPBC will advise MoH through the NECC to consider revoking such a contract. The construction of the eye infrastructure shall be done to high standard and quality and as clearly spelled out by the NPBC. The NPBC shall actively participate in the construction of all the eye care facilities through the NECC to ensure that the facilities are done to the specification of the end users.

11.1.0 Aims

a. To increase quality eye care infrastructure capacity across the country
b. To enhance infrastructure specificity

11.2.0 Strategies

a. To provide guidance on types and contents of infrastructure
b. To engage the Ministry of Health Directorate of Planning and Ministry of works and Supply in infrastructure development
c. To closely monitor construction or renovation of the infrastructure
d. To provide time line in which infrastructure development or renovation should be conducted

12.0.0 EYE OUTREACH SERVICES

The NPBC recommends and encourages that eye outreach services continue to be performed by various eye units across the country. Ophthalmologists must lead in this service and must support one another in performing these services. It is encouraged that in an event that the ophthalmologist in one area is not able to conduct an outreach, another ophthalmologist from another region can be invited to participate in the outreach. Cataract surgeons must conduct cataract surgeries under supervision at all times except in special circumstances where the NECC has permitted.

12.1.0 Aims

a. To enhance eye care service delivery to all parts of the country by bring eye health service delivery as close to the community as possible
b. To encourage inter regional interaction

12.2.0 Strategies

a. To conduct outreach to the many parts of the country
b. To lobby for more support from the partners and training institutions for the outreach services
c. To enhance teaching of various eye care workers through outreach
d. To mobilise transport, equipment and instruments for outreach services

13.0.0 CONTINUOUS MEDICAL EDUCATION

The NPBC through MoH and with ZOS and cooperating partners shall organise CMEs for all eye care workers in the country. It shall be mandatory for all eye care workers to participate by way of presenting in the CMEs.

13.1.0 NPBC OPHTHALMIC CALENDAR

In this NEHSP 2012 to 2015, the following ophthalmic annual events shall be observed as part of CME and interaction of the National Eye Care Coordination Structure with the international ophthalmic community.

The following annual ophthalmic calendar has been adopted.

February	World Ophthalmology Congress (WOC)
March	Ophthalmological Society of Southern Africa **(**OSSA)
April	WHO GET 2020
May	International Agency for the Prevention of Blindness (IAPB)
August	Ophthalmological Society of Eastern Africa **(**OSEA)
September	Zambia Ophthalmological Society (ZOS)
October	World Sight Day

THE NPBC MEETINGS (WORKSHOPS OR SEMINARS) WILL BE HELD IN THE WEEK WHERE THE 4TH THURSDAY OF THE QUARTER WILL FALL

13.2.0 EYE HEALTH RESEARCH AND PUBLICATION

As part of continuous medical education eye health research is encourage as much as possible by all eye care workers at the various levels. For research to be done ethical approval will have to be sought from the ethics committee and in case it has to be done in a hospital further permission will be sought from the Ministry of Health Permanent Secretary through the Directorate of Public Health and Research. Ophthalmologists are encouraged to spearhead research in the various regions of the country. All research papers must be published for knowledge dissemination.

13.3.0 Aims

a. To enhance capacity through continuous medical education
b. To increase research and publication of eye health education material

13.4.0 Strategies

a. To organise seminars, workshops and symposiums on various eye topics local at least quarterly
b. To enhance capacity in paper writing and publication
c. To encourage knowledge and skill exchange programmes with other local and international institutions
d. To encourage maximum participation of all ophthalmic personnel in the various regional and international bodies
e. To build capacity of the Zambia ophthalmological Society (ZOS)

14.0.0 EQUIPMENT, INSTRUMENTS, MEDICAL AND SURGICAL CONSUMABLES, DRUGS AND APPROPRIATE TECHNOLOGY FOR EYE CARE SERVICE DELIVERY

The details below are specific for the type of infrastructure and equipment required at various levels of tertiary hospitals and major health centres.

