

Vision 2020: The Right to Sight

Vision 2020: The Right to Sight is a global initiative launched by the World Health Organization and a Task Force of International Non-governmental Organizations to combat the gigantic problem of blindness in the world. It was launched in Geneva on February 18, 1999 by the then Director General of the World Health Organization, Dr. Gro Harlem Brundtland. Vision 2020 envisages collaboration between governments, World Health Organization, International Agency for the Prevention of Blindness, funding agencies, international, nongovernmental and private organizations that collaborate with the World Health Organization in the prevention and control of blindness. Globally, five conditions have been identified for immediate attention for achieving the goals of Vision 2020. They are-

- w Cataract
- w Trachoma
- w Onchocerciasis
- w Childhood blindness
- w Refractive Errors and Low Vision

These conditions have been chosen on the basis of their contribution to the burden of blindness and the feasibility and affordability of interventions to control them. Each country will decide on its priorities based on the magnitude of specific blinding conditions in that country. Under this initiative, five basic strategies to combat blindness are-

- w Disease prevention and control
- w Training of personnel
- w Strengthening the existing eye care infrastructure
- w Use of appropriate and affordable technology
- w Mobilization of resources

Vision 2020 will serve as a common platform to facilitate a focused and coordinated functioning of all the partners in eliminating avoidable blindness by the year 2020. It will further develop and strengthen the primary health/eye care approach to the problem of avoidable blindness. Broad regional alliances will be sought to eventually develop a global partnership for eye health.

Cataract

Cataract is the major cause of blindness in the world. An estimated 16-20 million people are bilaterally blind from cataract and the number is increasing.

The cataract surgical rate is a quantifiable measure of the delivery of cataract services. It is the number of cataract operations per million population per year. The cataract surgical rate is meaningful to estimate only when there is ample information on all cataract surgery performed in a country, for example including the private sector.

Aim

Elimination of cataract blindness (person with vision less than 3/60 in both eyes)

Targets

Global cataract prevalence targets 1990-2020

Year	Population (millions)	Projected no. cataract blind at 1995 service level (millions)	No. cataract blind (millions)	Target Prevalence of cataract blindness
1990	5400	16.0	16.0	0.3
1995	5700	20.0	20.0	0.35
2000	6100	25.0	15.0	0.25
2010	6800	35.0	7.0	0.10
2020	7800	50.0	0	0

Global Cataract Surgical Rate Targets 1995-2020

Year	Global cataract surgical rate (cataract operations/ million population / year)	Global no. of cataract operations (millions)
1995	1100	7.0
2000	2000	12.0
2010	3000	20.0
2020	4000	32.0

Trachoma

An estimated 146 million people have the active infection with the microorganism *Chlamydia trachomatis*, for which antibiotic treatment is indicated. There are approximately 10.6 million adults with in turned eyelashes (trichiasis/entropion), for which eyelid surgery is needed to pre-

vent blindness. An estimated 5.9 million adults are blind from corneal scarring due to trachoma. Trachoma is the second cause of blindness in sub-Saharan Africa, China and the Middle-Eastern countries.

Trachoma is to be controlled through the implementation of the SAFE strategy integrated within primary health care in all communities identified as having blinding trachoma within a country. This includes the following:

- i) Assessment to identify communities with blinding trachoma.
- ii) Delivery of community-based trichiasis Surgery by trained paramedical staff (S of SAFE).
- iii) Antibiotic treatment (either tetracycline eye ointment or oral azithromycin) for children with active disease (A of SAFE).
- iv) Promotion of Facial cleanliness (F of SAFE) and Environmental improvement (E of SAFE), including personal hygiene and community sanitation as part of primary health care.

Aim

Elimination of blindness due to trachoma

Targets

Global Trachoma Targets for Cases of Trichiasis and Active Infection

Year	Total population (millions)	No. with trichiasis (TT) (millions)	No. with active infection (TF) (millions)
1995	5700	10.0	146.0
2000	6100	10.0	120.0
2010	6800	5.0	60.0
2020	7800	0	8.0*

*This is equivalent to a prevalence of TF of 5% in the at-risk population of 800 million, of whom 160 million would be children aged 0-10 years.

