

Primary Eye Care Centre Implementation Guidance for Vision centres



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Vision Centre Manual

Introduction:

A vision centre (VC) is a permanent facility located in rural and semi-urban areas to provide comprehensive, affordable and quality eye care for the community. The centre extends service for population of about 50,000 to 60,000 within 7 to 10 km radius. The vision centre is managed by a Vision Technician /Para Medical Ophthalmic Assistant (PMOA) and a coordinator who provide basic eye care in terms of examination and diagnosis. The final opinion are given by the ophthalmologists at the base hospital through teleconsultation.

Patients who need specialty treatment or surgical intervention are guided and referred to nearby secondary or tertiary eye hospital. With the collective support of primary eye care centre and the base hospital, patients receive quality, affordable, timely comprehensive care and treatment.

This manual provides a detailed guidance on the functional and operational aspects of the Vision Centre model. Helps in setting up new vision centre to cater to the eye care needs in remote locations and can be customized based on the specific context

The scope of Vision Centre services are as follows

Conditions	Case Finding	Intervention			Compliance Follow-up
		Curative	Prev.	Referral	
Cataract	√			√	√
Ref. Error	√	√			√
Child. Blindness	√		√	√	√
D. Retinopathy	√*			√	√
Glaucoma	√*			√	√
Cornea	√	√	√	√	√
Low Vision	√			√	√
√*	With availability of technology (Fundus camera, AI)				

- ❖ Increase the uptake of eye care services among rural population
- ❖ Offer quality and affordable, comprehensive eye care to people surrounding the villages
- ❖ Offer ongoing care to those with chronic eye conditions like Diabetic Retinopathy and Glaucoma with support of teleconsultation
- ❖ Raise awareness and educate the target community about the importance of eye health
- ❖ Establish a population-based eye care monitoring and support system
- ❖ Provide ocular emergency services, including conjunctivitis, corneal abrasion and ulcers, trauma, and foreign bodies
- ❖ Provide rehabilitation guidance for the incurably blind and those with low vision
- ❖ Provide e prescriptions by teleconsultant
- ❖ Organize follow-up camps for cataract patients
- ❖ The patients who need further diagnosis /treatment / surgical care are only referred to base Hospital

Criteria for setting up Vision Centre

- ❖ Covers a minimum population of 50,000 within a 7 to 10 km radius
- ❖ The town population should be minimum 10,000 to 15, 000
- ❖ Availability of manpower / local staff residing close to the vision centre area.
- ❖ Non availability of ophthalmologist or other eye care providers.
- ❖ Use of Geographical Information System (GIS) in identifying and selecting the location.
- ❖ Well connected by transport services.
- ❖ Building with 350 to 400 square feet on the ground floor to accommodate 25 to 30 patients at a time.
- ❖ Availability of toilet is important for the convenience of staff and patient.
- ❖ Linkage with a base hospital/secondary service centre/tertiary care centre to provide further investigations, treatment and surgical intervention
- ❖ Availability of stable internet connectivity/broadband IT

Layout for the Vision Centre



Services offered at Vision Centre

- ❖ An affordable registration fee can be collected from the patient. The registration is need to be covering one or two additional visits with in a valid period (1 month or 3 months for example) supporting the continuity of quality comprehensive eye care services
- ❖ Conduct comprehensive eye examinations and provide appropriate, high-quality, and affordable eyeglasses for correcting refractive errors such as myopia, hyperopia, and astigmatism.
- ❖ Provide first aid to patients with minor eye injuries or for removal of foreign particles. For the patients who need further treatment intervention are referred to base hospital with proper guidance and instructions
- ❖ Supports in Identifying the onset of cataract and other speciality defects in the eye
- ❖ For patients above 30 years of age, blood sugar, blood pressure, and intraocular pressure (IOP) tests are conducted at the centre. In addition, retinal fundus images are captured and shared with the ophthalmologist for further evaluation and advice.
- ❖ Identify the problems and ensure that the patients are advised for surgery or for any other referral condition are visiting the base hospital

Demand Generation

This Document clearly explain about the demand generation activities to be done to increase the foot falls at Vision Centres. This includes 5 major activities:

- ❖ Documenting demographics of vision centres Service area
- ❖ Publicity and awareness creation before Inauguration
- ❖ Door to Door Eye screening
- ❖ Health Education and Specialty Eye camps in the community
- ❖ Internal Demand generation activities (at VC and Base hospital)

Documentation of Demographics as an Information calendar

Collection of demographic details from the vision centre service area (7 to 10 km Radius). This includes information calendar with the number of villages within 10 km radius and it is population and distance from vision centre coverage.

- ❖ School details with information on students' strength and contact
- ❖ No of medical shops with contact details
- ❖ No of physicians with their hospital address
- ❖ Primary healthcare centres
- ❖ Lions club and Rotary Clubs
- ❖ Not for profit organisations including self-help groups
- ❖ Banks and other offices address
- ❖ Village Panchayat presidents list

Vision Centre	Name of the place
Calendar	Year
Address:	
Telephone No:	
Background	
Distance from Base Hospital	
Population (estimated for 2022)	
No of villages within 7-10 Kms radius	
Subdivisions(Taluk, Sub county, county)	
No of Households	
40+ aged population in the service area (25% of total population)	

Major Occupation	
School details	
No of Primary schools	
No of Teachers	
No of students	
No of Higher Secondary Schools	
No of Teachers	
No of Students	
No of Industries	
No of Employees	
No of NGO,S & No of SHG'S	
No of Lions Club	
No of Primary Health Centre	
No of Private Clinics	

Sample Estimation of Eye Care Need in VC Population		100,000
Refractive Errors (approximately 20% of population)		20,000
Annual Cataract Potential (approximately 1% of population considering ideal CSR of 10,000/million)		1000
Cataract Target @ 6000 CSR /Year		600
Glaucoma (approximately 1% of population) Need follow up at least once in 6 months		1000
Blind due to Glaucoma 10% of diagnosed Glaucoma		100
Diabetics		
40+ in total Population is 30%		30000
Diabetic patients are approximately 10% in 40+ population		3000
Diabetics Retinopathy (12% of Diabetic patients may have DR)		360

Publicity and awareness creation before Inauguration

Before inauguration the following activities are done to ensure the communication about the Vision centre opening across the service area of the vision centre

Fixing the **awareness boards** in the bigger villages and key junctions in the VC service area. These boards are kept in local language prompt the community to understand eye problem awareness and contact vision centres. The sample awareness board is shared for the reference.