14.1.0 Aim

a. To come up with standard list of equipment, instruments, medical and surgical consumables and the standard drug list for various institutional levels

14.2.0 Strategies

a. To recommend and ensure the exact numbers of equipment, instruments, medical and surgical consumables and the standard drug list for various institutional levels
b. To guide on the list and amounts of essential ophthalmic drugs for the various health institutions at different levels

14.3.0 TYPE OF EQUIPMENT AND INSTRUMENTS

a) <u>First level (District Hospital) Equipment and Instruments:</u>

1.	Visual acuity charts (Distance and Near charts)	5
2.	Trial set and trial frame	2
3.	Torch with batteries	2
4.	Direct Ophthalmoscope	2
5.	Magnifying operating loupes	2
6.	Schiotz Tonometer	2
7.	Slit lamp with applanation tonometer	1
8.	90D lens	1
9.	Ishihara colour vision test plates	2
10.	SICS (Cataract) surgery sets	8
11.	Eyelid Surgery sets	3

b) Secondary Level (General hospitals) Equipment and Instruments:

I. Outpatient Department (OPD)

1.	Slit lamp and applanation tonometer	4
2.	Refraction set with trial frames (2 paediatric and 2 adult)	4
3.	Icare - Rebounce Tonometer	4
4.	Visual Acuity Charts (Projector – Drum)	2
5.	Near Vision Chart	8
6.	Sheridan Gardner Children reading charts	4
7.	Torch with extra batteries	8
8.	Direct Ophthalmoscope (2 rechargeable, 2 battery)	4
9.	Binocular Indirect Ophthalmoscope with teaching mirror	3
10.	Retinoscopy (2 rechargeable, 2 battery)	5
11.	Examination lens:	
	a. 90D	2
	b. 78D	2
	c. 20D	2
	d. Gonio lens	2
	e. 3 mirror lens	2
9.	Magnifying operating loupes	2
10.	Ishihara colour vision test plates	2
11.	Prism Bar (single x 2and 2racks 1horizontal, 1vertical)	3
12.	Yag Laser	1
13.	Green Laser	1
14.	Ultra Sound Scan A & B	1
15.	Fundus Camera	1
16.	Autorefractometer with Keratometor	1
17.	Manual keratometer	1
18.	Manual Lensometer	1
19.	Visual Field Analyser (Humphrey)	1
21.	Stereopsis Test	1
22.	Amsler grid charts	2

II. Theatre Equipment and Instruments

1.	Operating Microscope (1 stationary, 2 portable)	3
2.	Anterior Vitrector	1
3.	Bipolar cautery	2
4.	Ophthalmic Operating tables	2
5.	SICS (Cataract) sets (minimum 10 sets)	15
6.	Squint sets	4
7.	Evisceration and enucleation sets plus periostium elevator	4
8.	Eyelid surgery sets	4
9.	DCR sets	2
10.	Surgical stools	4
11.	Instrument trolleys	4
12.	Mayo stands	2
13.	Drip stands	4
14.	Operating light	4
15.	Autoclave portable	1
16.	Ultrasound cleaner for instruments	2
17.	Surge protectors for equipment	10
18.	Theatre cabinets	5
19.	Orbital implants	several

III. Optical Shop

1.	Manual Edging Machine	1
2.	Automatic Edging Machine	1
3.	Centering Device	1
4.	Display Shelves	15
5.	Lensometer	2
6.	Half frame machine	2
7.	Small instruments set	5
8.	Pupillometer	12

