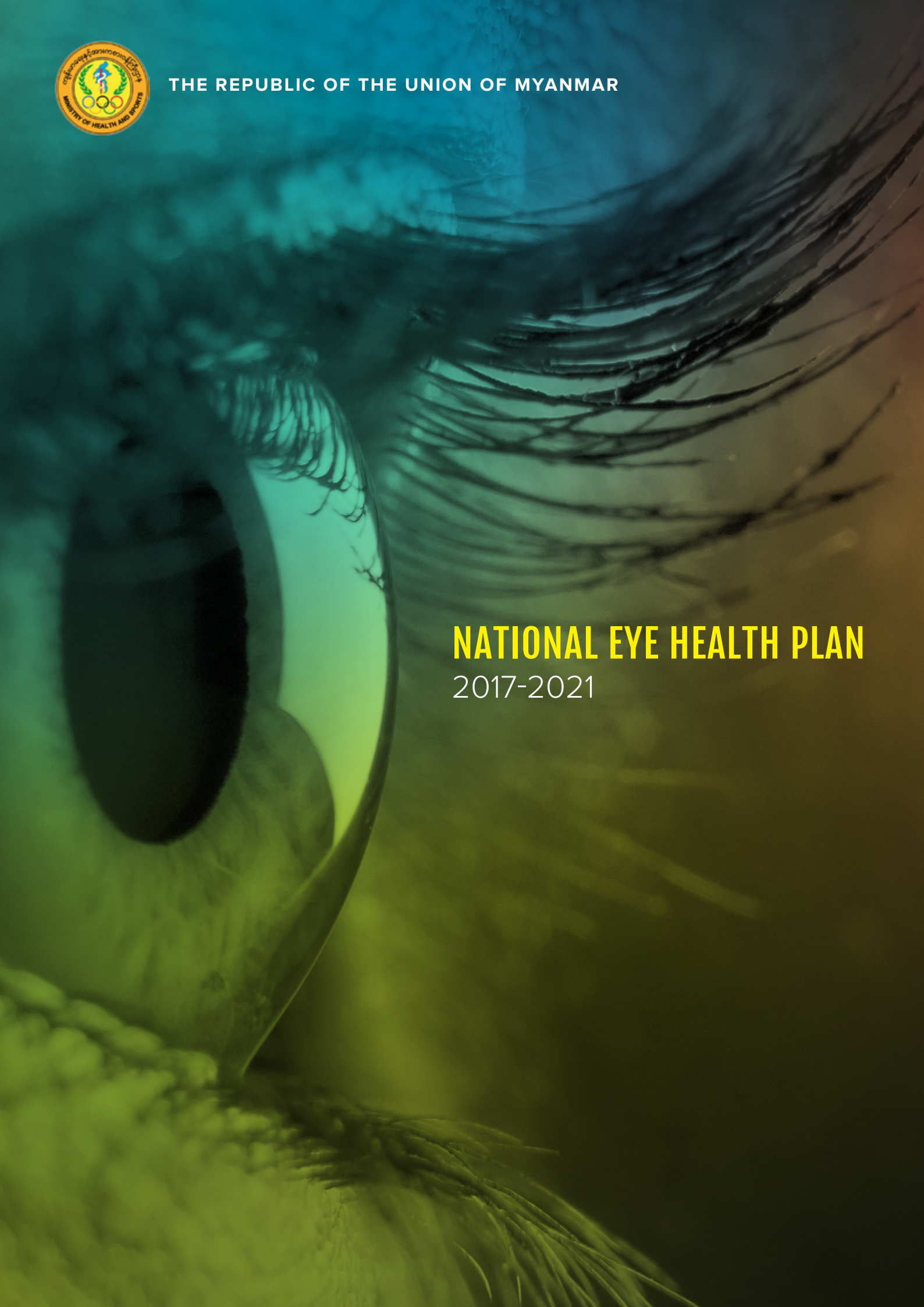

THE REPUBLIC OF THE UNION OF MYANMAR

NATIONAL EYE HEALTH PLAN

2017-2021

THE REPUBLIC OF
THE UNION OF
MYANMAR

NATIONAL EYE HEALTH PLAN
2017-2021

PHOTO: ANDY NILSEN / THE FRED HOLLOWS FOUNDATION

To reduce avoidable visual impairment as a public health problem in Myanmar and to secure access to rehabilitation for the visually impaired.

– THE GOAL OF MYANMAR'S NATIONAL EYE HEALTH PLAN

To improve access to comprehensive and quality eye care services in Myanmar by strengthening the eye care system in order to reduce avoidable blindness by 25% by year 2020.

– THE PURPOSE OF MYANMAR'S NATIONAL EYE HEALTH PLAN

PHOTO: MICHAEL AMENDOLIA/THE FRED HOLLOWS FOUNDATION

FOREWORD

Worldwide there are an estimated 285 million people who are visually impaired, with 90% of these people living in low-income countries. The loss of sight causes significant human suffering, impacting affected individuals and their families' everyday lives and reducing the possibility of a productive future. Yet, according to the World Health Organisation, 80% of all visual impairment is avoidable and can be prevented or cured.

Visual impairment and blindness is a serious public health problem in the Republic of the Union of Myanmar. While our country has made great progress in eye health since 1964, particularly through the work of the Trachoma Control and Prevention of Blindness Program in trachoma elimination, we still face numerous challenges. Now the most common cause of blindness in Myanmar is cataract, accounting for 60% of all blindness.

The National Eye Health Plan 2017 – 2021 (NEHP) is an important strategic document that will guide the Ministry of Health and Sports and other stakeholders in their efforts to reduce avoidable blindness in Myanmar. The NEHP has been developed in line with the most important global strategy in the elimination of avoidable blindness, the World Health Organisation's plan, Towards Universal Eye Health: A Global Action Plan 2014-2019. Furthermore, the NEHP will be integrated into the Myanmar Ministry of Health and Sports' National Health Plan.

The NEHP was developed with a range of key stakeholders involved in efforts to eliminate avoidable blindness in Myanmar and technically supported by the Ministry of Health and Sports, the World Health Organisation and The Fred Hollows Foundation. The development of the Plan was a collaborative process and workshops were held at key milestones to incorporate feedback systematically and to ensure the final product was appropriate to the Myanmar context, circumstances and needs.

I am confident that this NEHP will provide a critical reference to guide the planning, implementation, management and evaluation of prevention of blindness activities in Myanmar. Of particular importance, the Plan includes a Monitoring and Evaluation Framework, Operational Plan and Budget.

The NEHP clearly articulates the necessity to invest in eye health as a national public health priority in Myanmar. I express deep gratitude to all who were involved in the development and production of this important document and I believe the NEHP will provide great utility to all stakeholders in working together to end avoidable blindness in Myanmar.

DR THAN WIN
DIRECTOR GENERAL OF PUBLIC HEALTH
MINISTRY OF HEALTH AND SPORTS
REPUBLIC OF THE UNION OF MYANMAR

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PHOTO: MICHAEL AMENDOLIA/THE FRED HOLLOWS FOUNDATION

ACKNOWLEDGMENT

The development and production of the National Eye Health Plan 2017 – 2021 would not have been possible without the valuable input from a range of stakeholders. Extensive consultations were conducted with various departments from the Ministry of Health and Sports, UN Agencies, the World Health Organisation and international non-government organisations (INGOs) and gratitude should be expressed to all of these stakeholders for their extensive knowledge and expertise.

Thank you firstly to the various departments from the Ministry of Health and Sports who contributed to the development of the NEHP. In particular we would like to acknowledge the Trachoma Control and Prevention of Blindness Program, Department of Public Health, for their leadership and expert input.

The Professors and Heads of Departments, both present and retired, from respective University Departments of Ophthalmology provided invaluable technical input, information, advice and guidance into the development of the NEHP. We would therefore like to thank Professor Than Aung, Professor Mya Aung, Professor Tin Win, Colonel Professor Chaw Chaw Khaing, Professor Yi Yi Aung, Professor Thuzar Han and Professor May Thet Hnin Aye.

The World Health Organisation provided technical input and feedback into the National Eye Heath plan and deserves special mention of thanks. The International Agency for the Prevention of Blindness is similarly thanked for their technical input.

Gratitude should also be expressed to The Fred Hollows Foundation for leading the writing and the development of the NEHP. In addition, we are grateful for The Foundation's financial support which enabled several stakeholder meetings and workshops which were critical to ensure the development of the Plan was a collaborative process.

Valuable contributions were made throughout the process by many other stakeholders and special mention should be made to the following INGOs:

- Helen Keller Internationa
- Sight For All
- Himalayan Cataract Project
- Christian Blindness Mission
- Seva Foundation
- Help Me See

ACRONYMS

BHS	Basic Health Staff
CSC	Cataract Surgical Coverage
CSR	Cataract Surgical Rate
CBM	Christian Blind Mission
DHS	Demographic and Health Survey
DoPH	Department of Public Health
DR	Diabetic Retinopathy
ENT	Ear Nose Throat
EPHS	Essential Package of Health Service
GAP	Global Action Plan (Universal Eye Health Plan)
GDP	Gross Domestic Product
GP	General Practitioner
HA	Health Assistants
HCP	Himalayan Cataract Project
HIS	Health Information System
HKI	Helen Keller International
HRD	Human Resource Development
IAPB	International Agency For Prevention of Blindness
IDF	International Diabetes Foundation
IEC	Information, Education and Communication
IMR	Infant Mortaility Rate
INGO	International Non-Government Organisation
IOL	Intraocular Lens
IRD	International Relations Department
LVPEI	L.V Prasad Eye Institute
MAMS	Myanmar Academy of Medical Science
MDG	Millennium Development Goals
MEENTH	Mandalay Eye, Ear, Nose and Throat Hospital
MES	Meiktila Eye Study
MHSCC	Myanmar Health Sector Coordination Committee
MMR	Maternal Mortality Ratio
MoHS	Ministry of Health and Sports
NCD	Non-Communicable Disease
NCDP	National Comprehensive Development Plan
NEHP	National Eye Health Plan
NGO	Non-Governmental Organisations
NHC	National Health Committee
NOGTH	North Okkalapa General and Teaching Hospital
PEC	Primary Eye Care
PHC	Primary Health Care
RAAB	Rapid Assessment of Avoidable Blindness
RACSS	Rapid Assessment of Cataract Surgical Services
RAH	Royal Adelaide Hospital
ROP	Retinopathy of Prematurity
RHC	Rural Health Centres
SCB	Standard Chartered Bank
SEC	Secondary Eye Centre
SICS	Small Incision Cataract Surgery
SVI	Severe Visual Impairment
SFA	Sight For All
TB	Tuberculosis
TC & PBL	Trachoma Control and Prevention of Blindness Program
TF	Trachomatous Inflammation – Follicular
TI	Trachomatous Inflammation – Intense
TIO	Tilganga Institute of Ophthalmology
ToR	Terms of Reference
TRA	Trachoma Assessment Method
TSG	Technical Support Group
TT	Trachomatous Trichiasis
U5MR	Under Five Mortaility Rate
URE	Uncorrected Refractive Error
UHC	Universal Health Coverage
WHO	World Health Organisation
V2020	Vision 2020
VI	Visual Impairment
VR	Vitreo-Retina
YEH	Yangon Eye Hospital

PART ONE

PART ONE

I. EXECUTIVE SUMMARY

The National Eye Health Plan (NEHP) 2017-2021 provides a five year strategic approach to reducing avoidable blindness in Myanmar. It is the country's first national strategic plan for eye health and will guide and align the efforts of the Ministry of Health and Sports (MOHS) and other stakeholders to significantly reduce avoidable blindness and address vision impairment in Myanmar.

The plan has been developed in line with relevant strategies and initiatives in both Myanmar and the global eye care context. The NEHP is in line with, and aims to integrate into, the *Myanmar National Health Plan 2017 - 2021*. The NEHP is also aligned to the most important global strategy in the elimination of avoidable blindness, the World Health Organisation's plan, *Towards Universal Eye Health: A Global Action Plan 2014-2019*. Finally, the NEHP addresses relevant initiatives such as the current development of the Essential Package of Health Services (EPHS), key elements of the Myanmar Health Vision 2030 strategy of moving towards universal health coverage.

Part 1 of the National Eye Health Plan provides contextual background information. Firstly it describes the **methodology** of the development of Plan, which was a collaborative process that involved a range of government and non-government stakeholders working in the eye heath sector in Myanmar. Workshops were held at milestones to incorporate feedback systematically and to ensure the NEHP is appropriate to the Myanmar context, circumstances and needs. Part 1 goes on to provide an introduction to Myanmar's demographic and health profile and outlines the public health system, policy and delivery, including universal health coverage.

Section V of Part 1 is dedicated to providing a comprehensive **situational analysis of eye health** and eye care in Myanmar. This covers the epidemiology of eye health, leadership and governance, the three levels of eye health service delivery, human resources, medicine, equipment and technology, information and financing. It also details multi-sectorial collaboration and partnership in the eye health sector in Myanmar. The information provided in this section is integral to the understanding and development of the strategic components of the National Eye Health Plan presented in Part 2.

Part 2 of the NEHP details the strategic goals and objectives of the plan and provides a series of practical resources for the management, monitoring and implementation of the NEHP. This section aims to provide a roadmap for delivering quality blindness prevention and care services for the entire population of Myanmar.

The **goal, purpose and objectives** of the NEHP are as follows: (see next page)

GOAL To reduce avoidable visual impairment as a public health problem in Myanmar and to secure access to rehabilitation for the visually impaired

PURPOSE To improve access to comprehensive and quality eye care services in Myanmar by strengthening the eye care system in order to reduce avoidable blindness by 25% by the year 2021

OBJECTIVE 1: Evidence generated and used to advocate for an increased political and financial commitment for eye health

OBJECTIVE 2: Establish leadership and governance mechanisms for developing, monitoring and implementing national policies and plans for eye health

OBJECTIVE 3: To provide comprehensive, equitable and quality eye care services at primary, secondary and tertiary levels

OBJECTIVE 4: To develop and maintain a sustainable workforce for the provision of comprehensive eye care services

OBJECTIVE 5: To ensure that essential medicines and quality equipment are available with a particular focus on vulnerable and underserved communities

OBJECTIVE 6: To improve information systems for eye health for improved monitoring

OBJECTIVE 7: To secure adequate financial resources to improve eye health and provide comprehensive eye care services integrated into health systems through national policies, plans, and programmes

OBJECTIVE 8: To strengthen multi-sectoral collaboration and effective partnership for improved eye health

Each of these eight Strategic Objective has been analysed and a list of current gaps and subsequent actions has been listed in Section II. These actions will guide the efforts of the MOHS and other stakeholders towards the achievement of the National Eye Health Plan's eight Strategic Objectives.

The **Monitoring and Evaluation Framework** in Section V provides a practical resource for all stakeholders involved in the implementation, monitoring and evaluation of the National Eye Health Plan.The Framework assigns measurable indicators, targets and baseline data and means of verification for each of the Objectives and actions. This framework also assigns responsibility for the implementation of each action and lists any assumptions that have been made.

The **Operational Plan** in Section VI provides a timeline for the achievement of each of the objectives and actions. This will help guide the MOHS and all stakeholders in the timely implementation of the activities to achieve the targets set out in the NEHP.

The **National Eye Health Plan** is fully costed and the **Budget** presented in Section VII is broken down by objective, activity and action according to each year. The budget also details which stakeholders are involved in each activity. The total budget for the National Eye Health Plan is **USD 10,939,000**. Potential donors for this budget include the MOHS, WHO and development partners including the International Non-Government Organisations focusing on eye health in Myanmar. Understanding that limited resources are a risk to full achievement of the NEHP, the NEHP Budget provides an important advocacy tool to engage other potential donor agencies to support the achievement of the eight Objectives.

To ensure successful implementation of the NEHP, section IV, proposes that an **Advisory Committee i**s formed to oversee and monitor implementation of policies, plans and programmes for eye health. Effective management will require multi-sectoral collaboration and partnership with a variety of stakeholders and therefore the Advisory Committee should comprise both government and non-government stakeholders.

II. METHODOLOGY

The methodology to develop the National Eye Health Plan was a collaborative process that engaged a wide range of stakeholders and incorporated input and feedback systematically. This involved virtual communication and three stakeholder workshops at milestones of the development process. The collaborative process was critical to ensure that the Plan was appropriate to the Myanmar context, circumstances and needs and ownership of the objectives of the Plan is shared among all stakeholders.

The first stage of the development commenced in July 2015 with the National Consultation Workshop for Developing a National Action Plan on Eye Health in Myanmar. The workshop was held by the Trachoma Control and Prevention of Blindness (TC & PBL) Program, Department of Public Health of the Ministry of Health (MoH) and supported technically by the World Health Organisation (WHO), Myanmar Office, and financially by The Fred Hollows Foundation (The Foundation) and International Agency for the Prevention of Blindness (IAPB). The workshop involved representatives from two departments of the MoH, the Medical Care Department and the Public Health Department, as well as delegates from the WHO, UN agencies, donor agencies and INGOs (see participant list in Annex 1).

The aim of the workshop was to engage a range of key stakeholders from the eye health sector to review the current status of eye health in Myanmar and commence the development of a five year National Eye Health Plan to strategically guide efforts to eliminate avoidable blindness in Myanmar. Participants were encouraged to actively participate and provide a variety of perspectives and input to inform the Plan. The workshop produced a series of recommended actions which formed the basis for the Strategic Objectives of the National Eye Health Plan (NEHP). They fell under the following thematic areas; leadership and governance, service delivery, human resources, information and data, multi-sectorial collaboration, equipment and technology and financing.

The Fred Hollows Foundation was elected to lead the writing and development of the NEHP and produced the preliminary draft in October 2015. The draft incorporated the discussions, outcomes and recommendations of the workshop and was developed in line with the Universal Eye Health: Global Action Plan. This draft was then circulated to key stakeholders for their review and input. Revisions were incorporated and a second stakeholder meeting was convened in November 2015 to discuss key elements of the plan in further detail.

The third workshop was held in November 2016 to finalise the NEHP and provided the forum for stakeholders to systematically review the near-completed Plan and reach a consensus over any unsolved details. Stakeholders took responsibility to source missing information and data to ensure completion of all required sections of the Plan. Shortly after the workshop the final draft was shared virtually with all interested parties and their consensus was reached to endorse the final version of the NEHP.

III. BACKGROUND

3.1 Geography and Demographics

The Republic of the Union of Myanmar (Myanmar) is the largest country in mainland Southeast Asia with a total surface area of 676,578 km2. Myanmar is bounded by Bangladesh and India to the west, China, Laos and Thailand to the east and the Bay of Bengal and the Andaman Sea to the south. The key geographical features of the country are the delta region and the central plain surrounded by mountains. The country falls into three well marked natural divisions: the western hills, the central belt and the Shan plateau in the east[1].

Myanmar is administratively divided into 18 states and regions:

1. Nay Pyi Taw Council Territory
2. Ayeyarwady Region
3. Bago East Region
4. Bago West Region
5. Chin State

6. Kachin State
7. Kayah State
8. Kayin State
9. Magway Region
10. Mandalay Region
11. Mon State
12. Rakhine State
13. Sagaing Region
14. Shan State (East)
15. Shan State (North)
16. Shan State (South)
17. Tanintharyi Region
18. Yangon Region

Within these regions and states, Myanmar consists of 74 districts, 330 townships, 398 towns, 3065 wards, 13,619 village tracts and 64,134 villages.