Kind Attention Please

- Do you have defective vision?
- Facing difficulty in doing minute works
- Are you hypertensive or diabetic?
- Are you aged 35 years and above?
- Have you ever got injury in your eyes?

If you have any of these problems
and in case if it is yes kindly visit
Aravind Primary Eye Care Centre

Aravind Primary Eye Care Centre

Communication Address:

Contact Number:

Working Hours: 09:00am to 05:00pm

Sunday Holiday

Head Office: Aravind Eye Hospital, Madurai

Panchayat Name & Contact Persons Details

S. No	Panchayat	Important key contact person name	Address	Telephone Number
1				
2				



ARAVIND

Vision Centre

Alangudi

☎ 04522-223100



Working time: Morning 9.00am to Evening 5.00pm

SSM Complex, Near Bharathi Tailoring,
Nadnamman Kovil Backside, Vadakadu Mukkam,
Kalaingar Salai, Pudukkottai district, Phone: 04522 - 223100

Sunday Holiday

Aravind Eye Hospital, Madurai, Phone: 0452 - 4356100

1. The list of villages within 7 to 10 km radius covering 50,000 population will be covered in 3 to 4 days publicity before inauguration.
2. The preferred way of publicizing the VC is through public mike announcement using recorded standard message and distribution of handbills door to door with clear information about services offered in Vision centres. The sample handbill is shared below

Name of the Hospital	
Place :	
Communication Address :	
Phone Number :	
A digitalised Vision Centre with Video Conferencing facility in your vicinity	
Special Features:	
❖ Complete Eye Screening for Rs. 20/- (example) ❖ You can avail this fee for two additional visits within three months ❖ Save your time and money to go to nearby town hospital for eye screening ❖ You need not wait for the eye camps to be conducted in your area	
Medical Facilities available in Vision Centre	
❖ Consult the Ophthalmologist in the city hospital directly through Video Conferencing Method. ❖ Quality Glasses available at nominal rates for Short sight, Long sight & Presbyopia. ❖ Eye Screening is available for students in their respective schools, with the help of their teachers ❖ First Aid available for dust or hurt in the eyes ❖ Blood Sugar and Blood Pressure are checked and Glaucoma tests are done for people above the age of 40. ❖ Fundus Photography to identify Diabetic Retinopathy. ❖ Referred to the base hospital for removal of cataract and Specialty Interventions.	
Complete Eye Screening for Rs.20/	
Working hours: 9 a.m. To 5 pm	
SUNDAY IS A HOLIDAY	
Hospital Logo	

Inviting the local community representatives.

To build goodwill in the community and enhance the visibility of Vision Centres in the service area, it is important to invite local community leaders, school headmasters, primary health centre staff, physicians, medical shop owners, members of Lions and Rotary Clubs, panchayat presidents, bank managers, representatives from industries, self-help groups, and other welfare organizations for the inauguration.

On the inauguration day it is expected to see at least 70 to 100 patients to ensure that the publicity reached widely.

The village wise outpatient list need to be taken once in a month to see the OP distribution from the villages in the service area.

Village Details (Radius of 5 kms to 10 km)									
S.no	Villages	Total No of Houses	Total Population	Male	Female	Age wise			Above 40
						0 - 5	6 - 15	16 - 40	
1									
2									
3									
4									
5									

Door to Door screening

- ❖ In the low awareness area or in rural setup the hospital can decide to have a full time eye health worker from the VC area to visit door to door, screen the house holds for eye defects and motivate them with appropriate information and guidance to the vision centre.
- ❖ These health workers with the qualification of high school education , provided training at the base hospital about common eye conditions and its treatment, Measuring Visual acuity, Identifying cataract with torch and Counselling skills.
- ❖ The health worker need to get permission from the village leader to do a screening and then visit door to door during the appropriate time where the villagers are available in the house.
- ❖ Screen the people with tumbling "E" Chart and refer those who have Visual acuity less than 6/18. They can also be trained to identify cataracts with torch light examination.
- ❖ The patients identified with defective vision are provided referral cards and motivated to visit VCs.

- ❖ The referral acceptance should be minimum 30% in the best case so there needs a continuous follow-up to ensure all the defective persons identified are attending VCs
- ❖ Health education and specialty eye camps in the community
- ❖ Door to door eye screening helps in covering the entire population
- ❖ Health education and awareness programme for groups and places where people congregate yield immediate increase in footfalls
- ❖ In addition to the door-to-door screening or as exclusive strategy the following methods help in taking VCs to the local community faster.
- ❖ Collaborate with SHG's, farmers, cooperative society etc.
- ❖ Mass SMS on World Sight day, Glaucoma day, World Diabetes day.

Health Education in Community

Community-based health education programmes have shown considerable promise in addressing gaps in uptake of eye care services by improving awareness and fostering timely care-seeking behaviour. The results of a pilot study by Aravind showed that structured community eye health education on glaucoma and Diabetic Retinopathy significantly increased outpatient visits by 19%. These results affirm that community-based education, when delivered through community health educators from the same rural areas using culturally tailored content, can increase eye health-seeking behaviour at the community level.

The awareness about the eye problems and the care facility available within the close access are emphasized to the community through various initiatives like

- ❖ Providing the basic training for school teachers to identify and refer the students who need further intervention to the vision centre
- ❖ Issuing publicity notices to the people congregating in common prominent locations
- ❖ Placing of common eye diseases posters inside the vision centre
- ❖ Promoting word of mouth through satisfied patients

Name of the Organizing sponsor

Place (VC) Address

**A digitalized Vision Centre with Video Conferencing
facility in your vicinity**

Special Feature

- ❖ Complete Eye Screening for Rs.20/-
- ❖ You can avail this fees for three visits within three months.
- ❖ Save your time and money to go to nearby town hospital for eye screening.
- ❖ You need not wait for the eye camps to be conducted in your region

Medical facilities available in Vision Centre

- ❖ Consult the Ophthalmologist in the city hospital directly through Video Conferencing Method.
- ❖ Quality Glasses available at nominal rates for Short sight, Long sight & Presbyopia.
- ❖ Eye Screening is available for students in their respective schools, with the help of their teachers.
- ❖ First Aid available for dust or hurt in the eyes.
- ❖ Blood Sugar and Blood Pressure are checked and Glaucoma tests are done for people above the age of 40.
- ❖ Tests done for Diabetic Retinopathy.
- ❖ Referred to the base hospital for removal of cataract and other surgeries.