c. Tertiary Level Hospital

I. General Outpatient Department (OPD)

1.	Slit lamp and applanation tonometer	6
2.	Digital slit lamp	1
3.	Refraction sets with trial frames	6
4.	Prism Bars (single and rack horizontal / vertical)	4
5.	Visual Acuity Charts (Projector/Drum)	6
6.	Near Vision charts	10
7.	Ishihara colour vision test plates	6
8.	Torches with extra batteries	6
9.	Direct Ophthalmoscope	6
10.	Binocular indirect ophthalmoscope	6
11.	Examination Lenses	
	a. 90D	6
	b. 78D	6
	c. 60D	6
	d. 20D	6
	e. 2.2D	6
	f. Gonio lens	6
	g. 3 mirror lens	6
12.	Ultra Sound Scan A & B Scan	1
13.	Autorefractometer with Keratometor	1
14.	Manual keratometer	2
15.	Retinoscope	6
16.	Fundus Camera with Fluoresceine Angiogram (FA)	1
17.	Fundus camera	1
18.	Slit lamp camera	1
19.	Yag Laser	1
20.	Green/Diode Laser	2
21.	Optical Coherence Tomogram	1
22.	Humphrey's Visual Field Analyser	1
23.	Stereopsis Test	6

24.	Amsler grid charts	6
25.	Maddox wing	1
26.	Maddox Rod	1

II. Paediatric OPD

1.	Lea Chart, Sheridan G Chart	4
2.	Preferential Looking Chart	2
3.	Hand held Slit lamp	1
4.	Hand held Tonometer	1
5.	Hand held Refractometer	1
6.	Prisms Rods or Single	3
7.	Toys	several
8.	The R.A.F. near point rule	1
9.	Catford Drum	1
10.	Major Amblyscope	1
11.	Hess Screen	1
12.	Placido Disc	1
13.	Examination lenses	
a.	28D	2
b.	30D	2
14.	Trial frames	5

III. Low Vision

1.	Assessment kits for low vision	15
2.	Low vision house	1
3.	Black board	1
4.	Low vision aids	several
5.	Monitor	1

IV. Theatre Equipment and instruments

1.	XY Operating Microscope with teaching pieces	4
a.	Camera	4
b.	LCD monitor	4

2.	Portable Operating Microscope	2
3.	Vitrectomy (Posterior/Anterior Vitrectomy, Phaco, Diathermy)	2
4.	Cryo unit	2
5.	SICS (Cataract) sets	30
6.	Squint sets	4
7.	Evisceration and Enucleation sets plus periostium elevator	4
8.	Minor surgery sets	6
9.	DCR sets	5
10.	Orbital implants	several
11.	Artificial eyes	several
12.	Operating light	4
13.	Ophthalmic Operating table	4
14.	Drip stands	6
15.	Autoclave portable	4
16.	Diathermy	1
17.	Ultrasonic cleaner	8
18.	Medical/surgical consumables	several

V. Theatre Furniture

1.	Instrument cabinet	4
2.	Surgical stools	10
3.	Step Ladders	4
4.	Instrument Trolleys	16
5.	Mayo Stands	4

14.3.0 LIST AND AMOUNTS OF ESSENTIAL EYE DRUGS

a) First Level Hospital

I. Antibiotics eye drops and ointments

1.	Tetracycline 1 % ointment	326/year
2.	Chloramphenicol drops 0.5%	341/year
3.	Chloramphenicol ointment	321/year
4.	Ciprofloxacin drops	223/year
5.	Gentamycin	257/year

II. Steroid and antibiotic combinations;

1.	Betamethasone + Neomycin	233/year

III. Anti allergy drops and ointment

1.	Sodium Chromoglycate	546/year
2.	Naphazolidine	435/year

IV. Mydriatics

1.	Cyclopentolate 1%	59/year

V. Miscellaneous

1.	Eye shields	several
2.	Acetazolamide 250mg tabs.	3, 100/year
3.	Amethocaine eye drops	134/year
4.	Flurorescein strips	100 x 23 boxes/year
5.	Acyclovir eye ointment	234/year
6.	Povidone iodine 5 -10%	500mls x 91/year

b. <u>Secondary and Tertiary level Hospitals</u>

I. Antibiotics eye drops and ointments

1.	Tetracycline 1 % ointment	456/year
2.	Chloramphenical drops 0.5%	1, 878/year
3.	Chloramphenical ointment	836/year
4.	Ciprofloxacin drops	1, 478/year
5.	Gentamycin drops	1, 532/year