According to the most recent census conducted in 2014, the total population of Myanmar is 51,419,420 people[2]. Approximately 30% of the population resides in urban areas[3]. Myanmar is made up of 135 national ethnic groups speaking over 100 languages and dialects. The major ethnic groups are Kachin, Kayah, Kayin, Chin, Bamar, Mon, Rakhine and Shan. 90% of the population are Buddhists, the rest are Christians, Muslims, Hindus and Animists[4]

Myanmar is ranked 150 out of 187 countries on the Human Development Index and an estimated 26% of the population is living under the poverty line. However, the country has made notable progress in poverty reduction in recent years and has positive prospects due to accelerated economic reforms and assistance from development partners. Myanmar has strong educational indicators with the gross enrolment ratio in primary at 99.66% and adult literacy at 92.3%[5]

Myanmar is gradually moving towards an aging population. While the current population is predominantly young, the crude number of births per 1,000 population has nearly halved in the past 15 years while the crude number of deaths decreased at a similar rate during this time. This is important for long term planning for eye care as vision loss among the elderly is a major health problem[6].

3.2 Health Status of the Population

The Ministry of Health and Sports (MoHS) implemented Myanmar's first Demographic and Health Survey (DHS) in 2015-2016, providing the most comprehensive and up-to-date data on key health indicators available in the country. The DHS illustrates that while Myanmar continues to endeavour, within limited resources, to improve the health status of its population it also faces

[1] Ministry of Health, 2014, 'Country Profile', Health in Myanmar, Ministry of Health, Nay Pyi Taw, p. 2.

[2] Ministry of Labour, Immigration and Population, 2014, Myanmar Population and Housing Census, Department of Population, Nay Pyi Taw.

[3] Ministry of Health, 2014, 'Country Profile', Health in Myanmar, Ministry of Health, Nay Pyi Taw, p. 3.

[4] Ministry of Health, 2014, 'Country Profile', Health in Myanmar, Ministry of Health, Nay Pyi Taw, p. 4.

multiple health challenges.

Myanmar celebrates making steady progress over the past 15 years in key health and quality of life indicators, including a reduction in infant and child mortality rates. However, despite this progress, the country failed to meet its Millennium Development Goal (MDG) targets, with a under-five mortality rate (U5MR) of 50 compared to the target of 36 and infant mortality rate (IMR) of 40 compared to the target of 24[7].

Other health indicators, such as nutrition, vaccination coverage, malaria, HIV/AIDs and tuberculous (TB) were found in the DHS to be ongoing public health concerns with the following statistics (MoHS and ICF International, 2016):

- High rates of childhood malnutrition with 29% of children suffering from stunting and 8% suffering from severe stunting[8]
- Only 55% of children have received all basic vaccinations, although 92% of children have received at least one vaccination[9]
- While more than two-thirds of the population live in high risk areas for malaria, only 19% of children under age 5 slept under a mosquito net the night before the DHS survey[10]
- Myanmar remains one of the 30 highest TB burdened countries in the world with 142,012 cases recorded in 2014[11]

It should be noted that health challenges are significantly higher in rural areas, where approximately 70% of the population live. Health status data and analysis indicate significant disparities between regions and groups in access to, and quality of, health services, particularly affecting ethnic minorities, poor people and people living in remote areas[12]

In addition to the above health priorities, Myanmar is currently facing a double burden of communicable and non-communicable diseases (NCD) with NCDs contributing to approximately 40% of all deaths[13]. Chronic NCDs in the Myanmar population are largely caused by tobacco use, unhealthy diet, physical inactivity and harmful use of alcohol and are predicted to continue to increase in coming years due to the change in socio-economic status of the country[14].
For example diabetes, one of the most common NCDs globally, is becoming a serious public health issue in Myanmar. According to the International Diabetes Foundation (IDF) Atlas 2013 the diabetes prevalence in Myanmar was recorded to be 5.7%, however a survey conducted in Yangon in 2004 showed a prevalence of 11.8% and the disease is expected to more than double by 2030[15]. Increasing NCDs such as diabetes are placing an extra burden on Myanmar's health care system.

IV. PUBLIC HEALTH SYSTEM

4.1 Health Systems and Policy

Myanmar's National Health Policy was first developed in 1993 and laid emphasis on Health for All using the Primary Health Care approach. To meet emerging health challenges, in 2000 Myanmar formulated a long term health plan known as the Myanmar Health Vision 2030, which covers the following nine key areas of health care: health policy and law; health promotion; health service provision; development of human resources for health; promotion of traditional medicine; development of health research; the role of co-operative, joint ventures, private sectors and Non-Governmental Organisations (NGOs); partnership for health system development; and international collaboration[16].

An integral component of the Myanmar Health Vision 2030 is the National Comprehensive

[5] UNDP, 2014, UNDP in Myanmar, United Nations Development Programme, http://www.mm.undp.org/content/myanmar/en/home/countryinfo/

[6] World Health Organisation Country Office for Myanmar, 2014, WHO Country Cooperation Strategy Myanmar 2014-2018, Myanmar: World Health Organisation (WHO), Yangon, p. 60.

[7] Ministry of Health and Sports and ICF International, 2016, Myanmar Demographic and Health Survey 2015-2016: Key Indicators Report, Ministry of Health and Sports and ICF International, Nay Pyi Taw and Rockville, p. 15

[8] Ministry of Health and Sports and ICF International, 2016, Myanmar Demographic and Health Survey 2015-2016: Key Indicators Report, Ministry of Health and Sports and ICF International, Nay Pyi Taw and Rockville, p. 21

[9] Ministry of Health and Sports and ICF International, 2016, Myanmar Demographic and Health Survey 2015-2016: Key Indicators Report, Ministry of Health and Sports and ICF International, Nay Pyi Taw and Rockville, p. 19

[10] Ministry of Health and Sports and ICF International, 2016, Myanmar Demographic and Health Survey 2015-2016: Key Indicators Report, Ministry of Health and Sports and ICF International, Nay Pyi Taw and Rockville, p. 19

[11] Ministry of Health and Sports, 2016, National Strategic Plan for Tuberculosis 2016 – 2020, Ministry of Health and Sports, Nay Pyi Taw, p. 19.

[12] World Health Organisation Country Office for Myanmar, 2014, WHO Country Cooperation Strategy Myanmar 2014-2018, Myanmar: World Health Organisation (WHO), Yangon, p. 9.

[13] World Health Organisation, 2014, 'The Republic of the Union of Myanmar Health System Review', Health Systems in Transition, vol. 4, no. 3, p. 182.

Development Plan (NCDP) for the Health Sector 2010-2011 to 2030-2031. The health sector NCDP serves to link related sectors as well as the States and Regional Comprehensive Development Plans[17]. The plan acts as a guide on which short-term national health plans are to be developed. Under this, the following strategies have been implemented: Health System Strengthening; Disease Control Programme; Public Health Programme; Curative Service Programme; Development of Myanmar Traditional Medicine; Programme Human Resources for Health Development Programme; and Promoting Health Research Programme. Trachoma Control and Prevention of Blindness sits under the Disease Control Programme, although Basic Health Services are located under the Public Health Programme.

The National Health Plans (previously People's Health Plans) operationalise the long term objectives of the Myanmar Health Vision 2030 on a 5-years basis. The plans take into account prevailing health problems in the country, international health goals (such as the MDGs), health system strengthening and the growing importance of social, economic and environmental determinants of health. The recent National Health Plan covered the period of 2011-2016 and its objectives cover accessibility and quality of health care services, prevention of health problems and strengthening of health systems. To achieve these objectives the National Health Plan (2011-2016) was supported by the following 11 detailed program areas:

1. Controlling Communicable Diseases
2. Preventing, Controlling and Care of Non-Communicable Diseases and Conditions
3. Improving Health for Mothers, Neonates, Children, Adolescents and Elderly as a Life Cycle Approach
4. Improving Hospital Care
5. Development of Traditional Medicine
6. Development of Human Resources for Health
7. Promoting Health Research
8. Determinants of Health
9. Nutrition Promotion
10. Strengthening Health System
11. Expanding Health Care Coverage in Rural, Peri-Urban and Border Areas[18]

4.2 Health System Delivery

The National Health Committee (NHC), chaired by the Union Minister for Health and Sports, is a high level inter-ministerial policy-making body for health matters concerning the country. The NHC provides guidance and direction for all health activities. Health committees exist at each administrative level, providing a mechanism for inter-sectoral collaboration and coordination. Figure 2 shows the organisational chart of the Ministry of Health and Sports.

There are four levels of health care in Myanmar. In rural areas the first point of contact is the Basic Health Staff (BHS) who include Midwives, Lady Health Visitors and Health Assistants. The BHS provide promotive, preventive, curative and rehabilitative services at sub-rural and rural level for a population of 20,000-30,000. The second level is the Township Health Department that forms the backbone of primary and secondary health care covering a population of 100,000-200,000 and is headed by a Township Medical Officer. Each township hospital has 25-50 beds (depending upon the size of the township population). Each township hospital has one to two station hospitals and four to seven Rural Health Centres (RHC) to provide health services to the rural population. Each RHC has four sub-centres serviced by a midwife and a public health supervisor at the village level. Included in the RHCs are community clinics which provide maternal and child health, immunisation, elderly care, nutrition, prevention of NCDs, health education and referral. In addition, there are voluntary health workers (community health workers and auxiliary midwives) in outreach providing Primary Health Care (PHC) to the community. The

[14] World Health Organisation Country Office for Myanmar, 2014, WHO Country Cooperation Strategy Myanmar 2014-2018, Myanmar: World Health Organisation (WHO), Yangon

[15] World Diabetes Foundation, 2015, Survey on diabetes prevalence and NCDs risk factors in Myanmar, http://www.worlddiabetesfoundation.org/projects/myanmar-wdf13-772

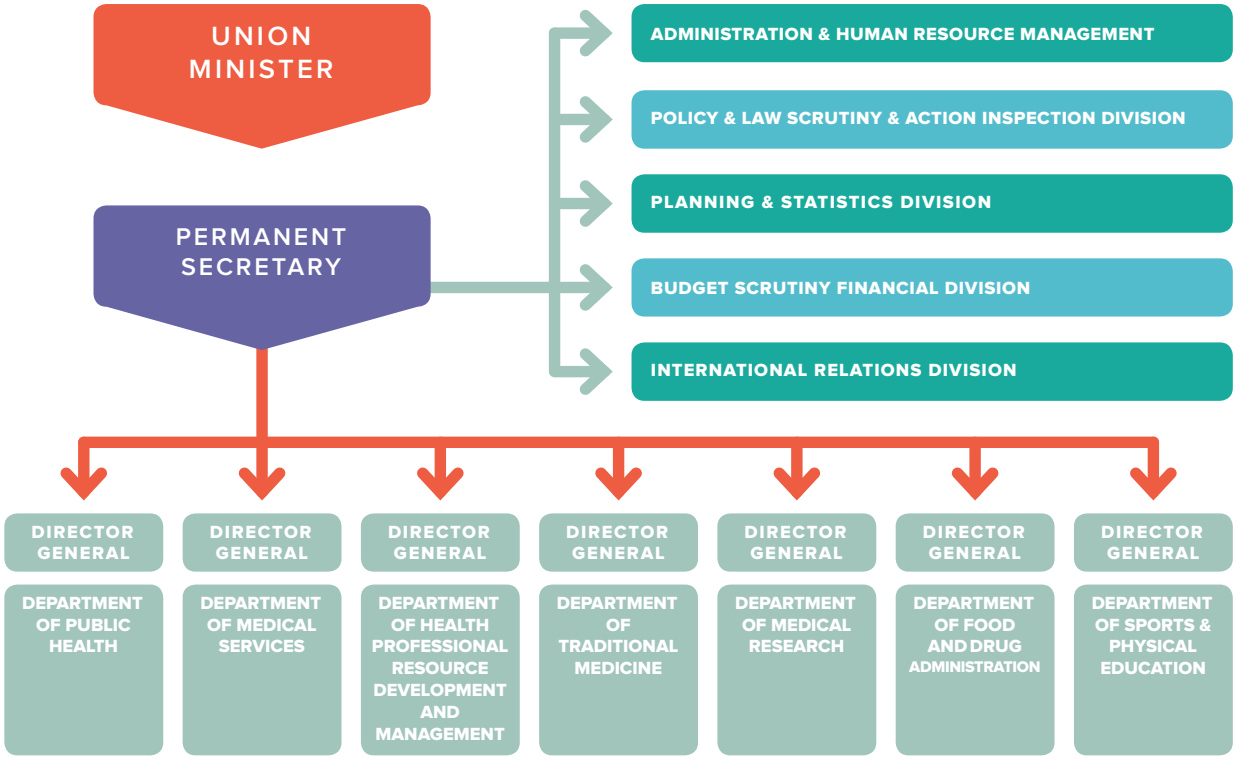
[16] Ministry of Health, 2014, 'Myanmar Healthcare System', Health in Myanmar, Ministry of Health, Nay Pyi Taw.

[17] Ministry of Health, 2014, 'Myanmar Health Policy, Legislations and Plans', Health in Myanmar, Ministry of Health, Nay Pyi Taw.

[18] Ministry of Health, 2014, 'Myanmar Health Policy, Legislations and Plans', Health in Myanmar, Ministry of Health, Nay Pyi Taw, p. 18.

third level is the District Hospital that serves a population of between 0.5-1 million. It is at this level that specialists are posted (including an ophthalmologist). Finally, at the top level is the Regional/State Health Department that caters to the entire region[19].

Ministry of Health and Sports Organigram



4.3 Universal Health Coverage

There is strong evidence that in Myanmar accessibility to health is interlinked with socio-economic status, availability and location of the health care services[20]. In fact, despite recent increases to government spending on health, close to 70% of health financing still comes in the form of out-of-pocket payments which is among the highest figures in the world[21]. For this reason, Universal Health Coverage (UHC) has been identified as a key priority in Myanmar Health Vision 2030 and the document laid down ambitious goals to reach "Health for All - Universal Health Coverage" by 2030. UHC is about ensuring that everyone who needs health services can access them without suffering from undue financial hardship and the process is central to the post-MDG agenda. The World Bank is highly instrumental, through both financial and technical assistance in supporting developing countries, including Myanmar, to achieve UHC.

A key element of moving towards UHC is the development of an Essential Package of Health Services (EPHS) with the end goal of providing financial risk protection, improved access to health services and improved health outcomes. The EPHS will be introduced in three phases:

- A Basic Package by 2020;
- An Intermediate Package by 2025; and
- A Comprehensive Package by 2030.

The selection of services and interventions for the three phases would depend on prioritisation according to criteria such as disease burden, cost-effectiveness, availability of resources and capacity. It will be important to ensure that eye health is considered a priority in the development of each phase of the EPHS.

[19] Pokharel, G. P., & Khanna, R., 2013, Prevention of Blindness in Myanmar: Situation Analysis and Strategy For Change, International Agency for Prevention of Blindness and Standard Charter Bank, p. 9.

[20] Ministry of Health, 2012, Health system assessment for universal health coverage, Ministry of Health, Nay Pyi Taw.

[21] NLD National Health Network, 2016, 'Programme of Health Reforms: A Roadmap Towards Universal Health Coverage in Myanmar (2016-2030)', NLD National Health Network, Nay Pyi Taw, p. 2.

V. EYE HEALTH AND EYE CARE - SITUATION ANALYSIS

5.1 Epidemiology of Eye Health

As in many other developing countries, there is great scarcity of epidemiological data and assessment on the prevalence and causes of blindness and visual impairment (VI) in Myanmar. The following sections provide an overview of what data is currently available, starting with general or comprehensive eye health prevalence surveys and then moving to disease-specific surveys. While the data presented provides an adequate overview of the prevalence rates of blindness in Myanmar, it is evident that great gaps in data exist in order to best inform evidence based planning for eye care services in Myanmar.

5.1.1 Prevalence of Blindness and Visual Impairment (non-disease specific)

The National Ocular Morbidity Survey Myanmar (1997-1998) was conducted in all states and regions with the aim of determining the prevalence of blindness in the country. Villages representing 0.1% of the total population of each state and region were chosen at random. The survey was conducted by ophthalmologists and the staff from the Trachoma Control and Prevention of Blindness Program (TC & PBL) program.

The survey's results showed the prevalence of blindness for all ages at 0.58%, however the rate varied greatly depending on geographic location. Rakhine State showed the highest rate of blindness with 1.49% while in Yangon Region the blindness rate for all ages was at 0.1%. Cataract was the most common cause of blindness contributing to between 60% and 80% of blindness, followed by Glaucoma at 16%.

Refractive error was found to be the most common eye disorder with prevalence of 2.7%. The survey found the prevalence of trachoma to be 0.26%. The highest trachoma prevalence of was found in Kayah with 1.9% and the lowest in Shan East with 0.0%. Trachoma was also found in Ayeyarwaddy, Kachin, Shan North and South, Kayin and Rakhine, Mon and Chin. The active trachoma rate in the central dry zone of Myanmar was reduced to under 1% in 2000 from 43% in 1964.

A Rapid Assessment of Cataract Surgical Services (RACSS) (2001) was a population based cross sectional survey of people of 50 years and above. The survey was conducted in five rural communities in Myanmar and produced the following statistics on the prevalence of blindness:

- 6.57% in Taungoo District
- 8.17% in Monywa Township
- 8.57% in Sagaing District
- 4.70% in Shwebo Township
- 10.53% in Hinthada Township[22]

The Meiktila Eye Study (MES) was conducted in 2005 in Mandalay Region[22]. The study employed a population-based, cross-sectional ophthalmic survey with the principal objectives of estimating the prevalence and causes of VI and the prevalence and risk factors of ocular disorders, including glaucoma. The MES examined 2,076 individuals (836 males and 1,240 females) over 40 years of age.

The MES found the major cause of blindness to be cataract (53%) followed by glaucoma (10.5%) and trachoma (4%) and the major causes of VI were cataract (70%), uncorrected refractive error (URE) (19%) and glaucoma (4%). Similarly, the Cataract Surgical Coverage (CSC) for visual acuity cut-offs of <6/18, <6/60 and <3/60 was 9.74%, 20.11% and 22.3% respectively for people and 4.18%, 9.39% and 13.47% respectively for eyes. The CSC was higher for men than women. The major barriers reported were cost of surgery, fear of surgery and access to care[24].

[22] Limburg, D. H. et al., 2001, 'Rapid Assessment of Cataract Surgical Services', World Health Organisation, Geneva.

[23] Casson, R. J. et al., 2007, 'Prevalence of Glaucoma in Rural Myanmar: The Meiktila Eye Study', British Journal of Ophthalmology, vol. 91, no. 6, pp. 710-714.

[24] Casson, R. J. et al., 2007, 'Prevalence of Glaucoma in Rural Myanmar: The Meiktila Eye Study', British Journal of Ophthalmology, vol. 91, no. 6, pp. 710-714.

Another study conducted in rural Myanmar in 2009 was the **Mount Popa Taung-Kalat Blindness Prevention Project**[25]. With a survey sample of 1,300 eyes, the results indicated that 39.5% of adults and 38.1% of the children (average age of 15.3 + 13.3) had VI and severe visual impairment/ blindness (SVI/BL). The leading causes of VI/SVI/BL were cataract (54.2%), glaucoma (15.8%) and corneal pathology (14.7%). Of all the VI/SVI/BL cases, 8.4% were preventable 81.9% were treatable and a total of 90.5% were avoidable[26].

Over the past five years a series of **Rapid Assessment of Avoidable Blindness (RAAB)** surveys have been conducted in specific districts of Myanmar. RAAB surveys provide a prevalence of blindness rate amount the 50 population. Data from these RAABS by region and district is presented below.

Table 1: RAAB Survey Results[27]

N°	REGION	DISTRICT	YEAR COMPLETED	PREVALENCE OF BLINDNESS
1.	Mandalay	Meiktila	2011	1.40
2.	Sagaing	Sagaing	2011	2.66
3.	Sagaing	Shwebo	2011	3.78
4.	Mandalay	Myingyan	2013	3.70
5.	Mandalay	Pyinmana	2013	2.66
6.	Sagaing	Monywa	2013	2.60
7.	Bago	Bago	2015	4.70
8.	Bago	Taungoo	2015	1.50
9.	Magway	Pakokku	2015	10.0

5.1.2 Prevalence of Trachoma and Elimination Plan

The National Trachoma Control Project was launched in 1964 in the central dry zones of Myanmar where trachoma was endemic. At this time trachoma was the key cause of blindness in the country with an active trachoma prevalence of 43% in endemic areas. However, through the concerted efforts of the TC & PBL Program, supported by the Government, WHO, UNICEF and I/ NGOs, the active trachoma rate was reduced to under 1% in 2000[28].