Complete Eye Screening for Rs 20/-

Working hours: 9 a.m. To 5 p.m.

SUNDAY IS A HOLIDAY

Hospital logo

Cataract is not a Disease

Cataract is one of the changes that occurs with ageing. Cataract causes opacity in the transparent lens of the eye. Hence, light cannot pass through and results in poor vision.

Symptoms of Cataract:

- Blurred vision
- Feeling of a film over the eyes
- Sensitivity to light and glare
- Change in colour of pupil

Types of Cataract:

- Mature Cataract
- Congenital Cataract
- Cataract due to eye injuries
- Cataract due to other major illnesses
- Cataract due to intake of medicines



Treatment :

Medicines or spectacles do not provide a permanent solution for cataract. Surgery is the only option.



Restore clear vision after undergoing surgery with an artificial lens implantation.

ARAVIND EYE CARE SYSTEM

Diseases of the Cornea



If, dust particles enter eyes while working on the farms...



If, injuries occur while bursting crackers...



If, chemical products fall in the eye...



If, eyes get injured while playing...

Using traditional medicines will lead to permanent vision loss. Only an eye doctor can provide the proper treatment.

If anyone known to you come across situations as mentioned above, take him/her to an eye doctor immediately. If not, it cornea may get damaged resulting in loss of vision.

Are you above 40 years of age?

You are likely to have Glaucoma. You should have your eyes examined.

Due to excess pressure of the fluid in the eyes, nerves may get affected, ultimately leading to vision loss.



Normal vision



Side vision getting affected due to Glaucoma



Glaucoma is a hereditary disease. If anyone in your family has Glaucoma, it is strictly advised to take the rest of their family members for an eye checkup.

Symptoms of Glaucoma:



Persons with Glaucoma will tend to see rainbow coloured rings around electric bulbs



They may have to change reading glasses very often

Continuous eye examination is very essential for the person suffering from Glaucoma

Do you notice any change in your child's activities?

You child may have vision problems...



Glare while in sunlight



Shrinking the eyes while looking at objects



Keeping books close to the eyes while reading



Watching TV too closely



Occurrence of cysts on the eye lids very often



Not noticing objects in front and tripping over



Stumble during the night



Getting close to the black board for reading letters

If you notice of the above-mentioned symptoms in your children, please have their eyes examined at the earliest.

Diabetes will affect your eyes

Need for eye checkup for people with diabetes

- Diabetes will affect the Retina
- There will not be any symptoms until vision is lost completely
- Once Retina gets affected, it is very difficult to get the vision back.



Normal Vision



As seen through eyes affected with diabetes



Normal Retina



Retina affected with diabetes

People who have diabetes need to check their eyes at the earliest.

Also, it is always important to have the follow-up visits, as advised by the doctor.

Do you have a permanent low vision Do not loose your hope

A good opportunity for you

Magnifying lens and telescope lens for low vision patients who cannot use ordinary glasses



Training them with easy walking stick to enable them to walk independently.



Counselling and Rehab training given for deaf and dumb and mentally retarded includes low vision people also



Counselling and Rehab Centre for Low Vision

Counselling given to choose a work which is possible with low vision



Vision Motivation Exercises for the children born with low vision



Counselling for Education System and learning practice



Computer training for Low Vision People



Internal Demand generation activities:

Quality of care through Comprehensive eye examination, communication to the patient by the staff at all stage of examination, tele-consultation, providing services like spectacles and medication on the spot with affordable rates, referral guidance for those need cataract surgery and specialty intervention at the base hospital are very important to ensure the patient satisfaction.

In addition to this the VC Staff need to be oriented to

- ❖ **Motivate family screening:** Internally all 40 + patients are advised to bring their spouses, siblings for eye screening.
- ❖ Patients at middle age with Refractive error will be motivated to bring their parents and children for eye screening.
- ❖ Reminder for cataract patients to undergo surgery

let us help others to see better



For More Details
Aravind Vision Centre
No.7, Near Sankar Pharmacy, Palani Main Road,
Madathakulam - 642 113
Tirupur Dist.
Ph: 04252 - 252 000

Head Office, Aravind Eye Hospital, Coimbatore
Consultation Fee for Comprehensive Eye Examination
Rs. 20/- only

KIND ATTENTION...

1. Blurred vision, Redness in the eye, Continuous headache and Squint are the symptoms of eye problems
2. Comprehensive eye examination is required for all those above 40 years of age and known diabetics
3. 75% of the eye problems are treatable

- ❖ **Speciality follow up visits :** Once the Vision centre completes 6 to 7 months a significant number of people with Diabetics and Glaucoma would have registered in VC. As they need continuous follow-ups conduction of specialty follow-ups for Glaucoma, DR with the specialist visit from the base hospital will be a value addition.
- ❖ **Vision corridors** can be set up in the waiting area to prompt the attenders to do self-screening and those identified with defective vision can register to see as a patient at VC.

Human Resource at Vision Centre

Introduction:

One of the most important criteria is setting up the Primary Eye Care Centre is Human Resource Planning. The centre functions with the staffing of two ophthalmic staff (Technician and Coordinator) at the Primary Eye Care Centre with the support of the field staff. The support team from Base hospital coordinates with the staff at the Vision Centre to complete the care needed for the patient.