II. Steroids eye drops and ointments

1.	Dexamethasone drops	2, 955/year
2.	Betamethasone drops	2, 498/year
3.	Prednisolone	2, 435/year
4.	Hydrocortisone ointment	1, 467/year
5.	Flouromethalone eye drops	1, 234/year

III. Steroid and antibiotic combinations

1.	Betamethasone + Neomycin	1, 467/year
2.	Dexamethasone + Gentamycin	4, 502/year
3.	Terra-cotril	1, 321/year
4.	Maxitrol	1, 345/year

IV. Anti allergy drops and ointment

1.	Sodium Chromoglycate eye drops	2, 344/year
2.	Naphazolidine eye drops	2, 233/year
3.	Alomide eye drops	2, 122/year

V. Mydriatics

1.	Cyclopentolate 1%	121/year
2.	Phenylephrine + Tropicamide	301/year
3.	Atropine 1%	53/year
4.	Tropicamide	35/year

VI. Miotics

1.	Miochol intracameral	135/year
2.	Pilocarpine eye drops	223/year

VII. Beta- blockers

1.	Timolol 0.5%	3, 903/year
2.	Betaxolol	2, 132/year

VIII. Alpha agonist

1.	Apraclonidine	23/year
2.	Brimonidine	25/year

IX. Prostaglandin analogues

1.	Latanoprost (Xalatan)	63/year
2.	Travoprost (Travatan)	34/year

X. Carbonic anihydrase inhibitors

1. Topical

a.	Brizolamide	57/year
b.	Dozolamide	47/year
2.	**Oral**	
c.	Acetazolamide (250mg Diamox)	2000/year
3.	**Combination drops**	
d.	Combigan	23/year
e.	Trusopt	24/year

XI. Hyperosmotic agents

1. Mannitol	230/year

XII. Anti Virals

1.	Acyclovir eye ointment	451/year
2.	Ganciclovir	234/year

XIII. Anti Fungals

1.	Econazole	35/year
2.	Natamycin	37/year

XIV. Ocular Surface lubricants

1.	Siccapose gel	1, 123/year
2.	Dura tears	1, 125/year
3.	Artificial tears	3, 534/year
4.	5-fluorouracil	2, 271/year
5.	Mitomycin C	1, 211/year

XV. Anaesthetic Eye Drops

1.	Amethiocane	523/year
2.	Tetracaine	479/year
3.	Lignocaine	400/year

XVI. Stains

1.	Fluorescein strips	100 x 300 boxes/year
2.	Rose Bengal	10 x 3 boxes/year

XVII. Other drugs

1.	Fluorescein dye	233 x 5mls/year

The drugs shown above are an estimate of what is required per year per institution and will be procured on yearly basis as requested by the institutions.

14.4.0 MEDICAL AND SURGICAL CONSUMABLES

I. <u>Primary level</u>

1.	Cataract kits	100/year
2.	Viscoelatsic	342/year
3.	Sutures	
	i. 10.0 nylon	50/year
	ii. 9.0 nylon	50/year
	iii. 5.0 prolene	50/year

II. <u>Secondary level</u>

1.	Cataract kits	200/year
2.	Viscoelatsic	1, 442/year
3.	Sutures	
	i. 10.0 nylon	250/year
	ii. 9.0 nylon	180/year
	iii. 5.0 prolene	100/year

III. <u>Tertiary level Hospital</u>

1.	Cataract kits	300/year
2.	Viscoelatsic	1, 542/year
3.	Sutures	
	i. 10.0 nylon	350/year
	ii. 9.0 nylon	250/year
	iii. 5.0 prolene	150/year
4.	PHACO kits with cassettes	255/year
5.	Anterior vitrectomy kits	100/year
6.	Posterior vitrectomy kits	245/year

15.0.0 INFORMATION, COMMUNICATION AND EDUCATION MATERIAL DEVELOPMENT

The national Eye Care Coordinator's (NECC) office should coordinate the issues patterning to information, communication and education in eye care and ensure that there is free flow of information to the centre from the periphery and partners as much as possible at all times. Information, education and communication (IEC) materials on eye diseases is quite limited. These ought to be developed and made available in order to raise awareness on eye conditions and related issues. Information should be an integral part of the HMIS as information is important to manage and improve the programme of eye care in Zambia.