Onchocerciasis

An estimated 17 million people are infected with onchocerciasis. Approximately 0.3-0.6 million are blind from the disease. The disease is endemic in 30 countries of Africa and occurs in a few foci in six Latin American countries and in Yemen.

Aim

Elimination of blindness due to onchocerciasis.

Targets

Target	2000	2010	2020
National Onchocerciasis control programme with satisfactory coverage in onchocerciasis- blinding areas	5 countries	37 countries	37 countries
Incidence of blindness from onchocerciasis	Surveillance systems being established	Surveillance systems in place	No new cases in all countries

Childhood Blindness

There are estimated 1.5 million blind children in the world, of whom 1 million live in Asia and 3,00,000 in Africa. The prevalence is 0.5 - 1 per 1,000 children aged 0-15 years. There are an estimated 5,00,000 children going blind each year (one per minute). Many of these children die in childhood. It is estimated that childhood blindness causes 75 million blind years (number blind x length of life), second only to cataract. The causes of childhood blindness vary from place to place and change over time.

Aim

To eliminate avoidable causes of childhood blindness. The major causes are as follows-

Place	Major causes of childhood blindness
Africa	- Corneal ulcer/scar (measles, vitamin A deficiency and harmful traditional practices) - Congenital cataract - Hereditary disorders
Asia	- Vitamin A deficiency - Congenital cataract / rubella - Hereditary retinal diseases
Latin America	- Congenital cataract and glaucoma rubella - Retinopathy of prematurity
Industrialized countries and urban centres	- Retinopathy of prematurity - Congenital cataract - Hereditary disorders

Vitamin A deficiency

Aim

To achieve and sustain the elimination of blindness due to vitamin A deficiency.

Targets

Target	1995	2000	2010
Surveillance system	Being established	In place in all countries	Maintenance as needed in selected countries
Incidence of blindness	?	Nil in all countries	Nil in all countries except disaster situations

Surgically avoidable causes

Aim

To control blindness in children from cataract, glaucoma and retinopathy of prematurity (ROP)

Year	Population aged 0-15 years (millions)	Number of blind children	
		Projected (millions)	Target (millions/prevalence)
1995	1800	1.45	1.45 (0.8/1000)
2000	2000	1.60	1.40 (0.7/1000)
2010	2200	1.80	1.20 (0.5/1000)
2020	2500	2.00	1.0 (0.4/1000)

Refractive Errors and Low Vision

Spectacles are an essential part of the treatment of many eye patients. Their provision is therefore an integral part of eye care delivery. The steps in the provision of refraction services and low vision care for patients are as follows-

- Screening - Identification of individuals with poor vision which can be improved by spectacles or other optical devices.
- Refraction - Evaluation of the patient to determine what spectacles or device may be required.

- Manufacture - Manufacture of the spectacles or an appropriate device, both of which may be manufactured locally, purchased externally, or donated.
- Dispensing - Issuing of the spectacles or device, ensuring a good fit of the correct prescription.
- Follow-up - Repair of spectacles/devices or repeat dispensing.

Aim

Elimination of visual impairment (vision less than 6/18) and blindness due to refractive errors or other causes of low vision. This aim goes beyond the elimination of blindness and also includes the provision of services for individuals with low vision.

Human Resource Development

Community Level

Primary Health Care (PHC) is a fundamental concept of the World Health Organization for improvement in health. All the elements of primary health care can contribute to the prevention of blindness. The PHC worker has an important role to play in the control of blindness -

- Identification** - PHC workers are ideally placed to identify blind and visually disabled children and adults in their own home.
- Assessment and diagnosis** - PHC workers can be taught to assess those individuals who could be helped by the services of a specialist, for example identifying cataract for referral to an ophthalmologist.
- Referral for management and treatment** - PHC workers can encourage individuals to go for treatment and can provide the referral system that will promote this.
- Follow-up and evaluation** - After treatment, the PHC worker can follow up the patient at home to help with visual rehabilitation (the patient after cataract surgery, for example), give advice on any treatment and make sure that spectacles are available.

Secondary and Tertiary Levels

Ophthalmologists

Target	2000	2010	2020
Ophthalmologists per population			
— Sub-Saharan Africa	500000	1:400000	1:250000
— Asia	1:200000	1:100000	1:50000

Ophthalmic medical assistant and ophthalmic nurses

Target	2000	2010	2020
OMAs or eye nurses per population			
— Sub-Saharan Africa	1:400000	1:200000	1:100000
— Asia	1:200000	1:100000	1:50000

Refractionists

Sufficient and appropriate staff for refraction needs to be trained for underserved populations.