HR Management

- ❖ Staffing pattern (technician, coordinator and eye health field worker (optional))
- ❖ Selection, Training and duration
- ❖ HR management
- ❖ Roles and responsibilities
- ❖ Employee satisfaction and Ensuring efficiency
- ❖ CME/ refresher training

The Vision Centre staff

- ❖ Resides in the same town or in the service area – to ensure uninterrupted service delivery

Staff attitude

- ❖ Keen interest to serve the community
- ❖ Willingness to undergo training and work experience at base hospital
- ❖ Willingness for continuous learning
- ❖ Value fit and skill competent, a key criteria
- ❖ Updating the skills through periodical CME programme
- ❖ Providing in house training for the Vision Centre staff
- ❖ Maturity to deal with patients (especially elders)

Vision Technician:

A Vision Technician is an allied ophthalmic personnel cadre who are trained to work and manage a primary eye care centre – performing comprehensive primary eye examination, health education and referral services. Vision Technician is trained to perform visual acuity measurement, subjective refraction, slit lamp examination to evaluate anterior and posterior segment, measuring Intra-ocular pressure, and

capacity to diagnose common eye problems. On completion of the above-mentioned activity, patient details are entered in the Electronic Medical Record (EMR). Based on the advice given by the ophthalmologist from the base hospital, the Vision Technician can dispense spectacles and medicines and counsel the patients on the doctor's advice.

Details to be highlighted (Roles and responsibilities)

Vision Checking	Basic eye screening procedure to measure clarity of vision
Preliminary Eye Examination	❖ Clear knowledge about common eye diseases ❖ Treat the patient with care and patient ❖ Changes in the eye have to be clearly mentioned in the case sheet ❖ Should be able to diagnose the eye defect, cataract and pupil response. ❖ According to the eye defect, the investigation & examination have to be done
For the patients aged 30 and above	❖ It is mandatory to measure blood pressure and random Blood Sugar at the centre by the Vision Technician.
Duct examination	❖ Mainly carried out for the patients with Cataract, any kind of eye discharge and for corneal ulcer patients
Refraction test	❖ If the patient's eye or lens are clear the following tests will be done ❖ Defective distance vision ❖ Near vision testing for the patients close to 38 years ❖ Aphakia, Pseudophakia ❖ Early cataract ❖ Posterior capsule opacity
Dilatation refraction is done for following patients	❖ Noticeable hypermetropia ❖ High Astigmatism high power ❖ More difference than previous power
Counselling	❖ Importance of using the glasses has to be explained ❖ Clear information about the frame lens have to be given ❖ Explain the procedure to wear and maintain glasses

First Aid	○ Patient visiting the centre with infection due to dust, any powder, shampoo etc, the eye have to be irrigated with the normal saline water and apply antibiotic drops. Then vision test, preliminary and slit lamp examination has to be done
General Duties	❖ Patients have to treated properly with dignity ❖ Ensure patient satisfaction for improving patient referral ❖ Follow and incline towards the organization values and culture

Vision Centre Coordinator:

A Vision centre coordinator is an allied ophthalmic personnel cadre who are trained to work and manage a primary eye care centre – Focus on Patient Registration Process, handling the patient flow and counsel the patient in optical and medicine Inventory and sale, manages day to day accounting process – Cash collection and management, Follow up on referral management and overall report generation.

Details to be highlighted (Roles and responsibilities)

Registration	❖ The coordinator receives the patient, collects the personal and demographic details and enters the data in the Vision Centre Management System. ❖ Collects the fee amount and provides the validity period of the registration for number of revisit. ❖ Once the registration formalities are completed the coordinator hands over the registration slip to the patient. ❖ She provides the needed details and importance of card. ❖ The patient is guided to the examination room for further procedure.
Counselling	❖ After the teleconsultation process the patient is directed back to the registration area. ❖ The Coordinator goes through the advice given by the ophthalmologist. Provides supportive counselling to either procure spectacles, medicines at the Vision Centre or for taking up surgery/ any other referral at the base hospital. ❖ The coordinator shares a proper guidance for the patient to visit the base hospital for further procedure.

Record Maintenance	❖ The patient details are thoroughly entered and this helps in retrieving the details of patient at any point of time be it at the Vision Centre or Base Hospital.
Stock Maintenance	❖ All the materials supplied to the vision centre have to be recorded and maintained electronically and monitored on daily basis.
Billing	❖ Consulting fee, medicines sales, GP order amount and other (sun glasses, glass cover, GP box) bills have to be printed and given to the patient immediately ❖ Proper submission of expenses details are submitted to the base hospital for timely verification
Report Generation	❖ The coordinator maintains the daily statistics and shares the weekly and monthly performance to the base hospital Vision Centre team. ❖ This will be shared during the weekly and monthly meetings to get an in-depth understanding about the performance of the particular centre and also identify the area for improvement.
Centre ambience & Cleanliness	❖ Ensures that the centre is clean and neat for the patients to have a comfortable and pleasing environment ❖ Checks on the sanitation and cleanliness
General Duties	❖ Computer system and instruments have to be thoroughly cleaned and maintained for smooth functioning of the process flow ❖ Patients have to be treated properly with respect and dignity irrespective of their socio economic status ❖ Ensure over all patient satisfaction through quality of care , counselling and completing the service loop that helps improving patient referral in future
Knowledge Updation	❖ Read Ophthalmology books and journals to gain updates in diagnosis, disease identification and treatment. ❖ Interaction with the senior vision centre staff from other centres ❖ Attending Continuous Medical Education to enhance the skills in terms of both practical and theoretical
Community Linkage	❖ Conducting awareness programmes around the service area ❖ Contacting the Key people in the village for providing support in placing signage in prominent locations ❖ Refer the systemic illness patients to the nearest physician or health centre. This helps in developing rapport with the local doctors

Eye Health Worker: (Optional) they are the one who are in close contact with the community.