The success in reducing active trachoma rates in Myanmar was achieved through mass drug administration of tetracycline eye ointment to over 6.5 million people as well as operating on over 150,000 blinding trichiasis cases. Eye health services including trichiasis surgery continue to be provided to communities by the TC & PBL teams through both static facilities as well as outreach programs. It is estimated that the trachoma control activities conducted in Myanmar for over 50 years have prevented 300,000 cases of severe VI and blindness[29].

Table 2: Trachoma Prevalence Rates 2010 - 2014[30]

	2010	2011	2012	2013	2014
Pop; Exam	978,918	1,149,560	1,320,921	1,255,243	1,286,552
Trachomatous Inflammation – Follicular (TF) and Trachomatous Inflammation – Intense (TI) Rates:					
Number of cases	1,132	1,367	666	781	525
Prevalence (%)	0.14	0.12	0.05	0.06	0.04
Trachomatous Trichiasis (TT) Rates:					
TT	2,209	1,451	1,337	1,494	1,325
Percentage	0.23	0.12	0.1	0.12	0.1

[25] Nemet, A. Y. et al., 2009, 'Causes of Blindness in Rural Myanmar (Burma): Mount Popa Taung-Kalat Blindness Prevention Project', Clinical Ophthalmology, no. 3, 413-421.

[26] Nemet, A. Y. et al., 2009, 'Causes of Blindness in Rural Myanmar (Burma): Mount Popa Taung-Kalat Blindness Prevention Project', Clinical Ophthalmology, no. 3, 413-421.

[27] Ministry of Health and Sports, 2016, RAAB Data, Trachoma Control & Prevention of Blindness, Public Health Department, Nay Pyi Taw.

[28] Ministry of Health, 2014, 'Trachoma Control and Prevention of Blindness', Health in Myanmar, Ministry of Health, Nay Pyi Taw.

[29] Trachoma Control and Prevention of Blindness Program, n.d, 'Proposal for Activities towards Certification of Trachoma Elimination in Myanmar', Proposal for Neglected Tropical Disease Control and Elimination Activities, Ministry of Health, Department of Public Health, Nay Pyi Taw.

[30] Hla Mar Lar, Dr., 2015, 'Current Situation of Eye Care Services in Myanmar', Myanmar Workshop for Developing National Plan of Action July 28-29 2015, July 2015, Nay Pyi Taw.

Table 3: Active Trachoma Prevalence Rates, 2014[31]

REGION	TF/TI PREVALENCE (%)
Chauk Township	0.82
Magway Region	0.19
Pakoku Township, Magway Region	0.33
Kyaukpadaung Town, Mandalay Region	0.05
Monywa city, Sagaing Region	0.24
Sagaing Region	0.35
Shwebo City, Sagain Region	0.83
Taungoo City, Bago Region	0.07

While Myanmar reported to have eliminated trachoma in 2011, the country is yet to fulfil the dossier to formally achieve elimination status. Elimination is defined as the achievement of sustained reduction of trachomatous inflammation-follicular (TG), trachomatous inflammation-intense (TI) prevalence to <5% among children ages 1-9 years in any sub district and to reduce the prevalence of trachomatous trichiasis (TT) to <0.1% among the total population. Achieving threshold levels of prevalence for both TF/TI and TT is required to demonstrate that blinding trachoma is no longer a public health problem.

Outlined in the Proposal for Activities towards Certification of trachoma Elimination, presented by the TC & PBL, Department of Public Health, is the following plan to achieve elimination status in Myanmar:

1. Obtain official request from the MoHS through WHO Country Office, South Est Asia Regional Office and WHO Head Quarters
2. WHO Head Quarters to send draft recommendations to prepare the documentation for declaring the achievements of the Ultimate Interventions Goals
3. Commence three years of surveillance
4. Conduct final assessment for declaring surveillance is successful.

The estimated budget to fulfil the dossier according to this plan is USD 100,000[32]. It should also be noted that after elimination has been achieved it is necessary to sustain post-elimination interventions to treat people presenting with active trachoma and to provide trichiasis surgery for new and recurrent cases.

5.1.3 Cataract backlog, Incidence and Cataract Surgical Rate

The exact number of un-operated cataract cases (backlog) and the annual incidence in Myanmar are not known. However, for the purpose of planning Vision 2020 and the TC & PBL program used worldwide estimates and data from the1997/1998 National Ocular Morbidity Survey. Based on this information the estimated backlog in the year 2000 was 300,000 cases, however it is likely to be much higher today due to the estimated annual incidence of 58,380[33]. The annual Cataract Surgical Rate (CSR) (number of cataract operations performed per year/million population) only recently reached a level by which it overcomes the annual incidence and makes progress towards reducing the cataract backlog.

The CSR has nearly tripled during the past decade. Between 2000 and 2003 the CSR remained around 600 surgeries per million population, then increased steadily from 2004 onwards. The most recent CSR was over 2,000 surgeries per million population (2015).

[31] Trachoma Control and Prevention of Blindness Program, n.d, 'Proposal for Activities towards Certification of Trachoma Elimination in Myanmar', Proposal for Neglected Tropical Disease Control and Elimination Activities, Ministry of Health, Department of Public Health, Nay Pyi Taw, p. 4.

[32] Trachoma Control and Prevention of Blindness Program, n.d, 'Proposal for Activities towards Certification of Trachoma Elimination in Myanmar', Proposal for Neglected Tropical Disease Control and Elimination Activities, Ministry of Health, Department of Public Health, Nay Pyi Taw, p. 5.

[33] Ko Ko, A. T., 2012, 'Strengthening Eye Centres as a Base of Increasing Cataract Surgical Rate in Myanmar', Myanmar Academy of Medical Science, Yangon.

Table 4: Number of cataract surgeries performed by different service providers[34]

DESCRIPTION	2012	2013	2014	2015
PBL campaign	9,299	11,632	10,109	12,105
Government Hospitals	25,827	29,556	39,591	39,931
Private hospitals and clinics	27,733	26,730	29,113	35,385
Outreach surgeries	2,010	7,416	9,660	16,516
Total	64,869	75,334	88,473	103,939
Cataract Surgical Rate (CSR)	1,262.04	1,477.1	1,734.8	2,038

In order to reduce the backlog of blindness due to cataract, the CSR must be at least as great as the incidence of "operable" cataract[35]. Consequently, in order to reduce the backlog of cataract blindness in Myanmar it is necessary to increase the CSR to 3,000 or more operations per million population[36].

5.1.4 Childhood Blindness Data

In March 2007 a survey of visual impairment (VI) and blindness in children was conducted in Myanmar. The survey sought to determine the causes of VI and blindness among children attending schools for the blind and to provide spectacles, low vision aids, orientation and mobility training and ophthalmic treatment where deemed necessary[37].

The survey examined 208 children under the age of 16 from all seven of the schools for the blind in Myanmar. The survey found that nearly half of the children in schools for the blind had avoidable causes of severe vision impairment (SVI) and blindness. The most common treatable causes of VI and blindness were cataract (11.4%) and glaucoma (4.9%). The most common preventable causes of VI and blindness were measles (17.4%) and ophthalmia neonatorum (5.9%).

Table 5: Visual acuity in children surveyed[38]

WHO category	Vision in better eye	Number	Percentage (%)
Visual impairment (VI)	<6/18 – 6/60	6	2.9
Severe Visual Impairment (SVI)	<6/60 – 3/60	3	1.4
Blind	<3/60 - NLP	199	95.7
Total		208	100

Table 6: Avoidable causes of visual loss in children surveyed[39]

	NUMBER	PERCENTAGE (%)
Preventable Causes		
Measles	35	17.4
Ophthalmia neonatorum	12	5.9
Trauma	5	2.5
Rubella	1	0.5
Toxoplasmosis	1	0.5
Harmful traditional practices	1	0.5
Treatable Causes		
Cataract	23	11.4
Glaucoma / buphthalmos	10	4.9

(Muecke, et al., 2009)

The study concluded that there is need for a dedicated paediatric eye care centre with regular ophthalmology visits to the schools as well as improved optometric services. Vision 2020: The Right to Sight highlights childhood blindness as a priority, recommending that one paediatric eye care centre staffed by a paediatric ophthalmologist should be established for every 20-

[34] Data obtained from the Trachoma Control and Prevention of Blindness Program, Department of Public Health, Ministry of Health and Sports, 2016.

[35] 'operable' cataract is used to define a cataract where the patient and the surgeon agree to proceed with cataract surgery. The indication for cataract surgery depends on various factors, including the expectations of the patient and the likely visual result of the procedure. As the results of cataract surgery improve, the degree of visual loss at which surgery is indicated becomes less, and, therefore, the number of 'operable' cataract eyes increases (Source: Foster, A., 2000, 'Vision 2020: The Cataract Challenge', Community Eye Health Journal, vol. 13, no. 34, pp. 17-19)

[36] Ko Ko, A. T., 2012, 'Strengthening Eye Centres as a Base of Increasing Cataract Surgical Rate in Myanmar', Myanmar Academy of Medical Science, Yangon.

[37] Muecke, J. et al., 2009, 'A Survey of Visual Impairment and Blindness in Children Attending Seven Schools for the Blind in Myanmar', Ophthalmic Epidemiology, vol. 16, no. 6, pp. 370 - 377.

[38] Muecke, J. et al., 2009, 'A Survey of Visual Impairment and Blindness in Children Attending Seven Schools for the Blind in Myanmar', Ophthalmic Epidemiology, vol. 16, no. 6, p. 372.

[39] Muecke, J. et al., 2009, 'A Survey of Visual Impairment and Blindness in Children Attending Seven Schools for the Blind in Myanmar', Ophthalmic Epidemiology, vol. 16, no. 6, p. 374.

million population by the year 2020[40]. In addition, considering measles was found to be the most common cause of avoidable blindness, the survey supports Myanmar's national measles immunisation strategy which was launched in January 2007[41]. The most recent outcomes of the measles immunisation strategy are summarised in Table 7.

Table 7: Measles Immunisation Coverage, 2015[42]

STATE/REGION	MSL I+MR %	MSL II%
Ayeyarwady	91.2	86.5
Bago	91.0	88.2
Chin	79.9	76.5
Kachin	84.4	79.2
Kayah	79.1	69.8
Kayin	76.8	70.5
Mandalay	89.9	86.0
Magway	89.8	84.7
Nay Pyi Taw	92.7	85.9
Mon	95.1	92.1
Rakhine	60.1	48.4
Sagaing	89.7	84.3
Shan East	57.9	50.0
Shan North	58.4	50.2
Shan South	73.8	65.9
Tanintharyi	88.1	85.3
Yangon	87.0	82.0
TOTAL	83.8	78.2

Myanmar has also taken efforts to decrease Vitamin A Deficiency (VAD), the leading cause of preventable blindness in children globally[43]. The Vitamin A Deficiency Elimination Project aims to provide all children in Myanmar between 6 months – 1 year with Vitamin A 1IU, all children between 1 and 5 years of age 6 monthly dosages of Vitamin A 2IU and all mothers with one dose of Vitamin A 2IU within one month the postnatal period. As a consequence of these efforts, in 2015 the percentage of Vitamin A distribution was 96.1% of children aged 1-5 years, 94.7% of children aged 6 months to 1 year and 76.5% of postnatal mothers.[44]

5.1.5 Prevalence of Diabetic Retinopathy

Diabetic Retinopathy (DR) is a potentially blinding complication of diabetes and has been flagged as a serious eye health concern as incidence of diabetes increase in Myanmar. To better understand the current situation of DR in Myanmar a pilot survey was implemented in 2015[45]. The study had two goals; 1) to demonstrate the feasibility of locating and treating patients with vision threatening DR with portable lasers in a provincial area of Myanmar, and 2) to gather data specific to Myanmar to assess the prevalence of DR, its visual burden, and need for screening and treatment programs.

The study took place at Sangha Hospital in Pyinmana and examined 97 patients with diabetes. Of these 97 patients, the survey found that 33% had evidence of DR and 24% had evidence of vision threatening DR. According to this data the pilot survey concluded that, while national rates for DR in Myanmar are thus far unknown, there is a significant burden of potentially blinding DR in Myanmar.

[40] International Agency for the Prevention of Blindness & World Health Organisation, 2007, Vision 2020: The Right to Sight. Global Initiative for the elimination of avoidable blindness. Action Plan 2006 – 2011, World Health Organisation, Geneva

[41] Muecke, J. et al., 2009, 'A Survey of Visual Impairment and Blindness in Children Attending Seven Schools for the Blind in Myanmar', Ophthalmic Epidemiology, vol. 16, no. 6, p. 376.

[42] Data obtained from the Trachoma Control and Prevention of Blindness Program Office, Department of Public Health, Ministry of Health and Sports, 2016.

[43] World Health Organisation, 2016, 'Nutrition: Micronutrient Deficiencies', World Health Organisation, http://www.who.int/nutrition/topics/vad/en/

[44] Data obtained from the Trachoma Control and Prevention of Blindness Program Office, Department of Public Health, Ministry of Health and Sports, 2016.

[45] Ministry of Health and Sports, 2015, 'Diabetic Retinopathy Screening and Treatment in Myanmar: A Pilot Study', Department of Public Health, Ministry of Health and Sports, Nay Pyi Taw.

Table 8: Demographic data of diabetic patient population[46]

				Current Treatment of DM					
	TOTAL	MALE	FEMALE	AGE (YEARS)	NO DM TREATMENT	1 ORAL AGENT	2 ORAL AGENTS	INSULIN	HERBAL MEDICINE
Patients with diabetes	97	33 (34%)	64 (66%)	36 – 82 (59.2 Average)	28 (29%)	50 (52%)	17 (17%)	1 (1%)	1 (1%)

Table 9: Diabetic Retinopathy status of patients with diabetes[47]

NO DR	MILD/MODERATE NON-PROLIFERATIVE DR	SEVERE NON-PROLIFERATIVE DR	PROLIFERATIVE DR
63%	13.5%	10%	13.5%

The pilot survey also determined that there is a serious issue of late/under diagnosis of diabetes in Myanmar. The average time since diagnosis of diabetes was 6 years with only 24% being diagnosed within one year or less. While vision loss and blindness due to DR is to a large extent preventable with proper care, the study deemed that access to such care in Myanmar is difficult or impossible for most people with diabetes. However, the pilot study results did demonstrate the feasibility of locating and treating patients with vision threatening DR in a provincial area of Myanmar. The pilot recommended that a prerequisite to establishing a broader screening/ treatment program for DR is a robust educational campaign to improve awareness of both diabetes and DR and to translate that awareness into timely treatment[48].

5.2 Eye Health Systems - Leadership and Governance

Until now Myanmar's Ministry of Health and Sports (MoHS) has not formulated a policy framework for eye care. Thus the strategic direction of the eye health sector was guided primarily by the strategies and activities under Vision 2020 - The Right to Sight, which was launched in Myanmar on October 10, 2000[49]. The strategic objectives were:

- To reduce the prevalence of blindness for all ages to less than 0.5% by the year 2020
- To increase CSR to 3,000 by the year 2020
- To improve quality of cataract surgery (Intraocular Lens (IOL) Rate -95% in 2020)
- To increase human resources for eye care services
- To increase coverage of Primary Eye Care (PEC) service to all states and regions
- To enhance community awareness of avoidable blindness

However, in terms of monitoring and evaluation of Vision 2020, including the audit of cataract surgeries, there is limited information available.

In should be noted that these objectives will now be replaced by the objectives stated in this National Eye Health Plan. As further described in Part II, Section I, the Vision 2020 global initiative has been broken into a series of five year action plans. The most recent of these, and thus currently the most important strategic document in eye health, is the Universal Eye Health Plan - A Global Action Plan 2014-2019 (GAP). This National Eye Health Plan has been developed in line with the Global Action Plan and therefore constitutes the most up to date and appropriate targets for Myanmar for the period of 2017 – 2021.

[46] Ministry of Health and Sports, 2015, 'Diabetic Retinopathy Screening and Treatment in Myanmar: A Pilot Study', Department of Public Health, Ministry of Health and Sports, Nay Pyi Taw, n.p.

[47] Ministry of Health and Sports, 2015, 'Diabetic Retinopathy Screening and Treatment in Myanmar: A Pilot Study', Department of Public Health, Ministry of Health and Sports, Nay Pyi Taw, n.p.

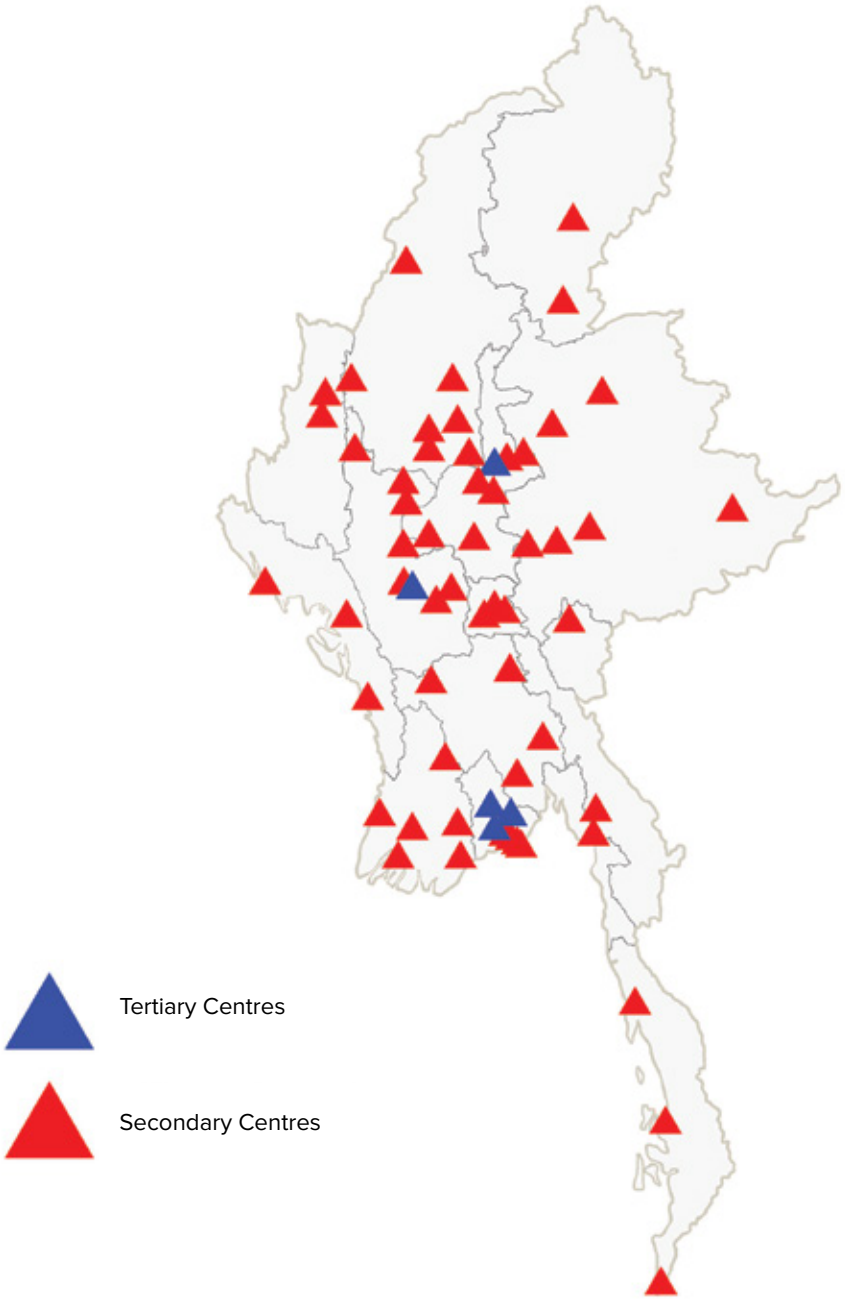
[48] Ministry of Health and Sports, 2015, 'Diabetic Retinopathy Screening and Treatment in Myanmar: A Pilot Study', Department of Public Health, Ministry of Health and Sports, Nay Pyi Taw.