Target	2000	2010	2020
Number of trained refractionists per population	1:250000	1:100000	1:50000

Other medical staff

All medical graduates should be trained in basic eye care.

Target	2000	2010	2020
Proportion of medical schools teaching basic eye care	50%	90%	100%

Managers

Medical and paramedical staff needs to be provided training in basic principles of management. Trained managers need to be provided for tertiary and large secondary eye care facilities and programmes.

Target	2000	2010	2020
% of tertiary facilities with trained managers	20	80	100
% of secondary facilities with trained managers	5	25	50

Equipment technicians

Manpower needs to be developed for equipment maintenance/repair, low-cost spectacle production and eye drop preparation.

Target	2000	2010	2020
Proportion with tertiary eye facilities with a trained technician	20%	60%	100%
Proportion with secondary eye facilities with a trained technician	5%	25%	50%

Infrastructure and Appropriate Technology Development

The objective is to provide universal coverage and access to services for the preservation of vision and restoration of sight.

Target	2000	2010	2020
Availability of infrastructure	50%	90%	95%+
Accessibility	40%	75%	90%+
Utilization	25%	50%	90%+
Coverage	25%	50%	90%+

Vision 2020: The Right to Sight in India

India was the first country in the world to launch the National Programme for Control of Blindness in 1976 with the goal of reducing the prevalence of blindness. Of the total estimated 45 million blind persons (best corrected visual acuity < 3/60) in the world, 7 million are in India. Due to the large population base and increased life expectancy, the number of blind particularly due to age-related disorders like cataract, is expected to increase. India is committed to reduce the burden of avoidable blindness by the year 2020 by adopting strategies advocated for Vision 2020- The Right to Sight.

Current Status

Extent of the problem

Three major surveys have been conducted to find out the prevalence of blindness in the country. The first survey undertaken by the Indian Council of Medical Research (ICMR) in 1974 indicated a prevalence rate of 1.38% in the general population (Visual acuity < 6/60). In the second survey sponsored by the Government of India/World Health Organization (1986-89), the prevalence rate increased to 1.49% (presenting visual acuity < 6/60 in the better eye). As per information available from various studies, there are an estimated 12 million bilaterally blind persons in India with visual acuity less than 6/60 in the better eye, of which nearly 7 million have visual acuity less than 3/60 in the better eye (presenting vision). Recent survey (1999-2001) in 15 districts of the country indicated that 8.5% of population aged 50+ years is blind (visual acuity < 6/60). Main causes of blindness in 50+ population are as follows:-

a.	Cataract	62.6%
b.	Refractive Errors	19.7%
c.	Corneal Blindness	0.9%
d.	Glaucoma	5.8%
e.	Surgical Complications	1.2%
f.	Posterior Segment Disorders	4.7%
f.	Others	5.0%

There are no nationwide reliable data on refractive errors and low vision in the country except some isolated studies. A survey was conducted in Delhi to assess the prevalence and causes of blindness and low vision in children aged 5-15 years. The survey indicated that 1 % of children in this age group had vision < 6/18 in the better eye.

Achievements

All surveys indicated cataract as the single largest cause of blindness in India. Controlling cataract blindness was thus given priority in India. With a view to bring down the prevalence of cataract blindness, funds were mobilized from the World Bank during 1994-2002. Assistance was provided to seven major states, estimated to contribute 70% of the country's cataract blind. Under this project, following have been the achievements.

- w 307 dedicated eye operation theatres and eye wards constructed in district level hospitals;
- w Supply of ophthalmic equipment for diagnosis and treatment of common eye disorders, particularly for intra-ocular lens (IOL) implantation at all district hospitals;
- w More than 800 eye surgeons trained in IOL surgery;
- w 30 non-governmental organizations (NGOS) assisted for setting up/expanding eye care facilities;
- w Volume of cataract surgery has steadily increased since 1993. Cataract Surgery Rate is 3800 per million population (2003-04). There has been a significant increase in proportion of cataract surgeries with IOL implantation from <5% in 1994 to 85% in 2003-04.