- ❖ Community mobilization (survey, key informant methods...)
- ❖ Identify and referring curable and incurable blind people
- ❖ Communication & Coordination (community ↔ centre ↔ hospital)
- ❖ Eye health awareness creation and motivate community to utilize the facility
- ❖ Identify and referring curable and incurable blind people
- ❖ Outreach initiatives in association with Outreach department

Community mobilization	❖ Able to conduct household survey. They are the sole in charge for the vision centres in terms of increasing the patient load by conducting the following outreach in the 7 to 10 km radius of vision centre
Outreach initiatives in association with Outreach department	❖ Provide support in conducting Glaucoma follow-up camps for previously registered glaucoma patients—either registered at the Vision Centre or the base hospital—who reside within the Vision Centre's service area. ❖ Support in Diabetic retinopathy screening for the known diabetic patients registered in vision centre – one in six months ❖ Workplace screening camps ❖ Organize school screening camps by training teachers with the help of base hospital ❖ To assist camp organizer when need arises in taking camp patients on the camp day or on proposed date for undergoing surgery at base hospital ❖ To ensure that the referred patients from vision Centre visit the base hospital at the mentioned time period
Other activities	❖ Attend the weekly vision centre meeting ❖ update demographic details of the service area population at regular intervals ❖ Support in mobilizing patients for camps or health education awareness programmes

In Charge Medical Officer at the Vision Centre:

A Vision Centre Medical Officer at the base hospital is expected to have adequate knowledge about the community eye health, standardising clinical protocols and continuously work towards the improvement and efficient functioning of the vision centre

- ❖ Supports the overall performance of the Vision Centre, ensuring efficiency in both clinical processes and clinical quality.
- ❖ Ensures the smooth functioning of teleconsultation and referral management processes.
- ❖ Coordinates with the medical director / Chief medical officer to facilitate the deputation of ophthalmologists for teleconsultations. In small hospitals this person can also do teleconsultation.
- ❖ Provides necessary guidance and support to staff in both clinical and soft skills.
- ❖ Strengthens teamwork and promotes team spirit within the Vision Centre.
- ❖ Helps the team improve performance and maintain consistency in progress.
- ❖ Ensures that the staff at the centre align with the organization's culture and values while maintaining high standards in the quality of patient care.

VC Manager:

- ❖ Responsible for Installation, Operations, Monitoring HR, Follow-up camps & Overall co-ordination.
- ❖ Operational Support in managing (stocks, amenities, Bank and bill payments, Power supply , communications from local govt., specialty camps, awareness and Specialty outreach programmes)
- ❖ Monitor VC performance through reports and examine variations in order to facilitate improvement.
- ❖ To ensure monthly indents reach the vision centres on time and collections are deposited and reconciled at accounts Department
- ❖ Ensure smooth functioning of back-end processes such as: availability of doctors, consumables, stationaries, spectacles supplies, medicines supplies, accounts management, Instrument and equipment supplies
- ❖ Follow up on timely reporting : weekly, monthly, quarterly and annually
- ❖ Conduct annual performance meeting to review the overall performance and support in executing the improvement plan

- ❖ Ensure the validity of vision centre data and reports
- ❖ Ensure the conduction of all specialty camps (DR, School screening, Paediatric, workplace screening) and follow up camps (Glaucoma and DR) with the help of field workers and outreach Department in and around vision centre Service area

Vision centre Admin assistant

- ❖ Compilation of demographic details for setting up of new centres
- ❖ To support the vision centre Manager in documenting, Report generation(weekly, monthly and parameter) as per the standard formats
- ❖ To support in generating reports related to the vision centre projects and send to INGOS through the VC manager
- ❖ To coordinate the monthly monitoring visits to VC by communicating with all the stake holders of each vision centre
- ❖ Transporting the indenting things and needed stock of Medicines from base hospital to respective vision centre
- ❖ Manages monthly expense bill payments for all centres.
- ❖ Organize weekly and monthly meetings
- ❖ To support in organizing Vision centre CMEs and events

Telemedicine Doctors role

- ❖ To ensure comprehensive eye examination done by the Vision technician through reviewing electronic medical record
- ❖ Ensuring teleconsultation happens for all the patients by providing entry from the doctor's end.
- ❖ To speak in an understandable local language so that the patient can understand their explanation about the eye condition and treatment advise.
- ❖ Coordinate with IT or Clinical supervisor to solve any technical issue arises in teleconsultation

Support from Base Hospital (Medical College/ tertiary centre/ surgical centre)

- ❖ Supportive Leadership and management team
- ❖ Uninterrupted supply chain – Optical, Pharmacy, Instrument and equipment, stationaries
- ❖ Back up for human resources and sending alternate staff during the leave taken by VC staff
- ❖ Organizing regular Training of both clinical and soft skills, CME programme, Engaging VC Staff – Family orientation programme

- ❖ Provide surgical and advanced treatment
- ❖ IT enabled service delivery system
- ❖ Support from outreach department for awareness
- ❖ Support in promotional activity

Equipment and Instruments at Vision Centre

A **Vision Centre** is a primary eye care service provider in rural area that provides comprehensive eye examinations, diagnosis, provide first aid treatment for basic problems, offer referral services to the community.

A well-equipped Vision Centre with essential equipment and instruments supports the smooth functioning of the centre and enhances patient trust for comprehensive quality of care they receive.

The equipment at the Vision Centre are broadly segregated based on the functionality

- ❖ Vision Assessment and Refraction
- ❖ Examination and Diagnostic need
- ❖ Screening and Basic Clinical Tests
- ❖ Optical Dispensing
- ❖ Sterilization
- ❖ Communication Systems.

The below equipment's has to be there at the Vision centre for diagnosis and treatment care. The instruments are used for both the anterior and posterior examination.