15.1.0 Aims

a. To ensure the integration of ophthalmic information into the HMIS
b. To ensure free flow of ophthalmic information amongst all stakeholders

15.2.0 Strategies

a. Review and reproduce existing IEC materials
b. Develop appropriate IEC materials on major blinding eye conditions collaboration with the Health Education Unit of MoH
c. Develop and broadcast eye care programmes through the print media, radio and television
d. Participate in National Eye Care Week and commemorate the World Sight Day

16.0.0 ACTIVITY SUMMARY (GANT CHART)

ACTIVITY/ CENTRE		YEAR 1	YEAR 2	YEAR 3	YEAR 4
UTH					
	INFRASTRUCTURE				
	TRAINING				
	EQUIPMENT/INSTRUMENTS				
	CONSUMABLES				
KCH					
	INFRASTRUCTURE				
	TRAINING				
	EQUIPMENT/INSTRUMENTS				
	CONSUMABLES				
NCH					
	INFRASTRUCTURE				
	TRAINING				
	EQUIPMENT/INSTRUMENTS				
	CONSUMABLES				
LEWANIKA G. H					
	INFRASTRUCTURE				
	TRAINING				
	EQUIPMENT/INSTRUMENTS				
	CONSUMMABLES				
LIVINGSTONE G. H					
	INFRASTRUCTURE				
	TRAINING				
	EQUIPMENT/INSTRUMENTS				
	CONSUMABLES				
MANSA G. H					
	INFRASTRUCTURE				
	TRAINING				
	EQUIPMENT/INSTRUMENTS				
	CONSUMABLES				
KASAMA G. H					
	INFRASTRUCTURE				
	TRAINING				
	EQUIPMENT/INSTRUMENTS				
	CONSUMABLES				
CHIPATA G. H					
	INFRASTRUCTURE				
	TRAINING				
	EQUIPMENT/INSTRUMENTS				
	CONSUMABLES				
CHINSALI G. H					
	INFRASTRUCTURE				
	TRAINING				
	EQUIPMENT/INSTRUMENTS				
	CONSUMABLES				
KABWE G. H					
	INFRASTRUCTURE				
	TRAINING				
	EQUIPMENT/INSTRUMENTS				
	CONSUMABLES				
SOLWEZI G. H					
	INFRASTRUCTURE				
	TRAINING				
	EQUIPMENT/INSTRUMENTS				

	CONSUMABLES				
DISTRICT HOSPITALS					
	INFRASTRUCTURE				
	TRAINING				
	EQUIPMENT/INSTRUMENTS				
	CONSUMABLES				

17.0.0 BUDGET

The estimated total cost for the five – year programme implementation is ***fifty two million one hundred ninety seven thousand one hundred and forty three United States Dollars and seventy cents*** **(USD 52, 197, 143.70).** At the present value K5123.00 per 1.00 USD, this will translate ***to two hundred and sixty seven billion four hundred and five million nine hundred and sixty seven thousand one hundred and seventy five Kwacha and ten ngwee (K 267, 405, 967, 175. 10.).*** The expected sources of funding are the Government of the Republic of Zambia (GRZ) through the Ministry of Health, 65%, and the rest from the cooperating partners.