There has also been an increase in coverage of eye care services. A Rapid Assessment survey carried out in 14 districts in 1998 indicated coverage of 70% persons having access to eye care services.

Decentralized Approach

India is a vast country having 28 States and 7 Union Territories with 593 districts, with an average population of nearly two million per district. The programme implementation has been decentralized upto the district level where District Blindness Control Societies (DBCS) have been set up as the nodal agencies. Members of the DBCS include officials from District Administration, Health, Education and Social Welfare Departments, media, community leaders and NGOs/Private Sectors involved in eye care. These societies directly receive funds from the Government. The concept is to establish a bottom up approach in dealing with blindness through multi-sectoral and coordinated efforts. These societies are responsible for identifying blind in every village, organize diagnostic screening camps at suitable locations, arrange transportation of patients to the designated facilities, and ensure follow up.

Monitoring and Evaluation

- Ø Following tools have been developed for effective monitoring of the programme:
 - w Standard prototypes for reporting of performance and expenditure by District Blindness Control Societies;
 - w Standard Cataract Surgery Records & Patient's Discharge Cards
 - w Standard Referral Card for children having refractive errors;
 - w Specific software to facilitate computerized MIS at various levels.
- Ø Sentinel Surveillance Units (25) have been set up in the Departments of Ophthalmology and Preventive and Social Medicine in Medical Colleges for assessment of beneficiary profile, visual outcomes based on cataract surgical records and follow-up of a sub-sample of operated cases to assess visual outcomes. Ocular morbidity data are also collected to assess patterns and trends of eye disease.
- Ø National Surveillance Unit has been established in the Department of Community Ophthalmology, Dr. Rajendra Prasad Centre for Ophthalmic Sciences, All India Institute of Medical Sciences, New Delhi. Functions of this unit include establishing a database for all blindness control activities in India, providing technical support for the network of Sentinel Surveillance Units established in the country, disseminating information on trends in blindness control activities in the country, developing information resources and relevant software packages for monitoring and evaluation of programme implementation including mapping of services for end-users, etc.
- Ø Independent studies have been undertaken to evaluate the programme activities. These include:
 - w Communication Needs Assessment;
 - w Beneficiaries Assessment;
 - w Evaluation of trained eye surgeons;
 - w Rapid Assessment for estimation of prevalence, coverage and outcome;
 - w Epidemiological survey on blindness in population aged 50+ years in 15 districts.

Quality of Services

In order to bring about an improvement in the quality of services, substantial efforts have been made by discouraging outdoor surgical camps; emphasis on IOL implantation at institutional level, emphasizing follow-up of operated cases and greater coverage for women and underprivileged sections of the society.

The programme is being implemented in collaboration with centres of excellence in the Government and Non-Government sectors which have emerged as leading training and research institutions capable of taking a

leadership role for shaping eye care programme not only in India, but in other countries as well. These institutions have excellent infrastructure, human resources and patient volume required for imparting training and conducting research. There is close coordination, formal or informal, between these institutions in the country.

Situational Analysis of Eye Care Infrastructure and Human Resources

For the first time, a Situational Analysis of Eye Care Infrastructure and Human Resources in India was conducted by the Ophthalmology Section of Directorate General of Health Services, Ministry of Health and Family Welfare, Government of India and Dr. R. P. Centre for Ophthalmic Sciences in 2002-03. An attempt was made to collect information on infrastructure and human resources for training as well as service delivery in the whole country. Data was collected from two different sources:

- w Teaching institutions for assessing the status of ophthalmology training;
- w District Blindness Control Societies for assessing infrastructure for eye care service delivery in districts. These data were supplemented by other sources like MIS data base and private hospitals.

Some of the results of the study are summarized below:-

Medical Colleges

Parameters	Frequency
Medical Colleges responding	140
MBBS recognized by MCI	138 (98.6%)
MD/DO recognized by MCI	82 (58.6%)
Institutions offering MD / MS	90 (64.3%)
Institutions offering DO / DOMS	77 (55.0%)
Total MBBS students admitted	15515 (Mean 113.1 - range 0-250)
Total MD / MS students admitted	342 (Mean 4.1; range 1-14)
Total DO students admitted	364 (Mean 4.7; range 1-24)
Mid level personnel admitted	620 (Range 1-30)
Medical Colleges with Wet Laboratory	36 (25.7%)
Medical Colleges with Low Vision Clinic	35 (25%)
Medical Colleges with <50 cases/working day	29 (20.7%)

Performance of Cataract and Other eye Surgeries

ECCE/IOL was the commonest procedure for Cataract Surgery.