[49] Ko Ko, A. T., 2012, 'Strengthening Eye Centres as a Base of Increasing Cataract Surgical Rate in Myanmar', Myanmar Academy of Medical Science, Yangon.

5.3 Eye Health Systems - Service Delivery

Eye care services in Myanmar are based on a three tiered, pyramid-like structure with Tertiary, Secondary and Primary levels.

Figure 3: Distribution of Tertiary and Secondary Eye Health Services[50]



[50] Information obtained from the Trachoma Control and Prevention of Blindness Program Office, Department of Public Health, Ministry of Health and Sports, 2016.

5.3.1 Tertiary Eye Care Services

Tertiary eye care centres are staffed by sub-specialists and have capacity to provide the complete spectrum of eye care services. In addition to these services, tertiary level centres offer training and conduct research. At present there are five tertiary eye care centres in Myanmar:

1. Yangon Eye Hospital (YEH)
2. Mandalay Eye, Ear, Nose, Throat, Head and Neck Hospital (MEENTH)
3. Magway Regional Hospital
4. No. (1) Defence Services General Hospital
5. North Okkalapa General and Teaching Hospital (NOGTH)

These tertiary eye care centres provide subspecialty surgical services including; cataract, refractive, retina, glaucoma, cornea, oculoplastic and paediatric procedures. They also provide laser procedures and subspecialty advanced hospital based investigations and treatments. Retinopathy of Prematurity (ROP) screening is carried out in coordination with children's hospital and DR screening is carried out in coordination with endocrine units. Eye banking activities are carried out through the national eye bank in YEH and MEENTH.

Over recent years the tertiary centres have expanded their services and established additional clinics. At the YEH a vitreo-retinal clinic was established in 2007, a paediatric clinic in 2010, an oculoplastic clinic in 2013 and a glaucoma clinic in 2014. Additional services were also established in other tertiary eye care centres with a paediatric clinic being established at MEENTH in 2015 and an oculoplastic clinic established at NOGTH in 2012 followed by a Glaucoma clinic in 2015. The expansion of services in the tertiary centres has been supported by INGOs such as Sight For All (SFA).

In terms of training, three of the tertiary eye care centres provide training for ophthalmologists through the Doctorate in Ophthalmology and the YEH provides training for optometry.

Low vision and Rehabilitation:

YEH and MEENTH are the only facilities in Myanmar providing services to people with low vision through ad hoc assistance of the Ministry of Social Services and non-governmental organisations.

5.3.2 Secondary Eye Care Services

Secondary eye care services are delivered by the 83 Secondary Eye Centres (SECs), which are strategically located around the country. The SECs are usually attached to a State/Region, district or township hospital and should be staffed by qualified ophthalmologists. The infrastructure of the SECs includes basic facilities for the delivery of cataract, trachoma, glaucoma, refractive error, ocular emergency and injury services. 20 of the SECs are under the leadership of the TC & PBL Program, 51 SECs are under the leadership of the Medical Care Department and the remaining 12 are under the Military. Trachoma had been highly prevalent in Myanmar from the 1960s to the 1980s and the TC & PBL program was established to support the surveillance of trachoma in the country. Today TC & PBL SECs provide services such as out-patient and in-patient services in hospitals, cataract outreach programs, village and school eye health examinations and PEC training to BHS[51].

[51] Ko Ko, A. T., 2012, 'Strengthening Eye Centres as a Base of Increasing Cataract Surgical Rate in Myanmar', Myanmar Academy of Medical Science, Yangon.

Table 10: Distribution of Secondary Eye Care Services[52]

		DEPARTMENT OF MEDICAL SERVICES	TC & PBL	MILITARY
	KACHIN STATE			
1-2	Myit Kyi Na	1		1
3	Bahmaw	1		
	SAGAING REGION			
4-5	Sagaing	1	1	
6-8	Momywa	1	1	1
9-10	Shwe Bo	1	1	
11	Kan Ba Lu	1		
12	Kalay	1		
13	Homelein	1		
	SHAN STATE			
14	Taungyi	1		
15	Loilin	1		
16-17	Kyaing Tong	1		1
18	Lashio	1		
19	Kyauk me	1		
20	Aung Ban			1
	KAYAH STATE			
21	Loikaw	1		
	BAGO REGION			
22-23	Bago	1	1	
24	Pyi	1		
25-26	Taungoo	1	1	
27	Shwe Gyin		1	
	MANDALAY REGION			
28	Mandalay Workers' Hospital	1		
29	Kyauk se	1		
30-32	Meikhti La	1	1	1
33-34	Saint Kaing	1	1	
35	Kyauk Pa Taung		1	
36	Pyin Oo Lwin			1
37	Myingyan		1	
	MAGWAY REGION			
38-39	Magway	1	1	
40-41	MinBu	1	1	
42	TaungDwinGyi		1	
43-44	Pakoku	1	1	
45	Gangaw		1	
46	Myaing		1	
47	Chauk		1	
	CHIN STATE			
48	Phalam	1		
48	Hakha	1		
	AYEYARWADY REGION			
50	Pathein	1		
51	Hinthada	1		
52	Ma-U- Bin	1		

[52] Information obtained from the Trachoma Control and Prevention of Blindness Program Office, Department of Public Health, Ministry of Health and Sports, 2016.

53-54	Pyapon	1	1	
55-56	Laputta	1	1	
57	Myaung Mya	1		
	MON STATE			
58-59	Mawlamyine	1		1
	KAYIN STATE			
60	Pa-an	1		
	TANINTHARI REGION			
61	Myeik	1		
62	Htawai	1		
63	Kauthaung	1		
	YANGON REGION			
64-65	Workers' General Hospital	2		
66	Insein General Hospital	1		
67	East- Yangon General Hospital	1		
68	West- Yangon General Hospital	1		
69	Thingangyun General Hospital	1		
70	Thanlyin General Hospital	1		
71	2 Military Hospital, Yangon			1
72	3 Military Hospital,			1
73	22 Military Hospital, Thanlyin			1
	RAKHINE STATE			
74	Sittwe	1		
75	Thandwe	1		
76	2 Military Hospital, Ann			1
	NAY PYI TAW COUNCIL TERRITORY			
77	1000- Beded Hospital	1		
78	Hospital for retired persons	1		
79	Zabuthiri Hospital	1		
80-81	Pyinmana	1		1
82	Eye, Ear, Nose and Throat Hospital	1		
83	2 Military Hospital			1

5.3.3 Primary Eye Care

The rural areas are serviced by the RHCs and BHS including Health Assistants (HA), Lady Health Visitors, and volunteers (Auxiliary Midwives and Community Health Workers). Primary Health Care (PHC) has limited integration with primary eye care (PEC).

PEC has been integrated into PHC the TC & PBL catchment areas as per the following:

- Model Village Eye Health Examinations
  - lead by team leaders (Ophthalmologists) and conducted in at least two villages per month
- Village Eye Health Examinations
  - lead by field workers and HA and conducted one week per month
- School Eye Health Examinations
  - lead by team leaders, field workers and HA and mostly conducted at Primary Schools in collaboration with School Health Teams
- Out Patient Clinic in SECs
  - conducted at least two days per week and also include surgical intervention on OT days
- PEC Trainings
  - primarily for BHS

5.4 Eye Health Systems - Human Resources

Myanmar has strong training programs for eye health personnel and good retention of professionals across government services. However, the country still is far from reaching the ratios for human resources for eye care as recommended by the WHO, as shown in Table 11.

Table 11: Human Resources for Eye Health in Myanmar[54]

EYE CARE PERSONNEL	NUMBER	RATIO	RECOMMENDED RATIO BY 2020[54]	CURRENT RATIO	ANNUAL INTAKE	CAPACITY
Ophthalmologists	345	Eye Surgeons: Population	1:50,000	1: 156,000	30	40
Ophthalmic nurses	221	Ophthalmic Nurses: Population	1:50,000	1: 233,000	9*	40
Optometrists	51	Optometrists: Population	1:50,000	1: 1 million	No regular intake although intake of 60 in 2015	
Orthoptists	3	Orthoptists: Population	N/A	1: 17 million	No regular training program	
PEC personnel (BHS trained on PEC)	Approx. 5,000	All community health care workers trained in primary eye care.		N/A	300	300

**This number refers to the number of Ophthalmic Nurses trained in the 9 month course and does not include on the job training.*

The majority of ophthalmologists practice in Yangon (150 serving a population of 6 million) and Mandalay (32 serving a population of 3 million). Over 80 of the 327 ophthalmologists practice in a private practice.

5.4.1 Training

Ophthalmologists: Four teaching hospitals provide three yearlong training of ophthalmologists. The current annual intake is 30 students per year and the maximum capacity is 40 residencies/ year.

[53] Information obtained from the Trachoma Control and Prevention of Blindness Program Office, Department of Public Health, Ministry of Health and Sports, 2016.

[54] Recommended by World Health Organisation and International Agency for Preventable Blindness in Vision 2020 (IAPB & WHO, 2007)

To receive a Doctorate in Ophthalmology (Dr.Med.Sc) degree students must complete a three year course at three Universities of Medicine in Yangon and Mandalay. The course includes 6 subspecialty modules. The annual intake varies.

Ophthalmic Nurses: This is a nine month long course offered at University of Nursing, run at YEH. The annual intake is 9 candidates per year. Ophthalmic Nurses may also qualify through on the job training, which is the more common method.

Refractionists and Optometrists: This training is only available at YEH and there is an annual intake of 30 for a two year course.

PEC personnel: Depending on available resources between 300 and 500 BHS are trained annually on PEC. The training includes trachoma surveillance and referral; supplementation of vitamin A; and treatment and referral of red eye/injuries. Some, but not all, BHS receive training to identify and refer cataract or other eye diseases.

Table 12, below, shows the number of eye health sub-specialists trained. It should also be noted that some of these sub-specialist Ophthalmologists are now training their own fellows within Myanmar from YEH, MEENTH and the Universities of Medicine 2.

Table 12: Eye Health Sub-Specialists Trained[55]

SUB-SPECIALTY	NO.	LENGTH OF STUDY	LENGTH OF STUDY
Cornea	3	1 year	L.V Prasad Eye Institute (LVPEI), India and Royal Adelaide Hospital (RAH), Australia
	1	10 months	Tilganga Institute of Ophthalmology (TIO), Nepal
	3	3 months	Austria and LVPEI, India
Retina	6	1 year	RAH, Australia and TIO, Nepal, National University Hospital
	2	6 months	RAH, Australia and Munich
	3	3 months	Austria and LVPEI, India
Glaucoma	2	1 year	NUH and RAH, Australia
	2	3 months	Austria and LVPEI, India
Oculoplastic	3	1 year	NUH and RAH, Australia
	1	6 months	Israel
	1	3 months	Munich
Pediatric Ophthalmology	2	1 year	LVPEI, India and RAH, Australia
	2	3 months	LVPEI, India
Uveitis	1	1 year	Moorfield, London
Public Health Ophthalmology	2	3 months	LVPEI, India
Neuro Ophthalmologist	3	1 year	Yangon Eye Hospital (YEH), Myanmar
Retinoblastoma	5	3 months	YEH, Myanmar and LVEPEI, India

[55] Tin Win, Prof., 2015, 'Current Situation of Eye Care Services in Myanmar', Myanmar Workshop for Developing National Plan of Action July 28-29 2015, July 2015, Nay Pyi Taw.

5.5 Eye Health Systems - Medicine, Equipment and Technology

Over 100,000 cataract surgeries are performed in Myanmar annually. The output varies greatly from region to region and depends largely on the availability of human resources as well as their support in terms of equipment and consumables. Although most SECs do have standard equipment available to perform Extracapsular Cataract Extraction and Intraocular Lens (IOL) implantation there are several SECs that do require one or more items[56]. There are several SECs that require replacement or maintenance of equipment.

Most medicines, supplies and equipment are provided by the MoHS and/or major international donors such as WHO, Christian Blind Mission (CBM), Helen Keller International (HKI), Sight For All (SFA), Himalayan Cataract Project (HCP) and Fred Hollows Foundation (The Foundation). At present, most medicines and supplies are imported. Although local production of basic ophthalmic drops is taking place in Meikhtila it is often interrupted due to lacking of basic chemicals[57]. As the program expands, there may be a need to commence/expand the local production of essential medicines and supplies from within the country.

The Essential and Complementary Medicines and Vaccines for Myanmar currently includes a full section on eye health related medicines under Section 19: Ophthalmological Preparation[58]. Details can be seen in Table 13.

Table 13: Eye Health related medicines in the Essential list of Medicines[59]

CLASSIFICATIONS, GENERIC NAME (INN)	ROUTE OF ADMINISTRATION	DOSAGE FORMS AND STRENGTHS
1. ANTI-INFECTIVE AGENTS		
Chloramphenicol (E)	Eye Drops	0.5%
	Eye Ointment	1%
Ciprofloxacin (hydrochloride)	Eye Drops	0.3%
Clotrimazole (E)	Eye Drops	1%
Framycetin (E) (Sulfate)	Eye Drops	0.5%
Gentamycin (E) (Sulfate)	Eye Drops	0.3%
Tetracycline (E) (hydrochloride)	Eye Ointment	1%
2. MIOTICS AND ANTIGLAUCOMA AGENTS		
Acetazolamide (E)	Tablet	250mg
Pilocarpine (E)	Eye Drops	2%, 4%
(hydrochloride or nitrate)		
Timolol (E) (maleate)	Eye Drops	0.25%, 0.5%
3. MYDRIATICS		
Atropine (E)	Eye Drops	1%
Tropicamide (C)	Eye Drops	0.5%, 1%
4. FOR ALLERGIC CONJUNCTIVITIS		
Xylometazoline (C)	Eye Drops	0.05%
(hydrochloride)		
Anti-inflammatory agents		
Prednisolone (E)	Eye Drops	0.5%
(Sodium phosphate)		
Local anaesthetics		
Tetracaine (C)	Eye Drops	0.5%
(hydrochloride)		

[56] Ko Ko, A. T., 2012, 'Strengthening Eye Centres as a Base of Increasing Cataract Surgical Rate in Myanmar', Myanmar Academy of Medical Science, Yangon.

[57] Hla Mar Lar, Dr., 2015, 'Current Situation of Eye Care Services in Myanmar', Myanmar Workshop for Developing National Plan of Action July 28-29 2015, July 2015, Nay Pyi Taw.

[58] Ministry of Health, 2010, Essential and Complimentary Medicines and Vaccines for Myanmar, Ministry of Health, Nay Pyi Taw.

[59] Ministry of Health, 2010, Essential and Complimentary Medicines and Vaccines for Myanmar, Ministry of Health, Nay Pyi Taw, p. 27-28.

There is also a Primary Eye Care Kit which includes the following:

1. Vision screening chart
2. Torch light
3. Binocular magnification loupe
4. Pin hole
5. Measurement tape
6. Basic Antibiotic Eye Drop and ointment
7. Manual
8. Stationery

5.6 Eye Health Systems - Information

The Health Information System (HIS) Strategic Plan (2011 – 2015) is the first strategic plan for Health Information System in Myanmar. The HIS Strategic Plan incorporated input from the MoH, State and Regional Health Departments, officials from the Central Statistical Organisation and Department of Population as well as officials from UN Agencies and I/NGOs. The vision is "a simple, effective and systematic health information system established at all levels of health care delivery for the strengthening of health system"[60].

While this Strategic Plan illustrates progress for the improvement of HIS in Myanmar, the current system does not adequately consider eye health and eye care related indicators. In addition, all information that is specific to eye health is collected manually both in government and private sectors and there is currently no computerised registration[61]. Only headquarters have access to computers and internet, therefore such access to technology necessary for HIS is limited in SECs.

5.7 Eye Health Systems - Financing

The government allocated funding toward human resources as well as medicines, consumables and equipment to the TC & PBL Program and the eye care services functioning under the Department of Medical Service. Non-government parties, such as UN Agencies, INGOs and NGOs, have also allocated financial resources to support the eye health sector in Myanmar.

5.8 Multi-sectoral Collaboration and Partnership

There are limited mechanisms in Myanmar for multi-sectoral collaboration and partnership within health and non-health sectors for eye care.

5.8.1 NGO Partnership

There are several international non-government organisations (INGO) active in Myanmar's eye health domain:

CBM has been working in Myanmar since late 1980's to support the TC & PBL Programme and other local disability organisations. CBM's support to TC & PBL focused on elimination of trachoma, which was historically the leading cause of blindness in Myanmar, through SECs in the Dry Zone. Once trachoma prevalence was significantly reduced, the focus of CBM's support to TC & PBL Programme has shifted to cataract treatment and other eye conditions to prevent avoidable blindness.

CBM currently support two projects in Myanmar: the TC & PBL Programme and a community-based rehabilitation programme for persons with disabilities, working in partnership with the Leprosy Mission Myanmar since 2008.

CBM does not have an office based in Myanmar but manage the project from its office in

[60] Ministry of Health, 2011, Health Information System: Five Year Strategic Plan (2011-2015), Department of Health Planning, Ministry of Health, Nay Pyi Taw, p. ii.

[61] Hla Mar Lar, Dr., 2015, 'Current Situation of Eye Care Services in Myanmar', Myanmar Workshop for Developing National Plan of Action July 28-29 2015, July 2015, Nay Pyi Taw.

Bangkok. *www.cbm.org.*

Helen Keller International (HKI) has been working in Myanmar since 2001 to reinforce the existing cataract surgery infrastructure and to monitor trachoma, in close cooperation with the MoHS and the TC & PBL Program. From 2002 to 2015, more than 328,900 cataract surgeries were performed in 17 SECs and 8 general hospitals, 92% of which were facilitated by HKI.

Since 2015, HKI has been working to improve access to primary eye care and high quality cataract surgery among the poor in twelve districts within the Dry Zone by testing a comprehensive eye care model and improving primary eye care knowledge among basic health staffs and community members that builds demand for services and includes community outreach and systematic follow-up care. Since January 2013, HKI has been working with partners on the "Leveraging essential nutrition actions to reduce malnutrition" project to increase the capacity of implementing partners to integrate nutrition into their existing livelihood programs.

HKI is seeking to expand their work in Myanmar to implement a School Eye Care Project in the Arrawaddy region which will training teachers in eye health and support two SECs in this region. HKI is also initiating a nutrition program in Ayeyarwaddy and the Dry Zone.

HKI manages their Myanmar Program from their Myanmar Country Office in Yangon.
http://www.hki.org/

The Fred Hollows Foundation (The Foundation) has been providing support to the YEH, since 2012 through its partner Tilganga Institute of Ophthalmology (TIO), Nepal. This support as helped to increase the capacity of the YEH to reduce avoidable blindness in Myanmar through the provision of medical equipment and the implementation of eye screening and surgical outreach camps. Human resource development has also been a critical element of this support, with two Myanmar ophthalmologists receiving training in Small Incision Cataract Surgery (SICS), one ophthalmologist currently undertaking a vitreo-retina (VR) subspecialty fellowship program and two Ophthalmic Nurses trained in Operation Theatre nursing procedure at TIO in Nepal.