The funds are expected to meet costs towards the following activities:

1. Infrastructure development
2. Human resource development
3. Procurement of appropriate drugs, medical and surgical consumables (supplies)
4. Technological advances
5. Research
6. Administration
7. Transport
8. Staff package

17.1.0 Aims

a. To ensure there is adequate resource mobilisation for the all ophthalmic care system
b. To ensure the resources are spent on the intended activities and trickle down to the intended programmes and communities

17.2.0 Strategies

a. To ensure there is accountability for all the resources pumped into eye care
b. To enhance financial record keeping for efficient and effective monitoring of the financial flow of the various programmes
c. To conduct audits on the resources

A summary budget is provided below:

ITEM	YEAR 1, 2012	YEAR 2, 2013	YEAR 3, 2014	YEAR 4, 2015	TOTAL (USD)
Training	5,153,450.00	5,153,450	4,153,450	3,153,450	**17,613,800.00**
Infrastructure	5,334,234.00	3,350,000	2,250,000	1,300,000	**12,234,234.00**
Equipment	2,345,240.00	2,345,240.00	1,300,000	785,000	**6,775,480.00**
Supplies/Consumables	325,000	275,000	455,000	505,000	**1,560,000.00**
Outreach Services	500,000	300,000	300,000	300,000	**1,400,000.00**
Drugs	300,000	150,000	150,000	300,000	**900,000.00**
Research	100,000	100,000.00	100,000.00	100,000	**400,000.00**
Special Programmes	200,000	200,000	200,000	200,000	**800,000.00**
Staff Package	926,328.00	926,328	926,328	926,328	**4,631,640.00**
Sub Total	15,184,244.00	12,800,018.00	9,834,778.00	7,569,778.00	**45,388,818.00**
15% Contingency	2,277,636.60	1,920,002.70	1,475,216.70	1,135,466.70	6808322.70
GRAND TOTAL	**17,461,881.60**	**14,720,021.70**	**11,309,995.70**	**8,705,244.70**	**52,197,143.70**

At the present value K5123.00 per 1.00 USD, this (**USD 52,197,143.70**) will translate ***to two hundred and sixty seven billion four hundred and five million nine hundred and sixty seven thousand one hundred and seventy five Kwacha and ten ngwee (K267, 405, 967, 175. 10.).***

18.0.0 MONITORING AND EVALUATION

The NPBC has developed tools for monitoring and evaluation of the quality and quantity of eye care services being offered in the country. (refer to appendix 1). The information obtained shall be submitted to the MoH management through the Director of Clinical Care and Diagnostic Services by the NECC. This information shall be integrated in the HMIS.

18.1.0 Aims

a. To determine the exact numbers of equipment, instruments, medical and surgical consumables in the various eye health institutions at various levels
b. To establish the quantifiable essential ophthalmic drug list for various institutional levels
c. To conduct comprehensive annual audits of eye care service deliveries

18.2.0 Strategies

a. To provide guidance on exact numbers and types of equipment, instruments, medical and surgical consumables needed per eye health institution
b. To ensure there is enough essential ophthalmic drugs for the various institutional levels
c. To ensure there is adequate quality infrastructure for the eye care service delivery
d. To ensure training programmes are conforming to standards by having internationally acceptable curricula and establishing adequate faculty
e. To ensure there is adequate transport for all eye care programmes
f. To ensure there is integration into the HMIS
g. Monitor surgical outcomes using standard means
h. To determine the major causes of visual impairment and blindness in the country
i. To ensure there is adequate human resources to offer clean, caring and competent eye care services

19.0.0 NPBC RECOMMENDATIONS FOR THE PROGRESS

1. Free flow of information among the all the players in eye care in the country.
2. NPBC meetings to be held quarterly
3. NECC to visit all eye care centres in the country once per year or as need may arise and to carry out an audit and / or inventory of equipment and Human Resources in eye care
4. NECC to set up a fully functional office with an assistant
5. National Trachoma Programme Officer to be employed as quickly as possible
6. NECC position to be given its rightful place in the GRZ civil structure
7. Workshop to be held with cooperating partners in order to update them of the NEHSP 2012 to 2015
8. CMEs to be encouraged as much as possible
9. Help establishment of faculty for various eye health training programmes
10. Develop other eye programmes as need may arise as the NEHSP 2012 to 2015 is running
11. Action to be taken on inventory budgetary allocations
12. Midterm progress review in October 2013