Phacoemulsification and Small Incision Cataract Surgery are gradually being performed on more patients. Other surgeries performed in medical colleges are trabeculectomy, squint, keratoplasty, vitreo-retinal surgery and DCR/DCT. Mean number of ECCE/IOL per medical college per year was 1215 operations. On an average, 866 other eye operations were performed per medical college per year.

Ophthalmic Equipment

Most of the colleges had all equipment related to cataract surgery, but they were not fully equipped for managing other eye diseases particularly posterior segment disorders.

Profile of DNB Institutions

Parameter	Frequency
Institutions responding	24
Mean Teaching Faculty	9.8 (Range 3-19)
Institutions with fellowship programme	11 (45.8%)
DNB students admitted	48 (Mean = 2)
Mid level personnel admitted	122
Institutions with Wet Laboratory	11 (45.8%)
Institutions with Low Vision Clinic	13 (54.2%)

Eye Care Facilities and Human Resources

It was observed that 47% of all eye care facilities are in the Private Sector, while 49% of all eye beds are in voluntary sector. Government sector contributed 33% of facilities and 28% of eye beds. 37% of eye surgeons were employed in the Government Sector and the rest were evenly distributed in Private and Voluntary Sector. Wide inter-state variation in eye care facilities and human resources was observed in the study.

Vision 2020: The Right to Sight was launched in India on October 10-13, 2001 at Goa. A Working Group was constituted by the Government of India for preparing the Plan of Action and Strategies on "Vision 2020-The Right to Sight" initiative in India. The Working Group met at Manesar and Lucknow to develop the Plan of Action. The Draft Plan of Action was submitted by the Working Group to the Ministry of Health and Family Welfare in August 2002. This was approved in principle as a document for future planning of National Programme for Control of Blindness in India.

The target diseases identified for Vision 2020 in India include:

- Ø Cataract
- Ø Childhood Blindness

- Ø Refractive Errors and Low Vision
- Ø Corneal Blindness
- Ø Diabetic Retinopathy
- Ø Glaucoma
- Ø Trachoma (focal)

Human Resource Needs

The Human Resource needs identified are as follows:

Category	Current	Year 2005	Year 2010	Year 2015	Year 2020	Output p.a.	No. of Training Institutions
Ophthalmic Surgeons	12000	15000	18000	21000	25000	1200	150
Ophthalmic Assistants (Community)	6000	10000	15000	20000	25000	1200	50
Ophthalmic Paramedic (Hospital)	18000	30000	36000	42000	48000	1500	50
Eye Care Managers	200	500	1000	1500	2000	100	5
Community Eye Health Specialists	20	50	100	150	200	10	5

There is a need to develop 2000 Service Centres - each with 2 ophthalmic surgeons and 8 ophthalmic paramedics (hospital).

20,000 Vision Centres need to be developed, each with one Ophthalmic Assistant (Community) or equivalent.

Eye Care Managers will be required at the Service Centers.

Community Eye Health Specialists will be required at the Training Centres.

Paramedics

All presently used terms should be replaced by a common term - Mid Level Eye Care Personnel. Two streams of such personnel are envisaged:

- Ø Hospital based - all categories like nurses, refractionists, ophthalmic technicians / assistants, theatre personnel, etc.
- Ø Community / Vision Centre based - these persons will be responsible for school eye screening, refraction, primary eye care, tonometry, etc.

Eye Care Infrastructure



The infrastructure pyramid given above is based on the structure recommended by the World Health Organization.