In 2016 The Foundation expanded their work to increase support to the MoHS to eliminate avoidable blindness in Myanmar. Areas of this work include:

- Provide key support in the development and launching of Myanmar's National Eye Health Plan
- Provide key support for the planning and implementation of the national-level RAAB survey
- Support capacity development of the Department of Public Health (DoPH), MoHS, to provide strategic leadership for national eye care program development and management
- Design and implement a comprehensive, integrated and quality eye care program aligned with the NEHP and applying WHO's Health System Strengthening Framework

www.hollows.org

The Himalayan Cataract Project (HCP) began working in Myanmar in 2013 through its partnership with the TIO to support the YEH. Since then HCP has supported two 12-month sub-specialty (cornea and retina) fellowships for YEH staff at TIO in Nepal and the United States; five cataract and cornea workshops that provided on the ground training, 3,176 cataract surgeries and 11 corneal transplants in Yangon and other outposts; and is partnered with USAID's American Schools and Hospitals Abroad (ASHA) program to provide sub-specialty equipment for YEH.
In 2017 HCP plans to continue supporting ophthalmic sub-specialty and cataract surgical skills transfer; procure ophthalmic equipment; and support efforts to implement the National Eye Health Plan and RAAB survey.
www.cureblindness.org

Sight For All (SFA) is an Australian based NGO which raises funds to deliver eye health care projects free of charge to partner countries and communities. Myanmar is of particular significance to SFA as one of the organisation's founding members, A/Prof Henry Newland, has been visiting Myanmar for over two decades and developed strong relations with the staff of YEH. SFA has supported significant research pieces in Myanmar, including the Meiktila Eye Study (2005) and the Childhood Blindness Study (2007).

Another key aspect of SFA's support is human resource development and the organisation conducts annual workshops for trainee ophthalmologists at YEH and supports the training of several sub-specialists through a fellowship program with the Royal Adelaide Hospital (RAH). SFA has trained fellows in the sub-specialty areas of retina, glaucoma, paediatric ophthalmology, oculoplastics, cornea and neuro-ophthalmology. SFA also supports infrastructure development and provision of surgical instruments. The organisation is proud to have supported tertiary centres such as the YEH establish subspecialty units and to have upgraded 36 SECs around the country. *www.sightforall.org*

In addition to above, other INGOs such as Help Me See, Seva Foundation, The Myanmar Eye Care Project and Royal Australian New Zealand College of Ophthalmologists (RANZCO) are supporting Myanmar in its efforts to eliminate avoidable blindness and their support includes research, training, equipment support, cataract camps and paediatric services.

With the support of different internal and external donors, some local NGOs and monastery based organizations are conducting eye camps mainly focusing on cataract surgery in some part of the country.

5.8.2 UN Agencies

The World Health Organisation (WHO) provides technical support to the Prevention of Blindness Program primarily through capacity strengthening of staff members from the TC & PBL Program. WHO has supported fellowship trainings throughout the South East Asia Region as well attendance to both regional and global meetings on eye health. It also provides support for in country training of medical officers, eye health personnel and basic health staff at the township level on primary eye care training and management training for eye health personnel.

In addition to this work, WHO also supports advocacy related activities, provides technical assistance and provides essential equipment towards the effort of ending avoidable blindness in Myanmar. At the national level the WHO supports the celebration of World Sight Day and at the State/Regional level they support other VISION 2020 activities such as the development of Information, Education and Communication (IEC) materials, TV spots and video clips. In terms of technical assistance, WHO has provided an expert to train TC & PBL staff members to conduct Rapid Assessment of Avoidable Blindness (RAAB) in selected districts. WHO also provides essential cataract surgical equipment and consumables, including intra ocular lens (IOL).

PART TWO

PART TWO

I. GLOBAL PLAN TO ELIMINATE AVOIDABLE BLINDNESS

1.1 Vision 2020: The Right to Sight

Vision 2020: The Right to Sight was launched in 1999 and is the global initiative for the elimination of avoidable blindness. Vision 2020 is a joint program of the WHO and the International Agency for the Prevention of Blindness (IAPB).

The global initiative seeks to promote, "A world in which nobody is needlessly visually impaired, where those with unavoidable vision loss can achieve their full potential".
It was set up to, "Intensify and accelerate prevention of blindness activities so as to achieve the goal of eliminating avoidable blindness by 2020."

And it sought to do this by, "Focusing initially on certain diseases which are the main causes of blindness and for which proven cost effective interventions are available."
The Vision 2020 global initiative has been further developed through a series of five year action plans[62].

VISION 2020
THE RIGHT TO SIGHT

ACTION PLAN
(1999 - 2000)

1.2 Universal Eye Health Plan - A Global Action Plan

The most recent action plan of the Vision 2020 global initiative, and currently the most important strategic document in eye health, is the Universal Eye Health Plan - A Global Action Plan 2014-2019 (GAP)[63]. The document was developed upon request of, and in close consultation with, Member States including Myanmar and was unanimously adopted at the sixty-sixth World Health Assembly held in Geneva in 2013 as part of the WHA resolution 66.4.

GLOBAL ACTION PLAN
(2014 - 2019)

The GAP builds upon the lessons learnt from previous strategic plans, including Vision 2020 and the 2009-2013 Action Plan, and is structured according to the health system approach, which aims at integration of eye care programs into wider health care systems at primary, secondary and tertiary level.

The goal of GAP is to reduce avoidable VI as a global public health problem and to secure access to rehabilitation for the visually impaired. The purpose of GAP is to achieve this goal by improving access to comprehensive eye care services that are integrated into health systems[64].
The GAP has set the global target of "Reduction in prevalence of avoidable visual impairment by 25% by 2019 from the baseline of 2010"[65] which is considered by members to be a more realistic target than the original Vision 2020 target of global elimination by 2020.

Proposed actions for Member States, international partners and the Secretariat are structured around three key objectives:

- Objective 1 addresses the need for generating evidence on the magnitude and causes of visual impairment and eye care services and using it to advocate greater political and financial commitment by Members States to eye health;
- Objective 2 encourages the development and implementation of integrated national eye

[62] International Agency for the Prevention of Blindness, 2016, Vision 2020: The Right to Sight, http://www.iapb.org/vision-2020

[63] World Health Organisation, 2013, Universal Eye Health: A Global Action Plan 2014-2019, World Health Organisation, Geneva.

[64] World Health Organisation, 2013, Universal Eye Health: A Global Action Plan 2014-2019, World Health Organisation, Geneva, p.7.

[65] World Health Organisation, 2013, Universal Eye Health: A Global Action Plan 2014-2019, World Health Organisation, Geneva, p.3.

health policies, plans and programmes to enhance universal eye heath with activities in line with WHO's framework for action for strengthening health systems to improve health outcomes;

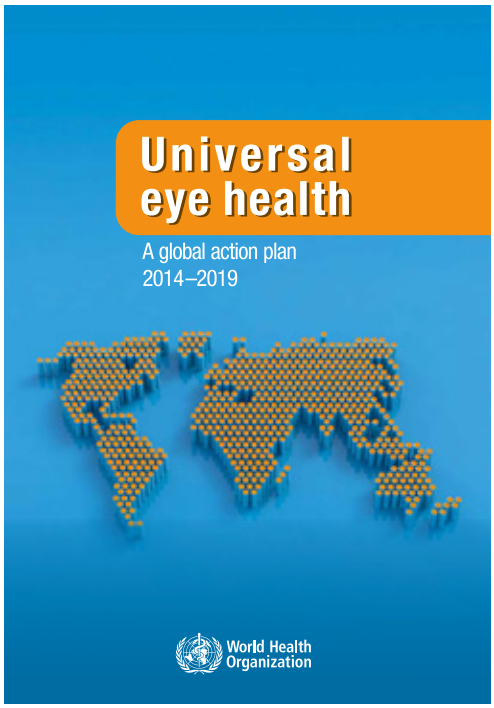
- Objective 3 addresses multi-sectoral engagement and effective partnerships to strengthen eye health[66]

All stakeholders and Member States were requested to join in the renewed effort to translate the vision of the GAP into their own contexts. The goal, purpose and strategic objectives of Myanmar's National Eye Health Plan are therefore aligned with the WHO Global Action Plan.

1.3 Guiding Principles

The GAP, and by extension Myanmar's National Eye Health Plan, is based on the following five cross-cutting principles and approaches:

1. **Universal access and equity:** All people should have equitable access to health care and opportunities to achieve or recover the highest standard of health, regardless of age gender or social position;
2. **Human rights:** Strategies and interventions for treatment, prevention and promotion must be compliant with international human rights conventions and agreements;
3. **Evidence-based practice:** Strategies and interventions for treatment, prevention and promotion need to be based on scientific evidence and good practice;
4. **Life-based practice:** Eye health and related policies, plans and programs need to take account of health and social needs at all stages of the life course;
5. **Empowerment of people with blindness and visual impairment:** People who are blind or who have low vision can participate fully in the social, economic, political and cultural aspects of life.

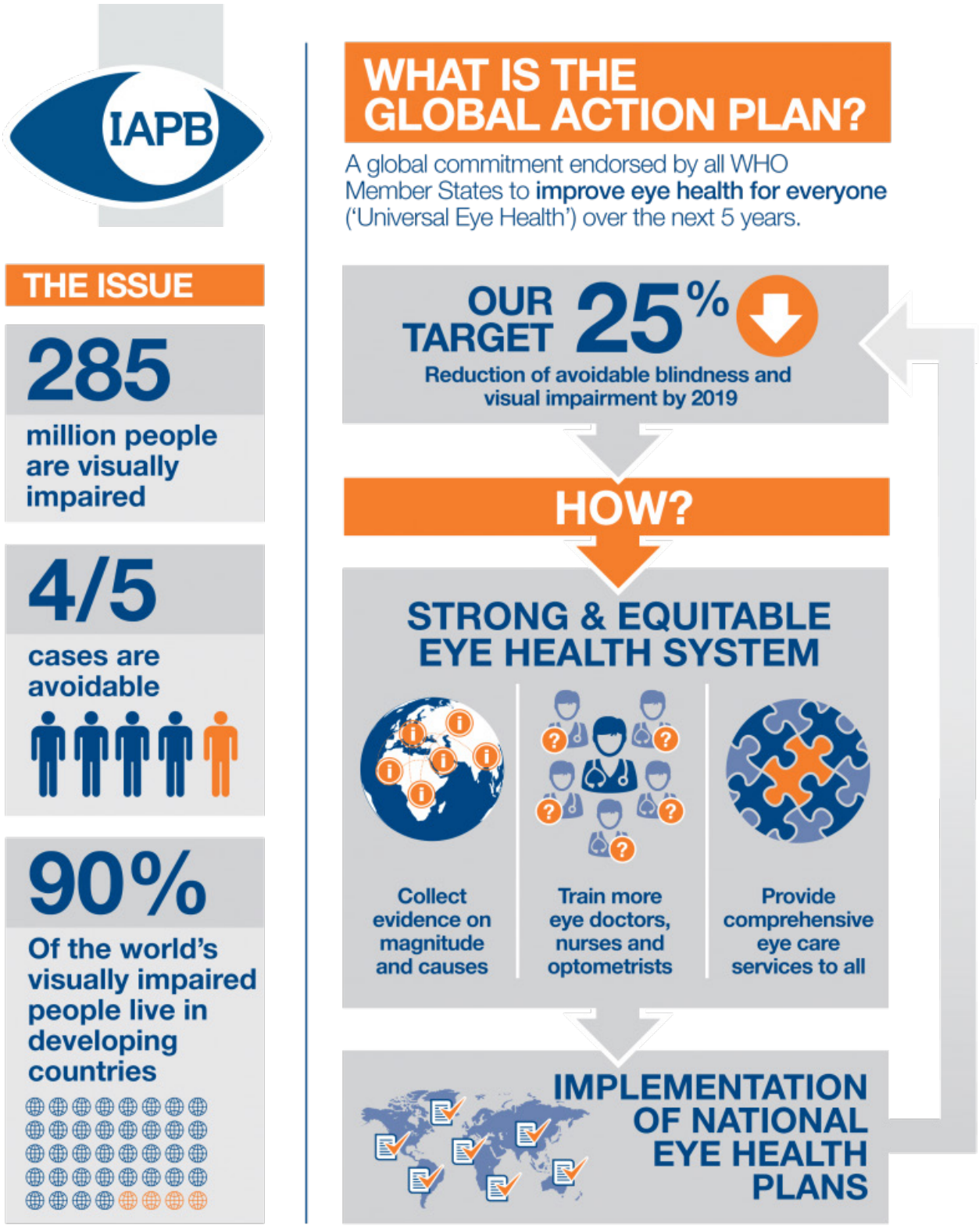


Also key to the implementation of the Global Action Plan is the concept of Universal Health Coverage (UHC). The WHO defines UHC, and therefore Universal Eye Health, as "ensuring that all people have access to needed promotive, preventative, curative and rehabilitative health service, of sufficient quality to be effective, while also ensuring that people do not suffer financial hardship when paying for these services"[67].

[66] World Health Organisation, 2013, Universal Eye Health: A Global Action Plan 2014-2019, World Health Organisation, Geneva, p. 7.

[67] International Agency for the Prevention of Blindness, 2016, 'What is Universal Eye Health', http://www.iapb.org/advocacy/who-action-plan/UEH , n.p

Figure 4: Global Action Plan Infographic



II. NATIONAL EYE HEALTH PLAN

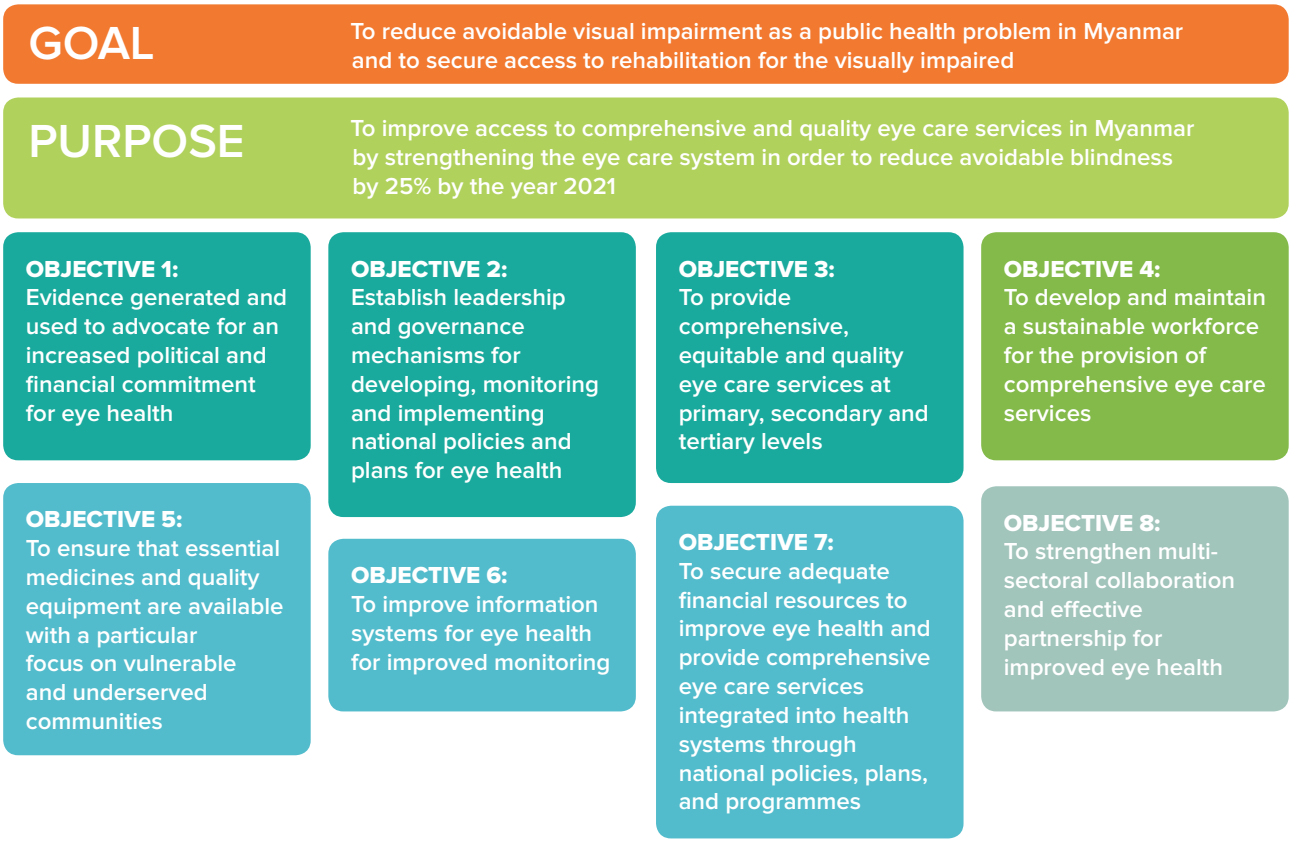
The details of the Myanmar's **National Eye Health Plan** (NEHP) were developed during the National Consultation Workshop to Develop a National Action Plan for Eye Care that took place in Nay Pyi Taw from 27-28 July, 2015. The participants in the workshop included high ranking officials from the MoHS (Medical Care and Public Health departments), representatives from TC & PBL as well as delegates from donor agencies, IAPB and INGOs (see full list of participants in Annex One). The workshop was officially opened by the Deputy Minister of Health and provided support for the development of a National Eye Health Plan.

At the conclusion of the National Consultation Workshop the participants agreed on a number of recommendations for the National Eye Health Plan. The recommendations were summarised according to the health systems strengthening framework and guided the development of the NEHP.

2.1 NEHP Goal, Purpose and Objectives

The **Goal** of Myanmar's National Eye Health Plan is:
"To reduce avoidable visual impairment as a public health problem in Myanmar and to secure access to rehabilitation for the visually impaired."

The **Purpose** of Myanmar's National Eye Health Plan is:
"To improve access to comprehensive and quality eye care services in Myanmar by strengthening the eye care system in order to reduce avoidable blindness by 25% by year 2021."



2.2 NEHP Strategic Objectives, Gaps and Actions

STRATEGIC OBJECTIVE 1

Evidence generated and used to advocate for an increased political and financial commitment for eye health.

GAPS →

Inadequate recent national eye health data and information and lack of systematic situational analysis.

ACTIONS →

- ☐ Undertake research on the prevalence of avoidable blindness and visual impairment and its causes (e.g. RAAB, Diabetic Retinopathy (DR), Childhood Blindness etc);
- ☐ Use evidence for planning and monitoring progress, and for advocacy purposes.

STRATEGIC OBJECTIVE 2

Establish leadership and governance mechanisms for developing, monitoring and implementing national policies and plans for eye health.

GAPS →

Need for updated National Eye Health Plan with clearly defined targets and priorities. No monitoring, reporting and coordination mechanism.

Accountability structure needs to be defined.

ACTIONS →

- ☐ Advocate to include eye health under the proposed NCD Technical Support Groups (TSG) of the Myanmar Health Sector Coordination Committee (MHSCC);
- ☐ Form an Advisory Committee under the NCD TSG (eye health component) to take forward the National Eye Health Plan and coordinate collaboration with other departments and sectors;
- ☐ Appoint a National Coordinator for the National Eye Health Plan;
- ☐ Plan and conduct national advocacy activities every year;
- ☐ Annually review and evaluate progress on the implementation of the National Eye Health Plan;
- ☐ Gradually devolve the governance mechanisms to State/Region level through development of committees;
- ☐ Develop a National Policy for Eye Health;
- ☐ Fulfil the WHO trachoma elimination dossier.

STRATEGIC OBJECTIVE 3

To provide comprehensive, equitable and quality eye care services at primary, secondary and tertiary levels.

GAPS →

Comprehensive eye care services are not adequately available and affordable in all parts of the Myanmar, in particular to remote and low income groups.

Primary Eye Care (PEC) is not fully integrated into primary level of public health.

ACTIONS →

Primary Level:

- ☐ Train BHS and volunteers at primary level facilities in PEC, including DR awareness and referrals;
- ☐ Carry out outreach programs, as per approved guidelines of MoHS, in underserved or high blindness prevalence areas to clear the cataract backlog and provide other services;
- ☐ Continue development and integration of eye health into school health programs for annual screening and commence provision or replacement of affordable glasses;

Secondary Level:

- ☐ Increase the capacity of existing SECs to accommodate increased referrals;
- ☐ Establish more SECs in underserved areas.