Torch Light

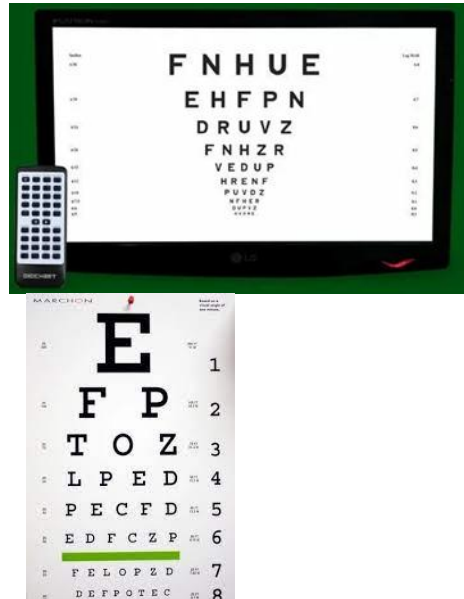


A simple basic device, be it rechargeable or non-rechargeable, is used at the Vision Centre for conducting basic eye examinations and assessing the anterior segment of the eye, including the eyelids, lashes, conjunctiva, cornea, and pupil reactions

Purpose :

- 1) check for proper eye alignment and movement
 - 2) helps to reveal haziness, ulcers, foreign bodies, growth, redness, discharge or any other abnormalities
 - 3) Identifying signs of cataract or any conditions affecting the lens
- Assess cornea, iris and pupil for clarity

Vision Chart



Vision Chart be it manual or digital has got varieties of letters , symbols , pictures with varied size for measuring the visual acuity

Purpose :

- 1) helps in detecting the conditions like myopia, hypermetropia and astigmatism
- 2) helps in measuring the vision acuity
- 3) supports in prescribing the spectacles with corrective lens power
- 4) creates awareness among the patients for having regular check up
- 5) portable and used for screening at the field

Trail Set



A Trial Set is primarily used to perform subjective refraction and assessment to determine the accurate prescription for eyeglasses or contact lenses

Purpose :

- 1) Helps in accurate measurement and correction of refractive errors
- 2) Useful in changing the lens for the patient till they are satisfied with clear vision before prescribing the spectacles
- 3) Helps in diagnosing squint and Binocular vision condition

Auto refractometer



Auto refractometer is an handheld diagnostic portable device used to measure the refractive errors

Purpose :

- 1) Helps in diagnosing the conditions like Myopia (near-sightedness), Hyperopia (Far Sightedness) and Astigmatism
- 2) Used in screening camps for easy diagnosis

Glucometer



A blood glucose meter is a compact portable machine that's used to measure how much glucose (a type of sugar) is with drops of blood sample (also known as the blood glucose level).

Purpose :

- 1) Helps in monitoring the blood glucose levels
- 2) Supports in giving an alert regarding the onset of the diabetic condition
- 3) Helps in taking needed decisions without delay to alter the life style for better living (food, physical activity)

Direct Ophthalmoscope

Direct Ophthalmoscope is handy portable instrument used for the examination of posterior segment of the eye. This is used in the dim or dark room and mainly require pupil dilation for accurate evaluation

Purpose :

- 1) Supports to examine the posterior segments of the eye, such as the retina, optic nerve, and blood vessels
- 2) Help to diagnose specialty conditions like Glaucoma and Retina
- 3) Mainly used to examine for patients with small pupil or in undilated state

Slit Lamp

Slit Lamp is a specialized microscope that provides illumination and magnification for examining the anterior and posterior parts of the three dimensional view of the eye. The major components of slit lamps are illumination, magnification and mechanical system.

Purpose :

- 1) Helps in detailed examination of the different parts of the eyes such as the cornea, lens, and retina
- 2) Supports in identifying the allergy and infection condition and injuries in cornea
- 3) Helps in identifying the early stage of specialty conditions like glaucoma, cataracts and retinal conditions
- 4) Helps in detecting the abnormalities of eye conditions

Applanation Tonometer

There are two types of tonometer that can be mainly used to measure the intraocular pressure of the eye. One is handheld and it is easy for the patient to get adjusted both in sitting and standing position. The other one is attached to the slit lamp and it can be used without the patient movement as an additional examination

Purpose :

- 1) Identifying the early onset of Glaucoma Conditions that would be supportive to prevent the irreversible vision loss
- 2) Support in monitoring the pressure levels before and after the surgery
- 3) Mainly supportive for evaluating the IOP for children, or bedridden patients

Streak Retinoscope

Streak Retinoscope is a handheld rotatable instrument that can be adjusted to different angles is used to measure a refractive error that is supportive in subjective refraction and prescribing appropriate spectacles or contact lenses.

Purpose :

- 1) Helps to diagnose conditions like nearsightedness, far sightedness, astigmatism. Amblyopia, Keratoconus, and cataract
- 2) Supports in providing the accurate lens power
- 3) Mainly useful for assessment in children, unresponsive and uncooperative patients

4) Fast in evaluation and saves time

BP Apparatus



BP apparatus be it manual or digitalized is a portable instrument pressure that consists of an inflatable cuff, a pressure gauge (manometer), and a stethoscope.

Purpose :

- 1) Identifying and diagnosing hypertensive, prehypertension, irregular heartbeats and pulse irregularities condition
- 2) Provides an alert about cardiovascular risk factor
- 3) Routine health checkups in clinics, hospitals, and home
- 4) The regular evaluation supports in timely treatment and medication substitutes

Sterilizer



This is a portable sterilizer used at the primary eye care centre to sterile the instruments to avoid spread of infection among the patients.

Purpose :

- 1) Prevent the spread of infections
- 2) Maintain hygiene and cleanliness
- 3) Prevent the instruments from getting corroded or damage
- 4) Increase the shelf life of the instruments

Fundus Camera	There are several companies offer fundus cameras and several with AI to diagnose Diabetic retinopathy and Glaucoma. Its the hospital to choose the appropriate one for them. However Fundus imaging is becoming a mandate for VCs to diagnose posterior sight threatening eye conditions
	3 Netra Fundus Camera High-resolution, non-mydratic digital camera used for capturing retinal images of the posterior and anterior segments of the eye.
	Topcon Fundus Camera It's a non-mydratic Retinal Camera provides accurate imaging of retina, optic nerve and without pupil dilation, supportive for patient comfort
	Remidio Fundus Camera It is a non-mydratic (doesn't require pupil dilation) handheld device for retinal imaging, often used for diabetic retinopathy screening
Purpose : 1) Detecting conditions like Diabetic Retinopathy, Age Related macular degeneration Glaucoma , retinopathy of prematurity 2) Helps in diagnosing inflammation of the conjunctiva 3) Used for screening programme organized in the community for quick diagnosis 4) Highly useful for assessment of the eye condition before and after the retinal surgery 5) The images captured remotely can be easily uploaded or shared to the ophthalmologists for evaluation and treatment follow up	

General Information on instrument and equipment Maintenance

- ❖ To understand and undergo training on instruments and equipment handling and to become familiar with the specific Do's and Don'ts for each of them
- ❖ To protect instruments from dust, moisture, stains, corrosion, power fluctuations, and electrical issues. Timely monitoring ensures that all instruments are in good working condition and safe to use
- ❖ Another important aspect of instrument care is ensuring proper scheduling and supervision by the Instrument Department team during their visits
- ❖ Educating the user to address the basic complaint and to have stock for self-replacement
- ❖ At the end of the day, it is very important to take time to clean and place the instruments and equipment's in their respective pouches or boxes or properly covered.
- ❖ At regular intervals of time , make sure to check the availability of needed basic spares to avoid shortage or to replace during the crisis

Role of Information Technology at Vision Centre

Introduction

Setting up primary eye care centres in rural villages with tele-ophthalmology connectivity with base hospitals has been found to be an effective model to reach the patients who otherwise don't have access to quality eye care at the door steps.