Targets for the Year 2002-2007

S.No.	Objective	Targets for X Plan
1.	To improve the quantity & quality of cataract surgery	<ul style="list-style-type: none"> Ø To increase the Cataract Surgical Rate (overall) to 4500 per million per year by 2005. To improve the visual outcome of cataract surgery (>80% to have visual outcome $\geq 6/18$ after surgery). Ø To increase proportion of IOL surgery to >80%.
2.	Development of pediatric ophthalmology departments in Training Centres and Centres of Excellence	<ul style="list-style-type: none"> Ø Pediatric Ophthalmology Units established in 50 Tertiary hospitals.
3.	To screen known diabetics for diabetic retinopathy in clinics and to screen patients >35 years attending eye clinics	<ul style="list-style-type: none"> Ø To screen all known diabetics for diabetic retinopathy. To provide laser treatment to all those requiring it. Ø To screen for glaucoma all patients above the age of 35 years who attend eye clinics.
4.	Low vision services to be initiated at tertiary level with adequate linkages with secondary level and with primary care in a phased manner	<ul style="list-style-type: none"> Ø Basic refraction services to be available in all districts in the country. Ø 4000 vision centres to be established by 2005 to cover primary health centres and manned by a trained

S.No.	Objective	Targets for X Plan
		optometrist/Refractionist / Ophthalmic Assistant.
		Ø Increase training slots for OA / Refractionists.
		Ø Establish low vision centres at 50 institutions (centres of excellence / training centres) in a phased manner.
5.	Development of safe eye banks and networking of eye donation and training centres	Ø 25 fully functional and accredited safe eye banks, each collecting 1000 eyes per year and each supported by 20 eye donation centres.
6.	Integration of primary eye care with primary health care throughout the country by training MO and OA and other para professional staff	Ø MMR vaccine to replace Measles vaccine in primary immunization and ensuring at least 60% coverage of population. Ø 75% coverage of all under five children by professional staff with Regular Vitamin A supplementation.

Under the National Programme for Control of Blindness, a **Conference on Primary Eye Care to support Vision 2020 was held on April 11 - 14, 2002** at Coimbatore. The participants included the members of the Working Group and experts in the field of primary eye care in India. The recommendations of this meeting focused on:

- w Infrastructure and support for Primary Eye Care
- w Human Resource Development and Training Needs
- w Models for Service Delivery and Community Participation.

The **recommendations of this workshop** are as follows:-

A. **Infrastructure & Support for Primary Eye Care**

1. *Vision Centre*

Vision centres need to be setup to deliver Primary Eye Care to a population of 50,000 in the rural areas. These may include Primary Health Centres and Cooperatives manned by Middle Level Ophthalmic Personnel (MLOP). The target would be to post one Middle Level Ophthalmic Personnel (MLOP) per 50,000 population throughout the country by 2020.

2. *Functions of Vision Centre*

- w Identification and Referral of minor external eye diseases e.g. Conjunctivitis, Eye Injuries etc.;
- w Vision testing and prescription / dispensing of glasses;

- w School Eye Screening programme;
- w Eye health education;
- w Training of volunteers;
- w Identification / referral of Cataract, Glaucoma etc. to service centres.

3. *Personnel For Primary Eye Care (PEC).*

- To deliver PEC, following personnel need to be involved:
- w Area specific involvement of volunteers from the local community/ NGOs;
 - w Two teachers from each middle school;
 - w Health workers posted at sub-centers and PHC;
 - w Middle Level Ophthalmic Personnel (MLOP);
 - w Medical officers at P.H.C.s and General Practitioners.

4. *Examination Process*

- Facilities for following examinations need to be made available at each vision center to carry out functions of PEC:
- w Torch light examination with the assistance of magnifying loupe;
 - w Retinoscopy, including cycloplegic refraction;
 - w Schiottz tonometry;
 - w Fundus examination by medical officers (dilated pupil).

5. *Support*

National Programme for Control of Blindness should provide following assistance to develop PEC facilities:

a. *Equipment at Vision Centre:*

- w Trial Set
- w Trial Frame (Adult and Child)
- w Vision Testing Drum
- w Plane Mirror Retinoscope
- w Streak Retinoscope
- w Snellen's Charts
- w Binomag / Magnifying Loupe
- w Schiottz Tonometer
- w Torch (with batteries)
- w Lid Speculum
- w Epilation Forceps
- w Foreign body spud and needle
- w Direct Ophthalmoscope (for use by Medical Officers)
- w Rechargeable Batteries

b. *Drugs*

- w Cyclopentolate Eye Drops
- w Tropicamide Eye Drops
- w 4% Xylocaine Eye Drops