Tertiary Level:

- ☐ Ensure that regional tertiary level hospitals provide sub-specialty

Rehabilitation Level:

- ☐ Establish appropriate low vision and community based rehabilitation services, expanding availability beyond the Tertiary

Quality Assurance:

- ☐ Surgical audit for quality
- ☐ Other mechanisms implemented to monitor quality outcomes for eye health services

STRATEGIC OBJECTIVE 4

To develop and maintain a sustainable workforce for the provision of comprehensive eye care services.

GAPS →

Insufficient eye care work force in all categories – ophthalmologists, ophthalmic nurses, optometrists. Inadequate training capacity (training of trainers). Inadequate continuing medical education in eye care.

ACTIONS →

- ☐ Develop a comprehensive eye health workforce human resource development (HRD) plan for Myanmar
- ☐ Gradually increase workforce numbers to reach recommended WHO levels, adapting to the Myanmar context
- ☐ Increase subspecialty training for tertiary level care

STRATEGIC OBJECTIVE 5

To ensure that essential medicines and quality equipment are available with a particular focus on vulnerable and underserved communities.

GAPS →

Irregular supply of medicine and equipment.

ACTIONS →

- ☐ Ensure that SECs are equipped with standard equipment to perform SICS, and gradually moving towards Phacoemulsification, with good visual outcomes.
- ☐ Expand the national essential medicine list to adequately provide for key eye diseases and ensure such medicines are available in all underserved communities.
- ☐ Advocate to manufacturing companies for essential eye medication and supply production within Myanmar

STRATEGIC OBJECTIVE 6

To improve information systems for eye health for improved monitoring.

GAPS →

supply Health information systems only primarily focus on maternal and child health and major communicable diseases. National reporting of eye diseases is incomplete. Only SECs under TC & PBL report regularly on eye health services.

ACTIONS →

- ☐ Develop a set of national indicators and targets to be included in national health information systems during Advisory Committee meeting;
- ☐ Build capacity of eye care service providers (equipment, knowledge and skills) to monitor and provide timely reporting on quality and service delivery against agreed indicators.

STRATEGIC OBJECTIVE 7

To secure adequate financial resources to improve eye health and provide comprehensive eye care services integrated into health systems through national policies, plans, and programmes.

GAPS →	ACTIONS →
Free eye care services from MoHS and NGOs outreach services but inadequate and not accessible to all. In collaboration with World Development Bank (WDB), MoHS is developing three phases of an Essential Health Package which will include selected eye diseases.	☐ Conduct stakeholder analysis to determine current level of funding and gaps to eye care; ☐ Advocate to increase government expenditure on eye health; ☐ Advocate for technical and financial assistance from UN agencies, INGOs, NGOs, private sector and donor agencies for eye health; ☐ Ensure eye health is included in the essential health packages under Myanmar's UHC through effective advocacy.

STRATEGIC OBJECTIVE 8

To strengthen multi-sectoral collaboration and effective partnership for improved eye health.

GAPS →	ACTIONS →
Weak multi-sectoral collaboration in eye health.	☐ Incorporate eye health into poverty reduction strategies and other sector plans through effective advocacy.

III. RESOURCE MOBILISATION

The 5 year National Eye Health Plan will primarily be funded by the government and other sources that include national and international NGOs & donors, private sector actors, civil society groups, among others. The government will request its development partners to support the funding of the plan. The costing of the plan will be shared with all development partners. The Advisory Committee will plan for national advocacy activities aiming to generate more funding for eye care. The plan will also be the guiding document for any supporters that want to improve eye care services in the country.

IV. MANAGEMENT & MONITORING OF NATIONAL EYE HEALTH PLAN

4.1 Advisory Committee for Eye Health

UEH - GAP 2014-2019 requests that all countries 'establish or maintain coordinating mechanisms to oversee and monitor implementation of policies, plans and programmes for eye health' (IAPB, 2010). To fulfil this requirement it is recommended to form an Advisory Committee for Eye Health in Myanmar. It is proposed that this Committee will sit under the Non-Communicable Disease (NCD) Technical Support Group (TSG), pending approval by the MoHS.

The implementation of the NEHP will require multi-sectoral collaboration (see Strategic Objective 8) and partnership with a variety of stakeholders including government, NGOs, INGOs, private sector, academia and many more. It is therefore proposed that the Advisory Committee comprises both government and non-government stakeholders.

The Advisory Committee should meet at a minimum of twice a year and will be responsible for the following:

- Preparation of detailed annual work plans to implement the NEHP;
- Update the NEHP as required to remain contextually relevant
  - For example, update the targets and baseline as data from the National RAAB becomes available;
- Monitoring of progress against the NEHP Objectives and production of annual reports against the targets outlined in the logframe;
- Monitor work of all stakeholders in eye health to reduce duplication of efforts and harmonise work;
- Develop a long term policy on eye health;
- Improve collaboration and coordination;
- Mobilise resources;
- Review human resource issues;
- Meeting regularly with key officials/politicians to ensure effective implementation of the NEHP.

The Advisory Committee may be organised according to thematic areas, for example[68]:

HEALTH INFORMATION SYSTEMS ■ Review national health information systems ■ Develop a set of national eye health indicators and targets to be included in the health information system ■ Assess the capacity of service providers to monitor and report on quality and service delivery against agreed indicators	HEALTH FINANCING ■ Consider costing and budget of the National Eye Health Plan ■ Participate in sector meetings on Universal Health Coverage to ensure that eye health is included in the essential package ■ Provide briefing notes for key stakeholders for high level advocacy
HUMAN RESOURCE ADVISORY GROUP ■ Review current distribution of human resources and make suggestions for improved equity ■ Assess current deployment and recommend changes to improve retention	INFRASTRUCTURE, EQUIPMENT AND CONSUMABLES ADVISORY GROUP ■ Work with Ministry of Finance to get specific items on the essential medicines list ■ Work with customs department to facilitate easy clearance ■ Identify the possibility of having a national procurement system ■ Develop and propose norms for infrastructure, equipment, and consumables at all levels
ADVOCACY ADVISORY GROUP ■ Create a communication strategy ■ Identify the key advocacy needs ■ Develop advocacy material ■ Plan national World Sight Day activities	TRACHOMA ADVISORY GROUP ■ Undertake steps required for trachoma elimination and certification by WHO

[68] International Agency for the Prevention of Blindness, 2010, National Eye Health Coordinator Manual, International Agency for the Prevention of Blindness, London School of Hygiene and Tropical Medicine, London, p. 6.

4.2 National Coordinator

To support the Advisory Committee for eye health achieve their deliverables, the Program Manager of the TC & PBL will propose a National Coordinator for approval by the Union Minister. The National Coordinator will be responsible for:

- Overseeing the preparation of an annual report of the NEHP;
- Ensuring that reports from all meetings are disseminated widely and in a timely fashion (within one week of the meeting);
- Facilitating the work of the Advisory Committee to deliver results;
- In the longer term, supporting the implementation of an Advisory Committee coordination mechanism at State/Region and district level;
- Setting dates for Advisory Committee meetings well in advance and notifying participants
- Sending reading material/documents for review.

4.3 Devolving the Coordination Mechanism to State/Region Level

In order to meet the targets set by the NEHP it is important to consider the gradual devolvement of the Eye Health Plan and coordination mechanism to State/Region level. The difference between the "National' and "State/Region" plan can be summarised as follows[69]:

The National Plan includes:

- National policies (human resources, deployment, remuneration and incentives)
- National training initiatives and plans to improve capacity
- Recommended staffing at different levels of service delivery
- National reporting guidelines
- National advocacy
- Desired equipment and instrument norms
- Disease priorities (and basic strategies)
- National procurement of consumables
- National supervisory structures
- Overall national targets for service delivery
- National coordination

State/Region Plans should include:

- Current assessment of service delivery, staffing levels, equipment and instruments in each district
- Targets for service delivery for each district (e.g. cataract surgeries, spectacles dispensed, diabetic patients screened annually)
- Activities needed to achieve each of the targets (including changes needed to infrastructure, management, skills)
- State/Region's plans for improving partnership (and identifying new partners)
- Routine monitoring and reporting
- Coordination at the district level
- Timeframe for each activity
- Budget

The National Coordinator, with the support of Advisory Committee, should drive the devolution process. The proposed steps for devolution plans are:

- Review the current situation in a given State/Region;
- Determine targets and activities required to reach the targets - the targets should enable the team to achieve the overall objective of the district plan (goal);
- Determine who will be responsible for each activity and when it will be done.

[69] International Agency for the Prevention of Blindness, 2010, National Eye Health Coordinator Manual, International Agency for the Prevention of Blindness, London School of Hygiene and Tropical Medicine, London, p. 18.

V. MONITORING AND EVALUATION FRAMEWORK

Goal / Purpose / Strategic Objective / Actions	Measurable Indicator	Targets and Baseline	Responsibility	Means of Verification	Assumptions
GOAL: To reduce avoidable visual impairment as a public health problem in Myanmar and to secure access to rehabilitation for the visually impaired.	Prevalence and causes of visual impairment	25% reduction in prevalence of avoidable blindness from 2017 RAAB baseline figures by 2021	▪ MOHS ▪ Stakeholders[70]	Evaluation and surveys to be conducted in 2021	Funding available to conduct 2017 RAAB and surveys in 2021
PURPOSE: To improve access to comprehensive and quality eye care services in Myanmar by strengthening the eye care system in order to reduce avoidable blindness by 25% by year 2021.	▪ Cataract surgery rate ▪ Cataract surgical outcome report	Baseline CSR: 2,038	▪ MOHS ▪ Stakeholders	Evaluation and surveys to be conducted in 2021	
Objective 1: Evidence generated and used to advocate for an increased political and financial commitment for eye health					
1.1 Undertake research on the prevalence of avoidable blindness and visual impairment and its causes	Completion of : ▪ National RAAB survey ▪ Childhood blindness study (follow-up) ▪ National RE survey of school aged children ▪ Temporal study in Meiktila ▪ National DR prevalence survey	▪ 1 National RAAB survey in 2017 ▪ 1 Childhood blindness study in 2017 ▪ 1 National RE survey of school aged children 2017 ▪ 1 Temporal study in Meiktila ▪ 1 National DR prevalence survey in 2018	▪ MoHS ▪ Stakeholders	▪ Survey Reports	▪ Funding available for DR survey
1.2 Use evidence for planning and monitoring progress, and for advocacy purposes.	▪ Examples of evidence based planning & monitoring ▪ Publish and disseminate survey results	▪ Annual plan developed using evidence from surveys ▪ Survey results used as baseline for progress ▪ All surveys published and results disseminated to relevant stakeholders	▪ Advisory Group ▪ Stakeholders	▪ Planning documents ▪ Survey reports and dissemination lists	

[70] Stakeholders refers to all parties involved in the eye health sector in Myanmar, including INGOs, NGOs, Religious Organisations and Donors

Goal / Purpose / Strategic Objective / Actions	Measurable Indicator	Targets and Baseline	Responsibility	Means of Verification	Assumptions
Objective 2: Establish leadership and governance mechanisms for developing, monitoring and implementing national policies and plans for eye health.					
2.1 Advocate to include eye health under the proposed NCD Technical Support Groups (TSG) of the Myanmar Health Sector Coordination Committee (MHSCC);	Eye health included in NCD TSG and group functioning as per its terms of reference (ToR)	▪ NCD TSG formed by Q3 of 2017	Director of NCD, DoPH, MoHS	ToR, meeting minutes	That MoHS will be willing to include eye health in the NCD TSG
2.2 Form an Advisory Committee under the NCD TSG (eye health component) to take forward the National Eye Health Plan and coordinate collaboration with other departments and sectors;	Advisory group formed and functioning as per its ToR	▪ 1 Advisory Group formed in 2017 and 2 meetings held annually from 2018	▪ Program Manager for TC & PBL ▪ All Professors and Advisors from Universities of Medicine	ToR, meeting minutes	The MoHS will accept the establishment of the Advisory Group for eye health
2.3 Appoint a National Coordinator for the National Eye Health Plan	National Coordinator appointed and working actively	▪ 1 National Coordinator appointed by the government in 2017	Proposed by Program Manager of TC & PBL for approval by Union Minister	Letter of nomination	MoHS approval of National Coordinator
2.4 Plan and conduct national advocacy activities every year	Number and type of advocacy activities implemented	▪ At least 2 national advocacy events organized every year	Advisory Group	Activities completion report	
2.5 Annually review and evaluate progress on the implementation of the National Eye Health Plan	Number of annual progress review meeting taking place Annual review summary report completed	▪ Progress reviewed during Advisory Committee meeting	▪ Advisory Group ▪ National Coordinator	Meeting minutes Annual review summary	Financial resources for meeting are available
2.6 Gradually devolve the governance mechanisms to State/Region level through development of committees	Committees to drive eye care program at State/Region level formed and functioning as per its ToR	▪ 7 committees in 2018 and remaining 7 in 2019 formed and functioning at State/Region level	▪ Advisory Group ▪ National Coordinator ▪ State/Regional Directors from DoPH and DMS	ToR, meeting minutes	State/region are positive and committed to this change
2.7 Develop National Policy for Eye Health	National policy on eye health developed	▪ 1 National Policy for longer term program direction by 2019	▪ Advisory Group develop and submit to Director General	Document	MoHS is willing to develop eye health policy
2.8 Fulfil the WHO trachoma elimination dossier	WHO dossier	▪ Commence in 2017 completed by 2019	▪ TC & PBL ▪ Stakeholders ▪ WHO	Fulfil WHO dossier	Funding is available

GOAL / PURPOSE / STRATEGIC OBJECTIVE / ACTIONS	MEASURABLE INDICATOR	TARGETS AND BASELINE	RESPONSIBILITY	MEANS OF VERIFICATION	ASSUMPTIONS
Objective 3: To provide comprehensive, equitable and quality eye care services at primary, secondary and tertiary levels.					
Primary Level: 3.1 Train general practitioners (GPs), BHS and volunteers at primary level facilities in PEC, including DR awareness and referrals;	▪ Number of townships in which GPs, BHS and volunteers trained in PEC across the country ▪ Inclusion of PEC into national training package/ manuals of GPs, BHS and volunteers	▪ 10 (minimum) townships in which GPs, BHS and volunteers have been have been trained in PEC ▪ National training package/manuals of GPs, BHS and volunteers contains PEC material by 2018 (aligned to timing of the revision of the package/ manuals)	▪ National Coordinator ▪ TC & PBL ▪ Stakeholders ▪ State/Regional Health Directors ▪ Township medical officers ▪ Advisory Group	Training report Training package/ manual of BHS and volunteers	DoPH, MoHS is willing to integrate and funding is available from stakeholders
3.2 Carry out outreach programs, as per approved guidelines of MoHS, in underserved or high blindness prevalence areas to clear the cataract backlog and provide other services	▪ Number of outreach programs held ▪ Number of people received cataract surgery, by age and gender ▪ Outreach program guidelines produced by Myanmar Academy of Medical Science (MAMS) are approved by MoHS	▪ Minimum of 25 outreach programs organized per year, increasing annually ▪ Minimum 20,000 surgeries per year, increasing annually ▪ MoHS approved Outreach program guidelines	▪ Stakeholders (including local and international NGOs) ▪ TC & PBL ▪ Universities of Medicines ▪ Advisory Group	▪ Outreach programs report ▪ Outreach Program guidelines	Funding available for outreach programs
3.3 Continue development and integration of eye health into school health programs for annual screening and commence provision or replacement of affordable glasses	▪ Number of school children screened for VI ▪ Number of children treated or referred for further treatment ▪ Total number of students who received spectacles ▪ Number of teachers and school health teams trained in vision screening ▪ Eye care component included into school health program	▪ 170,000 school children screened per year, increasing annually ▪ 5,800 children treated or referred per year, increasing annually ▪ Commence distribution of spectacles ▪ 1,000 teachers/ school health teams trained per year, increasing annually ▪ All school health programs include eye health component by 2018	▪ Stakeholders (including local and international NGOs) ▪ TC & PBL ▪ Universities of Medicines ▪ DoPH – school health division	School children screening and treatment report School health program report	Ministry of Education (MoE) is willing to integrate and funding available

GOAL / PURPOSE / STRATEGIC OBJECTIVE / ACTIONS	MEASURABLE INDICATOR	TARGETS AND BASELINE	RESPONSIBILITY	MEANS OF VERIFICATION	ASSUMPTIONS
Secondary Level: 3.4 Increase the capacity of existing SECs to accommodate increased referrals	▪ Facility based need assessment done ▪ Plan to improve efficiency developed based on the assessment ▪ Number of people treated at SECs, by age and gender	▪ Facility Based Needs Assessments conducted on a representative sample of the 83 SECs to identify need by 2018 ▪ Plan to improve efficiencies of SECs implemented by 2021	▪ Advisory group ▪ Stakeholders (including local and international NGOs)	▪ Report from Needs Assessment ▪ Planning document of SECs' improvement	Resources available to conduct Needs Assessments
3.5 Establish more SECs in underserved areas	▪ Number of SECs established (HR, equipment, infrastructure) at underserved areas ▪ Number of cataract operations conducted at SECs, by age and gender	▪ 7 SECs established in underserved areas per year (total 35 required) ▪ 600 cataract operations conducted per SEC per year, increasing annually	▪ TC & PBL ▪ Stakeholders ▪ State/Regional Health Directors (as relevant)	SECs' patient treated record	MoHS and State/ Regional Health Directors are willing to establish additional SECs
Tertiary Level: 3.6 Ensure that regional tertiary level hospitals provide sub-specialty services	Number of regional tertiary level hospitals that provide sub-specialty services, by type of service	▪ Baseline: 3 (YEH, MEENTH & NOGTH) ▪ Target: All 5 regional tertiary hospitals provide sub-specialty services by 2021	▪ MoHS ▪ Advisory Group	Hospital records	Human resources and equipment available
Rehabilitation: 3.7 Establish appropriate low vision and community based rehabilitation services, expanding availability beyond the Tertiary Level	▪ Number of low vision and community based rehabilitation services established ▪ Number of people benefited, by age and gender	▪ Baseline: 2 (YEH & MEENTH) ▪ Target: Low vision and community based rehabilitation services established in all 17 State and Regions by 2021. ▪ Baseline: 75-100 people ▪ Target: increasing annually	▪ MoHS ▪ Stakeholders (including INGOs)	Hospital records	MoHS is willing to establish and funding is available from stakeholders.
Quality Assurance 3.8 Surgical audit for quality	Proportion of cataract surgeries with good surgical outcomes (visual acuity above 6/18 at discharge)	**Target:** 85% of eyes operated on achieve 6/18 visual acuity	Those involved in surgery (TC & PBL, Stakeholders etc)	Compilation of district data from eye care providers.	Data is available from the various providers of cataract surgery.
3.9 Other mechanisms implemented to monitor quality outcomes for eye health services	(examples of quality assurance measures include: patient satisfaction survey, quality of equipment, patients returning for follow up)	At least 2 additional quality assurance measures have been implemented in SECs by 2018	▪ MoHS ▪ Advisory Group	Quality assurance measures.	Capacity of services to collect patient satisfaction surveys.