20.0.0 REFERENCES

1. National Health Strategic Plan 2011 to 2015
2. National Eye Health Strategic Plan 2006 to 2011
3. Ministry of Health progress report 2007
4. Ministry of Health, Trachoma Action Plan for Zambia, 2011
5. Ministry of Health, Trachoma Report For Chienge And Nchelenge Districts In Luapula Province, 2011
6. Ministry of Health, Trachoma survey report in 5 districts in Zambia, 2010
7. Mutati G. C., 2007, Survey of Childhood Blindness in 3 Schools for the blind in Zambia, Community Eye Health Journal, 20(61): 7.
8. Liche F, Mutati G. C., Ilako D. R., 2009, Magnitude and Pattern of Squamous Cell Carcinoma in Zambia.

21.0.0 ANNEXES

21.1.0 APPENDIX 1

TOOLS FOR MONITORING AND EVALUATION

INFORMATION ON EYE CARE UNITS AND SERVICES IN ZAMBIA - № OF SURGERIES

Name of Eye Unit	District	Province	№ of days allocated for Surgery in a week (specify)	Total № OPD patients seen Annually	Total № of Cataracts Surgeries	Total Cataracts with IOL	№ of Glaucoma Surgeries	№ of Trichiasis Surgeries	№ of Paediatric Surgeries (Specify)	№ of Surgeries due to trauma	Other Surgeries Specify

DATE FORM FILLED IN: .....

INFORMATION ON EYE CARE UNITS AND SERVICES IN ZAMBIA - № OF PERSONNEL

Name of Centre or Hospital	District	Province	Ophthalmologists	Orthoptist	Optometrists	OCO	ON	Optician	Cataract Surgeon	Low Vision Therapist	Specialized Theatre and OPD Nurses

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INFORMATION ON EYE CARE UNITS AND SERVICES IN ZAMBIA - № OF EQUIPMENT

Name of Centre or Hospital	District	Province	Schiotz Tonometer	Direct Ophthalmoscope	Indirect Ophthalmoscope	Slit lamp with Tonometer	Operating microscope	Visual Field	Yag Laser	Green Laser	OCT

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INFORMATION ON EYE CARE UNITS AND SERVICES IN ZAMBIA - CONSUMABLES

Name of Centre	District	Province	Cataract Kits	PHACO Kits	Vitrectomy Kits	Visco – elastic	Antibiotic Eye Drops	Steroid Eye Drops	Glaucoma Eye Drops	Anaesthetic Eye Drops + Injectables	Dilating Eye Drops	Others (Specify)

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INFORMATION ON EYE CARE UNITS AND SERVICES IN ZAMBIA - INFRASTRUCTURE

Name of Centre	District	Province	Eye Unit	Offices	OPD Adult	OPD Paeds	Female Wards + № Bed Space	Male Wards + № Bed Space	Paeds Wards + № Bed Space	Laser Room	Visual Field Room	OCT Room	Optical Workshop and Dispensary	Theatre(s)

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INFORMATION ON EYE CARE UNITS AND SERVICES IN ZAMBIA – SURGICAL INSTRUMENT SETS

Name of Centre	District	Province	Cataract Surgery Set	Lid Surgery Set	DCR Set	PHACO Surgery Sets	Squint Surgery Set	Glaucoma Surgery Set	Probing and Syringing Set	Orbitotomy Set	Plastic Surgery Sets	Vitrectomy Surgery Sets

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INFORMATION ON EYE CARE UNITS AND SERVICES IN ZAMBIA - TRANSPORT

Name of Centre or Hospital	District	Province	№ of Vehicles Available	Type of Vehicles Available	№ of Runner Vehicles	№ of Non - Runner Vehicles	If non-runner, are they repairable	№ of vehicles required	What type of vehicles required

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ANNUAL INFORMATION CAPTURE SHEET ON EYE DISEASES AT PRIMARY, SECONDARY AND TERIARY LEVELS