- w Ciprofloxacin Eye Drops
- w Chloramphenicol Eye Drops
- w 1% Tetracycline Eye Ointment
- w Ciprofloxacin Eye Ointment
- w Neosporin Eye Ointment
- w Artificial Tears
- w Oral Vitamin 'A' Solution and Capsules
- c. Materials
 - w Blindness Registers (For Village Surveys)
 - w Referral Cards for patients needing further evaluation of PHC
 - w Vision card with prescription for spectacles
 - w Flip Book for Eye Health Education
 - w Charts and Posters
 - w Do-it-yourself Vision Testing Posters
 - w Cataract Card for Health Workers
- d. Spectacles
 - Free / Subsidy for Spectacles for
 - w Children (5-15 years)
 - w Aphakic Patients

B. Human Resource Development and Training Needs

- Personnel to be trained in Primary Eye Care:
- a. Medical Officers at PHCs
 - b. Staff at PHC/Sub centers
 - c. School teachers
 - d. Village level volunteers
- w Training needs assessment should be carried out after defining job responsibilities of above personnel.
 - w Village level activities could be contracted to local NGOs / self help groups and this would allow decentralization to become a reality and it would be a sustainable model. This could include optical cooperative units. It is proposed to develop mobile primary eye care kit for the health workers / volunteers. The kit may contain-.
 - a. Simple questionnaire on PEC
 - b. Common eye ailments
 - c. Simple tips on how to deal with these ailments
2. Eye Care Education
- w Eye care education should target the following
 - a. Mothers regarding hygiene, nutrition, prevention of injuries;
 - b. Children regarding good reading habits, safety at play;
 - c. Teachers regarding identification of symptoms using simple checklist.

3. Training
- Training on PEC should include:
- a. DRIP Training:-
One hour thematic training at PHC for transfer of skills related to Primary Eye Care for Health Workers/ Village level volunteers.
 - b. Cascading training
Training to function as a team. Training of teachers should include refractive errors and common eye symptoms, do's and don't's. Training of VHW should include skills for vision testing, diagnosis of operable cataracts, monitoring use of spectacles.
 - w There is need to develop modules for training different functionaries;
 - w Orientation of indigenous practitioners in modern management should be undertaken for corneal ulcers, conjunctivitis and dangers of harmful traditional medicines. The training should include recognition of sight-threatening symptoms and referral system;
 - w There is need to augment training capacity for Mid Level Ophthalmic Personnel;
 - w Mechanisms for monitoring should be developed to assess the effectiveness of training at various levels;
 - w Referral and support system should be developed to link PEC to secondary & tertiary levels.
 - c. Models for Service Delivery and Community Participation.
1. Following table summarizes target diseases / activities and type of intervention required at primary level.

Activities	Find	Treat	Prevent	Refer	Hlth. Ed.
Cataract	+			+	+++
Post Op F/U	+			+	++
Vision Screening	+	+		+	+++
SES, Community level Screening	+	+		+	+++
Low Vision	+			+	++
Childhood Blindness	+		+	+	+++
External Abnormalities	+			+	++
Dist. of Vitamin A	+	+	+	+	+

Activities	Find	Treat	Prevent	Refer	Hlth. Ed.
Trauma	+	+	+	+	+
Diabetes	+			+	+
Red Eye	+	+	+	+	+
Corneal Ulcer	+	+	+	+	+
Trichiasis	+		+	+	+
Wrong Practices	+		+	+	++
Eye Donation	+			+	+++

Note: Treatment provided under supervision of Medical officer.

2. Alternate models of service delivery for periodic PEC are:
 - w Using existing Govt. & NGO infrastructure
 - w Based on existing Primary Health Centres
 - w Through other sectoral agencies e.g. ICDS, Education dept. Dais etc.
 - w Through existing Community Based Rehabilitation (CBR) programs
 - w Primary Eye Care through Vision Centres.