GOAL / PURPOSE / STRATEGIC OBJECTIVE / ACTIONS	MEASURABLE INDICATOR	TARGETS AND BASELINE	RESPONSIBILITY	MEANS OF VERIFICATION	ASSUMPTIONS
Objective 4: To develop and maintain a sustainable workforce for the provision of comprehensive eye care services.					
4.1 Develop a comprehensive eye health workforce human resource development (HRD) plan for Myanmar	HRD plan developed (including situational analysis)	1 HRD plan developed by 2018	▪ Advisory Group ▪ Stakeholders	Document	Funding available from stakeholders
4.2 Gradually increase workforce numbers to reach recommended WHO levels, adapting to the Myanmar context	Numbers of different eye health workforce increased on an annual basis.	The following eye heath personnel graduate per year: ▪ 30 Ophthalmologists (minimum) ▪ 15-20 Ophthalmic nurses (course) ▪ 20-25 Ophthalmic nurses (on the job) ▪ 40 Optometrists Ophthalmologists (minimum) ▪ 15-20 Ophthalmic nurses (course) ▪ 20-25 Ophthalmic nurses (on the job) ▪ 20-30 Optometrists	▪ 5 Medical Universities ▪ SECs	Record of Medical Universities and SECs	▪ Numbers mentioned in targets could be changed after the HRD plan is developed. ▪ Training institute sustains capacity to train personnel.
4.3 Increase subspecialty training for tertiary level care	Number of Medical Universities with capacity for subspecialty training	▪ Baseline: 2 (YEH & MEENTH) ▪ Target: All 5 Medical Universities have capacity for subspecialty training by 2021. ▪ 5 Ophthalmologists trained per year in subspecialty	▪ 5 Medical Universities ▪ Stakeholders	Record of Medical Universities	Funding from stakeholders is available

GOAL / PURPOSE / STRATEGIC OBJECTIVE / ACTIONS	MEASURABLE INDICATOR	TARGETS AND BASELINE	RESPONSIBILITY	MEANS OF VERIFICATION	ASSUMPTIONS
Objective 5: To ensure that essential medicines and quality equipment are available with a particular focus on vulnerable and underserved communities					
5.1 Ensure that SECs are equipped with standard equipment to perform SICS, and gradually moving towards Phacoemulsification, with good visual outcomes	▪ Numbers of ophthalmologist trained in SICS and Phacoemulsification ▪ Number of SECs equipped to receive referrals	▪ 30 Ophthalmologists trained in SICS per year ▪ 20 Ophthalmologists trained in Phacoemulsification per year ▪ Minimum 10 SECs equipped per year by providing equipment	▪ 5 Medical Universities ▪ Stakeholders ▪ MoHS	▪ Training report ▪ Equipment distribution report	Funding from stakeholders is available. MoHS is supportive.
5.2 Expand the national essential medicine list to adequately provide for key eye diseases and ensure such medicines are available in all underserved communities.	▪ Conduct needs assessment of the national essential medicine list to determine necessary expansion. ▪ List of medicines for eye care included in essential medicine list	Based on report, advocate to include eye care adequately in the national essential medicine list by 2018.	▪ Advisory Group ▪ National Coordinator	▪ Assessment report ▪ Master drug list inventory	
5.3 Advocate to manufacturing companies for essential eye medication and supply production within Myanmar	Situational Analysis conducted	Situational Analysis conducted by 2018	▪ Advisory Group ▪ National Coordinator ▪ Stakeholders	Situational Analysis Report	Manufacturing companies are willing and supportive.
Objective 6: To improve information systems for eye health for improved monitoring					
6.1 Develop a set of national indicators and targets to be included in national health information systems during Advisory Committee meeting	List of indicators developed and included into HMIS	▪ 1 set of indicators developed as per IAPB/UEH GAP guideline ▪ HMIS includes eye care indicators	▪ Advisory Group ▪ National Coordinator	▪ Indicators list ▪ Data from HMIS	▪ MoHS is willing and supportive
6.2 Build capacity of eye care service providers (equipment, knowledge and skills) to monitor and provide timely reporting on quality and service delivery against agreed indicators.	▪ Number of eye service facilities supported to monitor and report on indicators. ▪ Number of people trained in collecting, analysing the progress against the indicators. ▪ National level capacity to compile and utilise data.	▪ 5 Tertiary Hospitals and 10 SECs have electronic HIMS established by 2021. ▪ 10 people trained at national level to analyse HIS data. ▪ Annual progress report produced	▪ MoHS ▪ TC & PBL ▪ Stakeholders	▪ Training report ▪ Progress report document	▪ Continued expansion of technology access. ▪ MoHS is supportive.

GOAL / PURPOSE / STRATEGIC OBJECTIVE / ACTIONS	MEASURABLE INDICATOR	TARGETS AND BASELINE	RESPONSIBILITY	MEANS OF VERIFICATION	ASSUMPTIONS
Objective 7: To secure adequate financial resources to improve eye health and provide comprehensive eye care services integrated into health systems through national policies, plans, and programmes					
7.1 Conduct stakeholder analysis to determine current level of funding and gaps to eye care	Stakeholder analysis conducted	1 stakeholder analysis conducted by 2017	▪ Advisory Group ▪ Stakeholders	Research report	MoHS is willing to provide information. Funding is available to conduct analysis and implement advocacy.
7.2 Advocate to increase government expenditure on eye health	▪ Stakeholder analysis results used for advocacy ▪ MoHS expenditure for eye health per year	▪ Advocacy plans developed & implemented ▪ MoHS expenditure for eye health increases annually	▪ Advisory Group ▪ Stakeholders	▪ Advocacy plan and its implementation report ▪ MoHS Eye care budget	MoHS is willing to increase expenditure on eye health
7.3 Advocate for technical and financial assistance from UN agencies, INGOs, NGOs, private sector and donor agencies for eye health	Number and types of activities carried out that contribute to advocating for assistance and partnership building. Number and type of commitments by external agencies to support eye health and/ or contribute funds for eye health	Increase in technical and financial assistance from stakeholders.	▪ Advisory Group	Records of advocacy and partnership activities. Records of commitments from external agencies.	Stakeholders are willing and able to commit technical and financial support.
7.4 Ensure eye health is included in each phase of the essential health packages under Myanmar's UHC through effective advocacy	UHC included eye diseases	UHC included major eye care diseases into its list	▪ Advisory Group ▪ National Coordinator - Stakeholders	UHC package	MoHS is willing to include eye health in the package
Objective 8: To strengthen multi-sectoral collaboration and effective partnership for improved eye health					
8.1 Incorporate eye health into poverty reduction strategies and other sector plans through effective advocacy	Evidence of eye health being incorporated into other sector plans Documentation of advocacy efforts Regular reports submitted to International Relations Department (IRD)	Priority sector plans are: ▪ Ministry of Social Welfare ▪ Ministry of Education ▪ International Relations Department ▪ Poverty reduction (under President's Office) ▪ SDGs	▪ Advisory Group ▪ National Coordinator ▪ Stakeholders	Sector plans and poverty reduction strategies	Relevant ministries and groups are willing to incorporate eye health into their plans

VI. OPERATIONAL PLAN

Goal: To reduce avoidable visual impairment as a public health problem in Myanmar and to secure access to rehabilitation for the visually impaired

Purpose: To improve access to comprehensive and quality eye care services in Myanmar by strengthening the eye care system in order to reduce avoidable blindness by 25% by year 2021.

STRATEGIC OBJECTIVE / ACTIONS/ TARGETS	2017	2018	2019	2020	2021
Objective 1: Evidence generated and used to advocate for an increased political and financial commitment for eye health					
1.1 Undertake research on the prevalence of avoidable blindness and visual impairment and its causes	✔	✔			
■ National RAAB Survey	✔				
■ Childhood Blindness Survey	✔				
■ National RE survey of school aged children	✔				
■ Temporal study in Meiktila	✔				
■ National DR Prevalence Survey		✔			
1.2 Use evidence-based data for planning and monitoring of progress, and for advocacy purposes.	✔	✔	✔	✔	✔
■ Publish and disseminate survey results	✔	✔			
■ Develop annual plan using evidence from surveys	✔	✔	✔	✔	✔
■ Two advocacy events organized every year e.g. WSD	✔	✔	✔	✔	✔
Objective 2: Establish leadership and governance mechanisms for developing, monitoring and implementing national policies and plans for eye health					
2.1 Advocate to include eye health under the proposed NCD Technical Support Groups (TSG) of the Myanmar Health Sector Coordination Committee (MHSCC)	✔				
■ NCD TSG developed	✔				
2.2 Form an Advisory Committee under the NCD TSG (eye health component) to take forward the National Eye Health Plan and coordinate collaboration with other departments and sectors		✔	✔	✔	✔
■ TORs developed for Advisory Committee	✔				
■ Conduct 2 meetings per year	✔	✔	✔	✔	✔
2.3 Appoint a National Coordinator for the National Eye Health Plan	✔				
■ Program Manager of TC & PBL proposed National Coordinator to Union Minister and approval gained	✔				
2.4 Plan and conduct national advocacy activities every year	2	2	2	2	2
2.5 Annually review and evaluate progress on the implementation of the National Eye Health Plan	✔	✔	✔	✔	✔

STRATEGIC OBJECTIVE / ACTIONS/ TARGETS	2017	2018	2019	2020	2021
■ Annual progress review meetings conducted	2	2	2	2	2
■ Produce an Annual Review summary report	✔	✔	✔	✔	✔
2.6 Gradually devolve the governance mechanisms to State/Region level through development of committees		✔	✔		
■ Develop ToRs for each committee and form State/Region level committee for eye care (7 committees in 2018 and 7 in 2019)		7	7		
2.7 Develop a National Policy for Eye Health			✔		
2.8 Fulfil the WHO trachoma elimination dossier	✔	✔	✔	✔	
Objective 3: To provide comprehensive, equitable and quality eye care services at primary, secondary and tertiary levels.					
Primary Level: 3.1 Train general practitioners, BHS and volunteers at primary level facilities in PEC, including DR awareness and referrals	✔	✔	✔	✔	✔
■ Include PEC in the national training package/manuals of GPs, BHS and volunteers through effective advocacy (aligned to timing of the revision of the package/manuals)	✔	✔			
■ Train GPs, BHS and volunteers in PEC (number of sessions)	2	3	4	5	6
3.2 Carry out outreach programs, as per approved guidelines of MoHS, in underserved or high blindness prevalence areas to clear the cataract backlog and provide other services	✔	✔	✔	✔	✔
■ Numbers of outreach camps held every year at underserved areas (increasing annually)	25	>25	>25	>25	>25
■ Numbers of people treated every year from the outreach camps (increasing annually)	20K	>20K	>20K	>20K	>20K
■ Numbers of people treated every year from the outreach camps (increasing annually)	✔				
3.3 Continue development and integration of eye health into school health programs for annual screening and commence provision or replacement of affordable glasses	✔	✔	✔	✔	✔
■ Integrate eye care component into school health program across the country through effective advocacy	✔	✔			
■ Number of school children screened for VI every year (increasing annually) health	170K	> 170K	>170K	>170K	>170K
■ Number of children treated or referred every year (increasing annually)	5.8K	> 5.8K	> 5.8K	> 5.8K	> 5.8K
■ Commence provision of distribution of spectacles	✔	✔	✔	✔	✔
■ Number of teachers/school health teams trained per year (increasing annually)	1k	> 1K	> 1K	> 1K	> 1K
Secondary Level: 3.4 Increase the capacity of existing SECs to accommodate increased referrals	✔	✔	✔	✔	✔
■ Facilitiy-based needs assessments conducted, to identify needs, on representative sample of the 83 SECS	✔	✔			
■ Plan to improve efficiencies of SECs implemented			✔	✔	✔
3.5 Establish more SECs in underserved areas	✔	✔	✔	✔	✔
■ Number of SECs established annually in underserved areas	6	7	7	7	7

STRATEGIC OBJECTIVE / ACTIONS/ TARGETS	2017	2018	2019	2020	2021
■ Number of cataract surgeries conducted per SEC (increasing annually)	600	>600	>600	>600	>600
Tertiary Level: 3.6 Ensure that regional tertiary level hospitals provide sub-specialty services	✔	✔	✔	✔	✔
■ Number of regional tertiary hospitals that have established sub-specialty services	3	4	4	5	5
Rehabilitation: 3.7 Establish appropriate low vision and community based rehabilitation services	✔	✔	✔	✔	✔
■ Number of States/Regions with a low vision and community based rehabilitation service established	2	5	10	15	17
■ Number of people benefiting from services established (minimum and increasing annually)	75	>100	>100	>100	>100
Quality Assurance: 3.8 Surgical audit for quality	✔	✔	✔	✔	✔
■ Proportion of cataract surgeries with good surgical outcomes (visual acuity above 6/18 at discharge)	<85%	<85%	<85%	<85%	<85%
3.9 Other mechanisms implemented to monitor quality outcomes for eye health services	✔	✔	✔	✔	✔
■ Number of additional quality assurance measures that have been implemented	1	2	>2	>2	>2
Objective 4: To develop and maintain a sustainable workforce for the provision of comprehensive eye care services.					
4.1 Develop a comprehensive eye health workforce human resource development (HRD) plan for Myanmar	✔	✔			
4.2 Gradually increase workforce numbers to reach recommended WHO levels, adapting to the Myanmar context	✔	✔	✔	✔	✔
■ Numbers of ophthalmologists graduated every year (minimum)	30	>30	><30	>30	>30
■ Numbers of ophthalmic nurses graduated, via course, every year (minimum)	15-20	>15-20	>15-20	>15-20	>15-20
■ Numbers of ophthalmic nurses graduated, via on the job training, every year (minimum)	20-25	>20-25	>20-25	>20-25	>20-25
■ Numbers of optometrists graduated every year (minimum)	20-30	>20-30	>20-30	>20-30	>20-30
4.3 Increase subspecialty training for tertiary level care	✔	✔	✔	✔	✔
■ Number of Medical Universities with capacity for subspecialty training	2	2	3	4	5
■ Numbers of ophthalmologists from different regional tertiary hospitals trained on sub-speciality services every year	5	5	5	5	5

STRATEGIC OBJECTIVE / ACTIONS/ TARGETS	2017	2018	2019	2020	2021
Objective 5: To ensure that essential medicines and quality equipment are available with a particular focus on vulnerable and underserved communities					
5.1 Ensure that SECs are equipped with standard equipment to perform SICS, and gradually moving towards Phacoemulsification, with good visual outcomes	✔	✔	✔	✔	✔
■ Numbers of ophthalmologists trained in SICS per year	**30**	**30**	**30**	**30**	**30**
■ Numbers of ophthalmologists trained in Phacoemulsification per year	**20**	**20**	**20**	**20**	**20**
■ Numbers of SEC equipped for SICS per year (minimum)	**>10**	**>10**	**>10**	**>10**	**>10**
5.2 Expand the national essential medicine list to adequately provide for key eye diseases and ensure such medicines are available in all underserved communities.	✔	✔			
■ Conduct needs assessment of the national essential medicine list to determine necessary expansion	✔				
■ Based on the assessment, advocate to include eye care adequately in the national essential medicine list	✔	✔			
5.3 Advocate to manufacturing companies for essential eye medication and supply production within Myanmar	✔	✔			
■ Conduct a situational analysis	✔	✔			
Objective 6: To improve information systems for eye health for improved monitoring					
6.1 Develop a set of national indicators and targets to be included in national health information systems during Advisory Committee meeting	✔	✔			
■ HMIS includes eye health indicators	✔	✔			
6.2 Build capacity of eye care service providers (equipment, knowledge and skills) to monitor and provide timely reporting on quality and service delivery against agreed indicators.	✔	✔	✔	✔	✔
■ Number of Tertiary Hospitals with electronic HIMS established	**1**	**2**	**3**	**4**	**5**
■ Number of SECs with electronic HIMS established	**2**	**4**	**6**	**8**	**10**
■ Number of people trained at the national level in collecting, analysing the progress against the indicators.		**10**			
■ Annual progress report produced on national level capacity to compile and utilise data	✔	✔	✔	✔	✔
Objective 7: To secure adequate financial resources to improve eye health and provide comprehensive eye care services integrated into health systems through national policies, plans, and programmes					
7.1 Conduct stakeholder analysis to determine current level of funding and gaps to eye care	✔				
■ Conduct stakeholder analysis	✔				
7.2 Advocate to increase government expenditure on eye health	✔	✔	✔	✔	✔
■ Using survey results, advocacy plans are developed and implemented	✔	✔	✔	✔	✔
■ MoHS expenditure for eye health increases annually	✔	✔	✔	✔	✔
7.3 Advocate for technical and financial assistance from UN agencies, INGOs, NGOs, private sector and donor agencies for eye health	✔	✔	✔	✔	✔

STRATEGIC OBJECTIVE / ACTIONS/ TARGETS	2017	2018	2019	2020	2021
7.4 Ensure eye health is included in each phase of the essential health packages under Myanmar's UHC through effective advocacy	✔		✔		
Objective 8: To strengthen multi-sectoral collaboration and effective partnership for improved eye health					
8.1 Incorporate eye health into poverty reduction strategies and other sector plans through effective advocacy	✔	✔	✔	✔	✔
■ Reports submitted to International Relations Department (IRD)	✔	✔	✔	✔	✔

PHOTO: MICHAEL AMENDOLIA/THE FRED HOLLOWS FOUNDATION

"Myanmar is gradually moving towards an aging population. While the current population is predominantly young, the crude number of births per 1,000 population has nearly halved in the past 15 years while the crude number of deaths decreased at a similar rate during this time. This is important for long term planning for eye care as vision loss among the elderly is a major health problem."

WORLD HEALTH ORGANISATION COUNTRY OFFICE FOR MYANMAR, 2014, WHO COUNTRY COOPERATION STRATEGY MYANMAR 2014-2018, MYANMAR: WORLD HEALTH ORGANISATION (WHO), YANGON, P. 60.

VII. BUDGET OF NATIONAL EYE HEALTH PLAN 2017 - 2021

Sr.	Objectives and Activities	Actions	Stake holders	Budget[71] 2017	Budget 2018	Budget 2019	Budget 2020	Budget 2021	Potential Donors
1.	**Evidence generated and used to advocate for increased political and financial commitment for Eye Health**								
1.1	Undertake research on the prevalence of avoidable blindness and visual impairment and its causes	Conduct a national Rapid Assessment of Avoidable Blindness (RAAB) survey	MOHS WHO INGO	174,000	-	-	-	-	Dev Partners[72] WHO
		Conduct Study on Childhood blindness	MOHS INGO	25,000	-	-	-	-	SFA
		Conduct National RE Survey of School children	MOHS	20,000	-	-	-	-	HKI
		Conduct Temporal Study in Meiktila	MOHS	30,000	-	-	-	-	SFA
		Conduct National Diabetic Retinopathy (DR) prevalence survey	MOHS	-	50,000	-	-	-	Dev Partners
1.2	Use evidence-based data for planning and monitoring of progress and for advocacy	Publish results and conduct workshops to disseminate data	MOHS	5,000	5,000	5,000	-	-	MOHS WHO Dev Partners
		Develop annual plan using evidence from surveys		1,000	1,000	1,000	1,000	1,000	
		Conduct 2 advocacy events per year (e.g WSD)	MOHS	2,000	2,000	2,000	2,000	2,000	
2.	**Establish leadership and governance mechanisms for developing, monitoring and implementing national policies and plans for eye health**								
2.1	Advocate to include Eye Health under the proposed NCD Technical Support Groups of the Myanmar Health Sector Coordination Committee	Establish TSG for Eye Health under MHSCC	MOHS	500	-	-	-	-	MOHS
2.2	Form an Advisory Committee under the NCD TSG (eye health component) to take forward the NEHP and coordinate collaboration with other departments and sectors	Develop Terms of Reference (ToR) for the Advisory Committee	MOHS Program Manager and consultant	2,000	-	-	-	-	MOHS Dev Partners
		Conduct two meetings annually for Advisory Committee		2,000	2,000	2,000	2,000	2,000	Dev Partners
2.3	Appoint a National Coordinator for the National Eye Health Plan	Program Manager of TC & PBL proposed as National Coordinator and approved by Union Minister	MOHS	0	-	-	-	-	MOHS
2.4	Plan and conduct National Advocacy activities every year	Conduct 2 National Advocacy activities every year	MOHS	8,000	8,000	8,000	8,000	8,000	MOHS WHO
2.5	Annual review and evaluation of progress on the implementation of NEHP	Conduct 2 review meetings a year	MOHS	0[73]	0	0	0	0	Dev Partners
		Produce annual review summary report	MOHS	1,000	1,000	1,000	1,000	1,000	Dev Partners
2.6	Gradual devolvement of the governance mechanisms to State/ Region level through development of committees	Develop TORs for 14 State/Regional Committees for eye care programs	MOHS	-	500	500	-	-	MOHS Dev Partners
		Form 14 State/ Regional Committees and hold first meeting			6,500	6,500			

[71] All costings are in USD

[72] Development Partners refers to all non-government parties who are involved in eye health in Myanmar, including INGOs, NGOs, Charitable Organisations, Private Partners, Donor Agencies and Religious Organisations.