NAME OF CENTRE: **DISTRICT:** **PROVINCE:**

EYE CONDITION	FIRST QUARTER				SECOND QUARTER				THIRD QUARTER				FOURTH QUARTER				ANNUAL TOTALS			
	ADULTS		CHILDREN		ADULTS		CHILDREN		ADULTS		CHILDREN		ADULTS		CHILDREN		ADULTS		CHILDREN	
REFRACTIVE ERROR																				
№ of people screened																				
№ of people prescribed spectacles																				
№ of people dispensed spectacles																				
CATARACTS																				
№ of people screened																				
№ of people operated																				
№ of IOLs used																				
GLAUCOMA																				
№ of people screened																				
№ of people operated																				
TRACHOMA																				
№ of people screened																				
№ of people operated																				
№ of people dispensed Zithromax																				
Estimated № communities endemic trachoma																				
№ communities implementing SAFE strategy																				

RETINAL DISEASES																				
№ of people screened																				
№ of people operated																				
№ of people treated with Laser																				
IRREVERSIBLE VISUAL IMPAIRMENT																				
№ of people screened																				
№ of people clinically diagnosed irreversibly blind or VI																				
№ of people received clinical LV assessment																				
№ of clients entering education																				
№ of blind people registered with the Zambia Federation for the blind (ZFB)																				
OTHER EYE DISEASES																				
№ of people screened																				
№ of people treated																				
№ of people not treated																				

DATE FORM FILLED IN: .....

21.2.0 APPENDIX 2

RESOLVING OF DISPUTES

In case of any disputes arising among the players in eye care, resolution shall be by the principles of arbitration as they apply to common law and shall be spearheaded by the Ministry of Health. The NECC shall report the matter of dispute to the NPBC which then shall arbitrate on the issue by itself or by appointing arbitrators, as agreed upon by the parties concerned, to settle the matter by Alternative Dispute Resolution (ADR). Should the matter fail to be resolved by the NPBC through arbitration, mediation or conciliation then the DCCDS shall be notified of the said dispute for further dispute resolution. The DCCDS will decide whether to arbitrate or present the matter forward to senior management or to the Permanent Secretary or to carry out a resolution by arbitration, mediation or conciliation. Arbitration shall be done in accordance with arbitration act 19 of 2000 of the laws of Zambia.

21.3.0 Appendix 3

NATIONAL TRACHOMA TASK FORCE

The National Trachoma Task Force (NTTF) shall oversee the implementation of the Trachoma Action Plan. This is a subcommittee of the NPBC

The NTTFhas the following members:

o NECC	Chaiperson
o Trachoma program officer (to be employed)	Secretary
o Dr. D. J. Kwendakwema	Lead Researcher
o Dr. A. Seneadza	Member
o Lions aid Norway representative	Member
o SSI representative	Member
o OEU representative	Member
o Representative from the Directorate of Public Health and Research (MoH)	Member
o Prof. S. Siziya	Medical Biostatistician

The NTTF shall report to the DCCDS.

TAP DOCUMENT

THE NATIONAL TRACHOMA ACTION PLAN (TAP) DOCUMENT HAS BEEN DEVELOPED AS A SEPARATE DOCUMENT IN ORDER TO PROVIDE ADEQUATE GUIDANCE IN THE NATIONAL TRACHOMA ELIMINATION STRATEGY. THE TAP DOCUMENT IS AN APPENDIX TO THE NEHSP 2012 - 2015.

REPUBLIC OF ZAMBIA
MINISTRY OF HEALTH
02 FEB 2012
OFFICE OF THE MINISTER
P.O. BOX 30205, LUSAKA

INTERNAL MEMO

OFFICE OF THE PERMANENT SECRETARY

TO: THE HON. MINISTER

FROM: THE PERMANENT SECRETARY

DATE: 31 JANUARY 2012

SUBJECT: **NATIONAL EYE HEALTH STRATEGIC PLAN (NEHSP) 2012 -2015**

Reference is made to the above mentioned subject.

Please find attached herewith copy of National Eye Health Strategic Plan.

Submitted for your consideration and approval.

DR. PETER MWABA

Excellent document.
Approved.
J.-J.S.
1/2/12