This significantly increases the uptake of eye care services thus leading to considerable reduction in the burden of avoidable blindness. Most of the problems are addressed locally at the vision centres and only a minority are referred to either a secondary or a tertiary level hospital for further management. This not only saves unnecessary travel by the patients but also considerably reduces their financial burden by saving expenditure on travel, food and/or lost wages.

Technology plays a significant role in primary eye care centre to improve the quality of care, ease the diagnosis process, saves time and increase the uptake of patients residing in rural and semi-rural areas.

At Vision Centre:

- ❖ Computer with software installation - Vision Centre Management System (VC eye notes or similar softwares) software, Anti – Virus protection and all needed accessories (including webcam, speakers, mike, UPS etc.)
- ❖ Laser Printers with additional toner
- ❖ Telephone connection with modem
- ❖ Broadband Connectivity

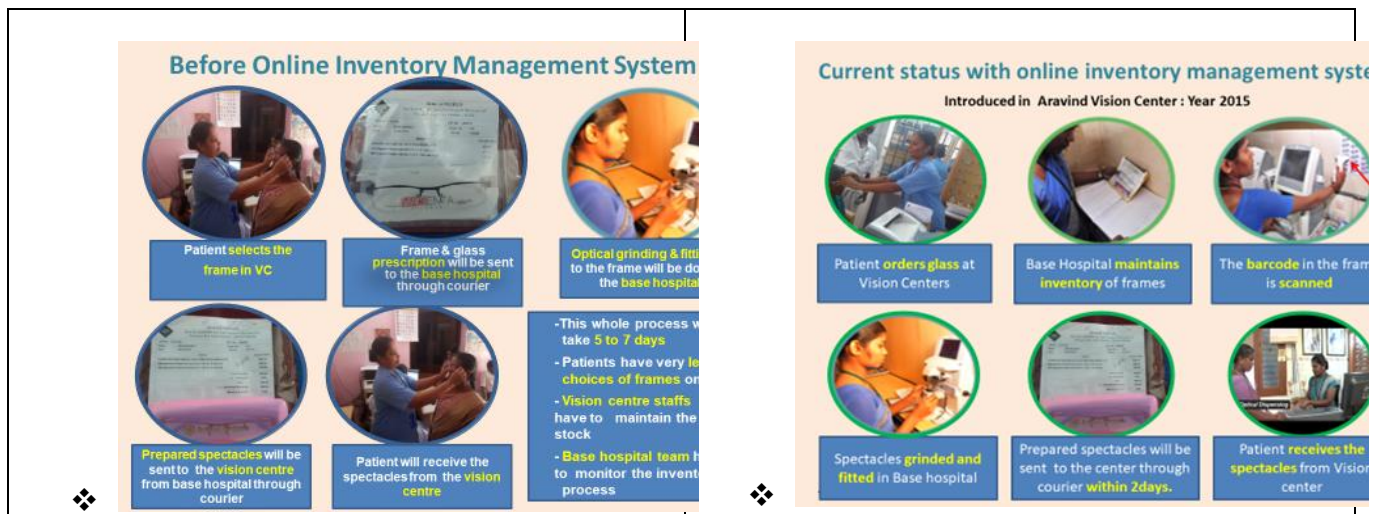
At the Base Hospital:

- ❖ Computer with software installation - Vision Centre Management System (VC eye notes) software, Anti – Virus protection and all needed accessories (including webcam, speakers, mike)

Technology advancements at the Vision Centre

- ❖ **Electronic Medical Record:** This is a digital versions of documenting patient's details that helps to go through the patient's history, diagnosis, advised medications and treatment and easy for follow up and improved workflow
- ❖ **Teleconsultation:** All the patients visiting the vision centre who are from rural and semi-rural locations get real time consultation with the ophthalmologist at the base hospital.

- ❖ **Online inventory management for spectacle dispensing** : To deliver spectacles on time for patients by enhance efficiency of spectacles dispensing at Vision Centers



Fundus camera with Artificial Intelligence: A fundus camera with artificial intelligence (AI) is a latest advancement that captures images of the retina and with the support of AI to automatically detect the eye conditions like diabetic retinopathy and glaucoma. This helps to provide immediate result that supports in screening and allows for earlier detection.

Role of Information technology – Personnel

- ❖ Installation and testing of hardware and software for new vision centre
- ❖ Ensuring good connectivity for vision centres connected to the respective base hospital.
- ❖ Responsible for supporting in capturing the backup of day-to-day data from Vision Centres
- ❖ Provide orientation to the vision centre staff on the system usage, rectifying the basic connectivity issue, Data entry, report generation, teleconsultation process for both the teleconsultation doctor and the staff at the centre
- ❖ Sharing of the timely information regarding any new upgradation of software to the central vision centre team and management to avoid any disruption
- ❖ Crisis Management: In order to have uninterrupted connectivity an alternative connectivity options such as data cards/ dongle/alternate IT provider are provided for smooth functioning of the workflow
- ❖ Extend necessary support, in person or remotely, based on the nature and urgency of the problem

Monitoring of Vision Centres

The monitoring is one of the most important activity to ensure productivity and smooth functioning of the Primary eye care centre.