Sr.	Objectives and Activities	Actions	Stake holders	Budget[71] 2017	Budget 2018	Budget 2019	Budget 2020	Budget 2021	Potential Donors
2.7	Develop National Policy for Eye Health	Develop National Policy for Eye Health	MOHS National Consul-tant	-	-	4,000	-	-	MOHS WHO Dev Partners
2.8	Fulfill the WHO Tracho-ma Elimination dossier	Fulfill WHO Tra-choma Elimination dossier	MOHS	25,000	25,000	25,000	25,000	-	WHO Dev Partners
3.	**To provide comprehensive, equitable and quality Eye care services at primary, secondary and tertiary levels**								
3.1	Primary Level Conduct target number of training sessions for GPs, BHS and volunteers in PEC	Conduct target number[74] of training sessions for GPs, BHS and volunteers in PEC	MOHS Dev Partners	6,000	9,000	12,000	15,000	18,000	WHO Dev Partners
		Develop PEC section for integration into the National Training Package	WHO	14,000	-	-	-	-	
		Conduct advocacy activities for the inclusion of PEC in the National Training Package by 2018	WHO	8,000	8,000	-	-	-	
3.2	Conduct Outreach Programs in accordance with the approved guidelines of MOHS, in underserved or in areas with high prevalence of blindness to clear the cataract backlog and provide other services	Implement a mini-mum of 25 Outreach Programs per year	Technical Advisory Committee Medical Universities	150,000[75]	150,000	150,000	150,000	150,000	MOHS WHO
		Conduct advocacy activities to ensure MOHS approval of Outreach Program guidelines prepared by the MAMS		4,000	-	-	-	-	
3.3	Continue development and integration of eye health into school health programs for annual screening and commence provision or replacement of afford-able glasses	Conduct advocacy meetings to include Eye Care component in the School Health Program by 2018	Local and Internation-al NGOs Medical Universities DoPH-School Health Div. Ministry of Education	5,000	5,000	-	-	-	MOHS WHO Dev Partners
		Screen a minimum of 170,000 children for VI each year (increas-ing annually)		10,000	10,000	10,000	10,000	10,000	
		Provide treatment or referral for a minimum of 5,800 children (increasing annually)		5,000[76]	5,000	5,000	5,000	5,000	
		Provide students with spectacles as necessary		5,000	5,000	5,000	5,000	5,000	
		Train a minimum of 1,000 teachers/ school health teams in vision screening and visual acuity test (increasing annually)		10,000	10,000	10,000	10,000	10,000	

[73] included in 2.2

[74] Target number of sessions: 2 in 2017, 3 in 2018, 4 in 2019, 5 in 2020 and 6 in 2021. USD 3,000 per training session.

[75] USD 6,000 per outreach program

[76] Budget is in addition to consumables already provided by the government

Sr.	Objectives and Activities	Actions	Stake holders	Budget[71] 2017	Budget 2018	Budget 2019	Budget 2020	Budget 2021	Potential Donors
3.4	Secondary Level:	Conduct Facility-Based Needs Assessment on a representative sample of the 83 SECs by 2018	MOHS	5,000	5,000	-	-	-	MOHS WHO Dev Partners
		Improve efficiency based on findings of the need assessment		-	-	5,000	5,000	5,000	
		Treat target number of people at Secondary Eye Centres		10,000	10,000	10,000	10,000	10,000	
3.5	Establish more Secondary Eye Centres (SECs) in underserved areas each year	Establish 34 SECs[77] in districts by 2021	MOHS	12,000[78]	14,000	14,000	14,000	14,000	MOHS WHO Dev Partners
		Procure equipment[79] in 34 SECs by 2021		600,000[80]	700,000	700,000	700,000	700,000	
		Conduct minimum of 600 of cataract operations at each SEC per year (increasing annually)		20,000	20,000	20,000	20,000	20,000	
3.6	**Tertiary Level:** Ensure that regional tertiary level hospitals with sub-specialty services	Capacity build tertiary level hospitals so that by 2021 all 5 are able to provided sub-specialty services	MOHS Advisory Committee	10,000	10,000	10,000	10,000	10,000	MOHS
3.7	**Rehabilitation:** Establish appropriate low vision and community based rehabilitation services	Establish 17 low vision and community based rehabilitation services by 2021	MOHS Advisory Committee	4,000[81]	6,000	10,000	10,000	4,000	MOHS
3.8	**Quality Assurance:** Surgical audit for Quality Eye care	Conduct surgical quality audit to record proportion of cataract surgeries with good surgical outcomes[82]	MOHS Advisory Committee	3,000	3,000	3,000	3,000	3,000	MOHS
3.9	Other mechanisms implemented to monitor quality outcomes for Eye Health Services	Conduct patient satisfaction surveys	MOHS WHO Dev Partners	3,000	3,000	3,000	3,000	3,000	MOHS WHO
		Annual calibration and validation of equipment		5,000	5,000	5,000	5,000	5,000	
		Collect data on the number of patients returning for follow-up		3,000	3,000	3,000	3,000	3,000	
4.	**To develop and maintain a sustainable workforce for the provision of comprehensive eye care services.**								
4.1	Develop a comprehensive human resource development (HRD) plan	HRD plan developed by 2018	MOHS	2,000	2,000	-	-	-	MOHS Dev Partners
4.2.	Gradual increase of workforce to reach the WHO recommended levels, as appropriate for the Myanmar context	Train a minimum of 30 Ophthalmologist per year	MOHS	540,000[83]	540,000	540,000	540,000	540,000	MOHS Dev Partners
		Train (via course-work) a minimum of 15-20 Ophthalmic Nurses per year		27,000[84]	27,000	27,000	27,000	27,000	
		Train (via on-the-job training) a minimum of 20-25 Ophthalmic Nurses per year		18,000[85]	18,000	18,000	18,000	18,000	
		Train a minimum of 20-30 Optometrists per year		96,000[86]	96,000	96,000	96,000	96,000	

Sr.	Objectives and Activities	Actions	Stake holders	Budget[71] 2017	Budget 2018	Budget 2019	Budget 2020	Budget 2021	Potential Donors
4.3	Increase of sub-specialty training for tertiary level care	Build capacity of 5 Medical Universities to provide sub-specialty training by 2021	MOHS	5,000	5,000	5,000	5,000	5,000	MOHS Dev Partners
		Provide sub-specialty fellowship trainings for 5 Ophthalmologists per year		168,000 [84]	168,000	168,000	168,000	168,000	
5.	**To ensure that Essential medicines and quality equipment are available with a particular focus on vulnerable and under-served communities**								
5.1	Ensure that SECs are equipped with standard equipment to perform SICS and gradually moving towards Phacoemulsification	Train 30 Ophthalmologists in SICS per year	MOHS	10,500 [85]	10,500	10,500	10,500	10,500	MOHS Dev Partners
		Train 20 Ophthalmologists in Phacoemulsification per year		20,000 [86]	20,000	20,000	20,000	20,000	
		Equip a minimum of 10 SECs to perform SICs per year		220,000 [87]	220,000	220,000	220,000	220,000	
5.2	Expand the national essential medicine list to adequately provide for key eye diseases and ensure such medicines are available in all under-served communities	Conduct needs assessment of the National Essential medicine list to determine expansion	Advisory Committee National Coordinator	5,000	-	-	-	-	MOHS Dev Partners
		Advocate for list of medicines for eye care included in Essential medicine list		-	5,000	-	-	-	
5.3	Advocate to manufacturing companies for essential eye medication and supply production within Myanmar	Conduct a Situational Analysis into supply production in Myanmar to inform advocacy to manufacturers.	Advisory Committee	5,000	5,000	-	-	-	MOHS Dev Partners
6.	**To improve information systems for Eye Health for improved monitoring**								
6.1	Develop a set of national indicators and targets to be included in national health information systems during Advisory Committee meeting	Develop list of indicators and targets	Advisory Committee National Coordinator	4,000	-	-	-	-	MOHS WHO Dev Partners
		Include indicators in HMIS		-	2,000	-	-	-	
6.2	Build capacity of eye care service providers (equipment, knowledge and skills) to monitor and provide timely reporting on quality and service delivery against the set indicators	Establish HMIS in 1 Tertiary hospital per year	Advisory Committee National Coordinator	2,000	2,000	2,000	2,000	2,000	MOHS WHO Dev Partners
		Establish HMIS in 2 SECs per year		4,000	4,000	4,000	4,000	4,000	
		Train 10 people in collecting and analysing data		-	10,000	-	-	-	
		Produce annual progress report		1,000	1,000	1,000	1,000	1,000	

[77] This includes human resources and limited infrastructure, as necessary

[78] USD 2,000 per SEC

[79] Equipment includes: microscope, slit lamp, A scan, Keratometry, Air Conditioning, Power Generator and office equipment.

[80] USD 100,000 per SEC

[81] USD 2,000 per low vision rehabilitation service

[82] Visual acuity above 6/18 at discharge

[83] USD 500 per month for 3 year residency training (full cost per Ophthalmologist USD 18,000)

[84] USD 200 per month for 9 month course (full cost per Ophthalmic Nurse USD 1,800)

[85] USD 150 per month for 6 month training (full cost per Ophthalmic Nurse USD 900)

[86] USD 200 per month for 2 year course (full cost per Optometrist USD 4,800)

[87] USD 22,000 per SEC equipped with SICS

Sr.	Objectives and Activities	Actions	Stake holders	Budget[71] 2017	Budget 2018	Budget 2019	Budget 2020	Budget 2021	Potential Donors
7.	**To secure adequate financial resources to improve Eye Health and provide comprehensive eye care Services integrated into Health systems through national policies, plans and programmes**								
7.1	Conduct stakeholder analysis to determine current level of funding and gaps to eye care	Conduct stakeholder analysis	Advisory Committee National Coordinator	10,000	-	-	-	-	MOHS WHO
7.2	Advocate to increase government expenditure on eye health	Develop advocacy plans using survey results and implement activities		4,000	4,000	-	-	-	MOHS Dev Partners
7.3	Advocate for technical and financial assistance from Development Partners for Eye Health	Develop advocacy plans and implement activities		2,000	2,000	2,000	2,000	2,000	
7.4	Ensure eye health is included in each phase of the Essential Health Package through advocacy	Develop advocacy plans and implement activities	MOHS	2,000	-	2,000	-	-	MOHS
8.	**To strengthen multi-sector collaboration and effective partnership for improved Eye Health**								
8.1	Incorporate eye health into poverty reduction strategies and other sector plans through effective advocacy	Develop advocacy plans and implement activities	Priority sector plans[91]	1,000	1,000	-	-	-	MOHS Dev Partners
		Regular reports submitted to International Relations Department (IRD)		1,000	1,000	1,000	1,000	1,000	

[91] These include: Ministry of Social Welfare, Ministry of Education, International Relations Department, Poverty Reduction (under President's office), SCGs.

7.1 SUMMARY TABLE FOR NATIONAL EYE HEALTH PLAN 2017-2021 BUDGET

Sr.	Objectives and Activities	Budget[71] 2017	Budget 2018	Budget 2019	Budget 2020	Budget 2021	Total
1.	Evidence generated and used to advocate for increased political and financial commitment for Eye Health	257,000	58,000	8,000	3,000	3,000	329,000
2.	Establish leadership and governance mechanisms for developing, monitoring and implementing national policies and plans for Eye Health	38,500	43,000	47,000	36,000	11,000	175,500
3.	To provide comprehensive, equitable and quality Eye care services at primary, secondary and tertiary levels	892,000	981,000	975,000	978,000	975,000	4,801,000
4.	To develop and maintain a sustainable workforce for the provision of comprehensive eye care services	856,000	856,000	854,000	854,000	854,000	4,274,000
5.	To ensure that Essential medicines and quality equipment are available with a particular focus on vulnerable and under-served communities	260,500	257,500	250,500	250,500	250,500	1,269,500
6.	To improve information systems for Eye Health for improved monitoring	11,000	19,000	7,000	7,000	7,000	51,000
7.	To secure adequate financial resources to improve Eye Health and provide comprehensive ye care Services integrated into Health systems through national policies, plans and programs	18,000	6,000	4,000	2,000	2,000	32,000
8.	To strengthen multi-sector collaboration and effective partnership for improved Eye Health	2,000	2,000	1,000	1,000	1,000	7,000
	TOTAL (USD)	**2,335,000**	**2,222,500**	**2,146,500**	**2,131,500**	**2,103,500**	**10,939,000**

PHOTO: STAKEHOLDER MEETING FOR NATIONAL BLINDNESS SURVEY IN MYANMAR, 15TH SEPTEMBER 2016, NAY PYI TAW

PHOTO: FINALISATION OF NATIONAL EYE HEALTH PLAN (2017 – 2021) STAKEHOLDER'S WORKSHOP, 21-22ND OCTOBER 2016, YANGON

PHOTO: NATIONAL STAKEHOLDER CONSULTATION WORKSHOP FOR DEVELOPING A NATIONAL ACTION PLAN ON EYE HEALTH IN MYANMAR, 27-28TH JULY 2015, NAY PYI TAW.

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ANNEX ONE – WORKSHOP PARTICIPANTS

National Consultation Workshop for Developing a National Action Plan on Eye Health in Myanmar (2016-2020), July 27 & 28 2015, Nay Pyi Taw

Workshop Invitees – Opening Ceremony only

	ORGANISATION	PARTICIPANT'S NAME	DESIGNATION
1.	MoHS	Dr Thein Thein Htay	Deputy Minister of Health
2.	MoHS	Professor Myint Han	Director General - Medical Care
3.	MoHS	Dr. Soe Lwin Nyein	Director General - Public Health
4.	MoHS	Dr. Htay Aung	Deputy Director General - Medical Care
5.	MoHS	Dr. Myat Wunna Soe	Deputy Director General – Medical Care
6.	MoHS	Dr. Than Win	Deputy Director General – Public Health
7.	MoHS	Daw Aye Aye Sein	Deputy Director General – Public Health
8.	MoHS	Dr. Yin Thandar Lwin	Deputy Director General – Public Health
9.	MoHS	Dr. Kyaw Khaing	Director - Foreign Relations
10.	MoHS	Dr. Thar Tun Kyaw	Director - Admin
11.	MoHS	Dr. Thida Hla	Director – Medical Care
12.	MoHS	Dr. Khin Win Thet	Director - Medical Care
13.	MoHS	Dr. Than Tun Aung	Director – Central Epidemiological Unit
14.	MoHS	Dr. Thuzar Chit Tin	Director – Health Promotion
15.	MoHS	Dr. San Myint	Director - Admin
16.	MoHS	Dr. May Khin Than	Director - Nutrition
17.	MoHS	Dr. Hla Myat Thway Eindra	Director – Health Education
18.	MoHS	Dr. Mya Thein	Director – Occupation and Environmental Health
19.	MoHS	Dr. Theingi Myint	Director – Maternal and Child Health
20.	MoHS	Dr. Kyi Lwin	Director – School Health
21.	MoHS	Dr. Myint Myint Than	Director – Child and Woman
22.	MoHS	Dr. Kyaw Kan Kaung	Director – Buy and Distribute
23.	MoHS	Dr. Hla Hla Kyi	Director – Nay Pyi Taw Council
24.	MoHS	Dr. Khin Nan Lone	Deputy Director - Malaria
25.	MoHS	Dr. Sithu Aung	Deputy Director - TB
26.	MoHS	Dr. Toe Thiri Aung	Deputy Director - CEU
27.	MoHS	Dr. Tun Tin	Deputy Director - CEU
28.	MoHS	Dr. Oak Soe	Deputy Director - Leprosy
29.	MoHS	Dr. Aung Thi	Deputy Director - Malaria
30.	MNCWA		Representative
31.	Myanmar Red Cross Society	Representative	

Workshop Participants

	ORGANISATION	PARTICIPANT'S NAME	DESIGNATION
	From Myanmar		
1.	Ministry of Social Welfare, Relief and Resettlement	Dr. Thin Thin Nwe	Director
2.	MoHS	Dr Myint Shwe	Director - NCD
3.	MoHS	Dr Thet Thet Mu	Director - HMIS
4.	MoHS	Dr Wai Mar Mar Tun	Health Financing Planning
5.	n/a	Prof. Than Aung	Retired Professor
6.	n/a	Prof. Mya Aung	Retired Professor
7.	n/a	Prof. Myint Khine	Retired Professor
8.	Yangon Eye Hospital	Prof. Tin Win	Professor and Head
9.	University of Medicine, Yangon	Prof. Ko Ko Thant	Professor and Head
10.	Defence Service Medical Academy	Prof. Chaw Chaw Khaing	Professor and Head
11.	University of Medicine, Mandalay	Prof. Ye Ye Aung	Professor and Head
12.	University of Magway, Magway	Prof. Thuzar Han	Professor and Head
13.	MoHS	Dr.Thandar Lwin	Director – Disease Control
14.	Ministry of Social Welfare, Relief & Resettlement	Daw Thin ThinNwe	Director
15.	MoHS	Dr. San Myint	Director - Admin
16.	Minbu	Dr. Aung San Win	Senior Consultant
17.	Sint Kaing	Dr. Aye AyeThwin	MS and Senior Consultant
18.	Nay Pyi Taw	Dr. SweOoLwin	Senior Consultant
19.	Phyar Pon	Dr. Khin Cho Mar	Senior Consultant
20.	Maung Mya	Dr. Saw Thwin Mon Thein	Senior Consultant
21.	MoHS	Dr. Hla Mar Lar	Deputy Director, TC & PBL
22.	MoHS	Dr. Tin MaungSwe	Assistant Director, TC & PBL
23.	n/a	Dr. Than Htun Aung	Paediatric Ophthalmologist
	From Donor Agencies		
24.	EU, Myanmar	Aye Myat Thu	
25.	USAID Myanmar	Bill Slater	
26.		Htoo Aung Cho	
27.	WHO Myanmar	Dr. Maung Maung Lin	
	International Partners		
28.	IAPB, SEA Region	Y D Sapkota	Regional Coordinator
	I/NGO Partners		
29.	Burnett Institute, Myanmar	Dr. Thet Tin Tun	Senior Technical Specialist
30.	Save the Children Myanmar	Dr. Kyi Kyi Ohn	Head of Health
31.	HKI, Head Quarters	Mr. Nick Kourgialis	Vice President for Eye
32.	HKI, Myanmar	Dr. Aung Kyaw Win	Country Coordinator
33.	HKI APRO	Dr. Ame Stormer, PhD	Regional Director
34.	Himalayan Cataract Project	Pamela Clapp	Deputy Director of Programs
35.	Fred Hollows Foundation	Ramesh Puri	Regional Director
36.	Fred Hollows Foundation	Halina Weyers	Regional Program Coordinator

Facilitators

37.	Sint Kaing	Dr. Yee Lin	Junior Consultant
38.	Meikhtila	Dr. Maung Maung Myo Win	Junior Consultant
39.	MoHS	Dr. Khine New Ni	Medical Officer, TC & PBL
40.	MoHS	Dr. Ye Win	Medical Officer, TC & PBL
41.		U Ye Moe	Assistant Accountant
42.		Ko Aung Ko Ko Tun	Health Assistant

PHOTO: WORLD SIGHT DAY CELEBRATIONS, 13TH OCTOBER 2016, NAY PYI TAW

PHOTO: WORLD SIGHT DAY CELEBRATIONS, 13TH OCTOBER 2016, NAY PYI TAW