3. Following issues should be addressed before identifying appropriate model:
 - w Quality & Accountability
 - w Feasibility
 - w Affordability
 - w Ways of monitoring
 - w Sustainability & long term self support
 - w Capacity building of existing infrastructure
 - w Scope for community participation

4. Community Participation: Areas where community participation should be encouraged are:-
 - w School Eye Screening
 - w Immunization for Measles & Rubella
 - w Cataract Identification
 - w Screening for refractive errors, glaucoma and diabetes
 - w Follow-up and referral

The Working Group met on September 20-21, 2003 at Pune to deliberate on various components of the Action Plan. The recommendations of this meeting included:

Childhood Blindness:

- w “Pediatric Ophthalmology Facility” should be developed at Tertiary Level.
- w Existing eye surgeons need to be trained in Pediatric ophthalmology. There may not be a need to create separate post of pediatric ophthalmologists at this point of time.
- w Training of Ophthalmic Surgeons in Pediatric Ophthalmology for a minimum of 6 months at identified tertiary eye care centres.
- w Support development of Pediatric ophthalmology Team (including Pediatrician, Anesthetist, MLOPs)
- w In case a hospital is already doing Pediatric Ophthalmic surgeries, some support systems may be required to develop Pediatric Ophthalmology Facility.
- w Equipment required for Pediatric Ophthalmology need to be provided.
- w Depending on the volume of Pediatric Ophthalmic Surgery, decision regarding setting up of a dedicated pediatric OT or providing adequate O.T time may be taken.
- w As more than half (57%) of childhood Blindness is avoidable, emphasis should be given to prevent Childhood Blindness through cost effective strategies.

Low Vision & Refractive Errors:

- w Refractive Errors screening within a specified period of admission to schools should be done by schools in collaboration with District Blindness Control Society / District Education Department.
- w Address the organised sectors initially for screening and managing Presbyopia.
- w Screening and services for refractive errors / low vision should be integrated with cataract screening programme.
- w Constitute a Task force to develop strategies for Low Vision services.

Corneal Blindness:

- w Emphasis on Hospital Retrieval System to get better donor material.
- w There is an urgent need for assessment of number of people who would benefit by corneal grafting.
- w For vitamin A supplementation, we should focus on areas that are economically backward. Priority should be given to slum populations, tribal regions, drought and flood prone areas and migrant populations.

Posterior Segment Disorders:

- w Medical Retina Services need to be developed in tertiary eye care institutions. These units shall attend to various posterior segment disorders, primarily, diabetic retinopathy.

- w Awareness about diabetic retinopathy should be created in clinics managing diabetic patients.
- w A small pamphlet on Diabetic Retinopathy needs to be developed for the physicians.
- w Some inexpensive screening mechanisms for diabetic retinopathy should be established at the diabetic clinics. On a pilot basis, fundus cameras can be introduced in some clinics that are located centrally where diabetics can be invited to have free fundus photographs taken.
- w Patients of age-related macular degeneration need low vision services. Linkage needs to be established between the medical retina services and the low vision services.

Advocacy & Public Awareness:

- w Various guidelines and training manuals need to be made available on the MOHFW website.
- w Advocacy workshops should be organized involving the ophthalmologists and communication experts.
- w Annual Plan should list specific time bound activities for advocacy.

Trachoma:

Information on Surgery for entropion and trichiasis should be collected from endemic areas to assess current situation.

Human Resource Development:

- w Ophthalmology as a separate subject in MBBS course;
- w Interaction with Universities through Medical Council of India for uniform system for Ophthalmology as separate subject, common curriculum, evaluation;
- w Increase in number of eye surgeons- MS/ Primary DNB slots;
- w Continued professional improvement through CME for eye surgeons and MLOPs and fellowship courses in super specialties for ophthalmologists;
- w Desired ratio of Ophthalmologist- MLOPs in hospitals should be 1:3 to 1:4;
- w (MLOPs include dedicated Ophthalmic paramedics and Nurses in Ophthalmology Departments);
- w Explore feasibility of 3 month resident exchange programme at selected institutes during final year of PG course.

Data base on Eye Care Infrastructure & Human resources:

- w Dissemination of Report to all Stakeholders / States for use in identifying under-served areas
- w Periodic update of data + Strengthening of Surveillance Network

National Vision 2020 Coordination Committee India

- w Include representatives of Professional Ophthalmic Associations, MCI,

NBE in the committee

- w Constitute sub-committee/ Task Forces on various subjects requiring additional inputs

Working Group on Vision 2020: The Right to Sight in India

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Further Reading:

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CME SERIES (No. 9)

This CME Material has been supported by the funds of the AIOS, but the views expressed therein do not reflect the official opinion of the AIOS.

Vision 2020: The Right to Sight

(As part of the CME Programme)

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Published by:

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