- ❖ Real time – Performance, connectivity, teleconsultation and patient care
- ❖ Weekly – Performance, comprehensive care, acceptance & operational issues
- ❖ Monthly – audit visits by the In charge ophthalmologist & team
- ❖ Bi annual – growth, comprehensive performance, Discussion with senior leaders

Patient flow at Vision Centres

Patient Flow in a Vision Centre



Registration by VC Coordinator



Refraction by Vision Technician



Slit lamp and IOP test by Vision Technician



Optical Dispensing by
VC Coordinator

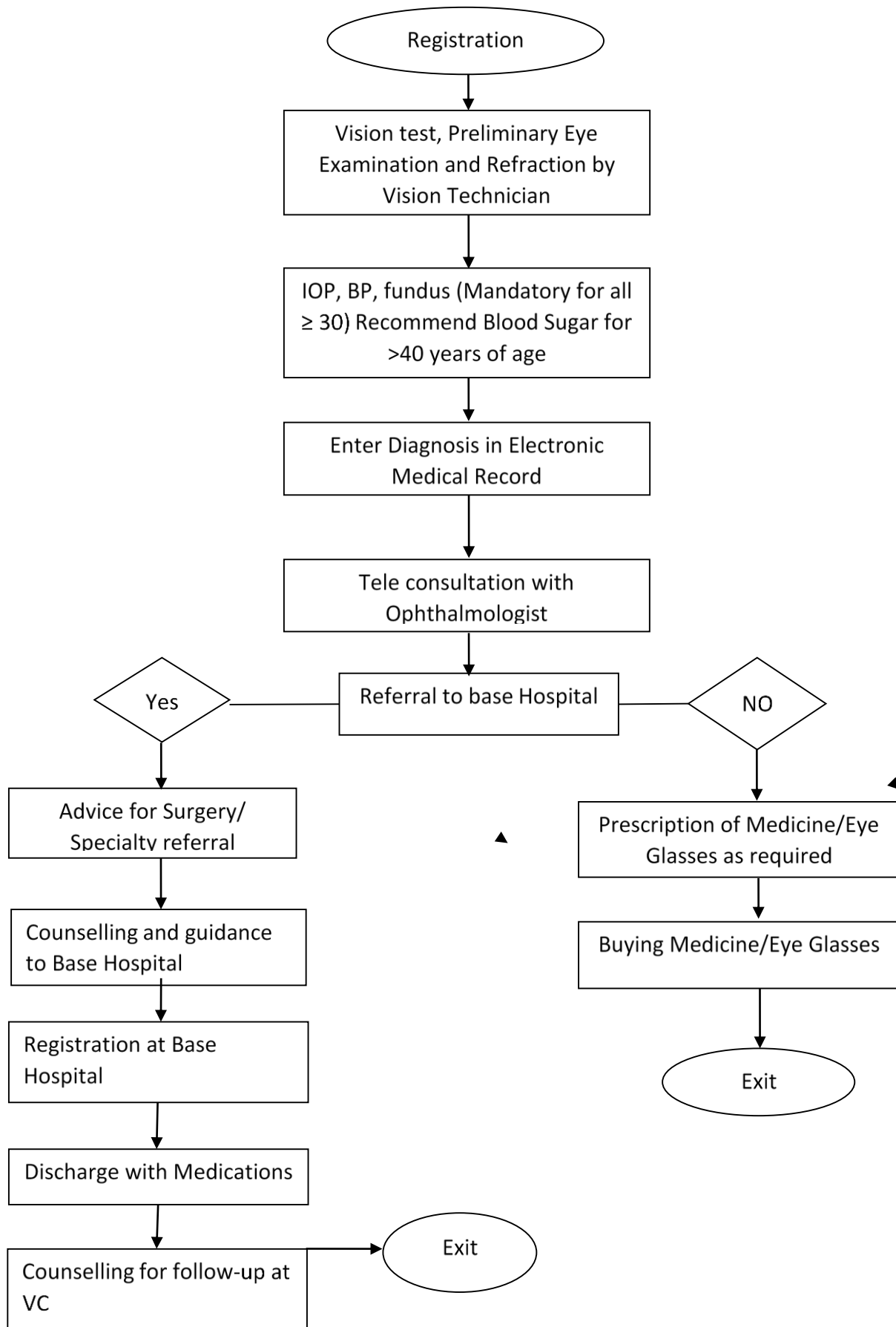


Teleconsultation from VC with
Ophthalmologist in Base Hospital



Fundus Photography

Detailed Workflow in Vision Centre



Registration

New patient Registration:

Registration Process at Vision centers

- ❖ **Patient Reception and Demographic Collection:** Patients are greeted by the Vision Centre coordinator. Basic demographic details such as name, age, gender, address, and contact information are collected.
- ❖ **Identity Verification:** If needed identity proofs are verified to ensure accurate record-keeping and to prevent duplication
- ❖ **Consent for Teleconsultation:** the patient have to read the details in the consent form and provide finger print impression for approval. This consent is documented in then EMR .This is an evidence and legal authentication from the patient side documented for identification, verification and approval for undergoing teleconsultation with Ophthalmologist at base hospital.

Primary Eye Care Centre
Consent Form for Teleconsultation

I hereby give the consent to undergo the teleconsultation to get the final opinion with the base hospital Ophthalmologist with support of the Vision Centre Staff.

I assure that the information related to eye problem and overall health condition shared to the doctor at the base hospital is genuine. I am aware that the details are documented in the system for future reference and continuity of care

Patient Signature
Signature

Vision Centre Coordinator

Digital consent forms requires electronic **signatures**, which can include various types of biometric data (Finger Print, Facial recognition)

- ❖ **Unique Identification Number (UIN) Generation:** A unique UIN is generated for each patient. This UIN is used for all future visits for the patients across any of the centers (Aravind) for follow up and continuity of care.

- ❖ **Registration Card:** Patients are provided with a registration card containing their UIN and other relevant information. The instruction are given to patient to bring the card during the visit period
- ❖ **Payment Collection:** A nominal fee(for example at Aravind it is Rs. 20/-), is collected from the patient for the comprehensive eye examination and teleconsultation and informed that the collected amount can be utilized for certain time and visits (two additional visits within the next 90 days at Aravind) for continuity of care

Review Patient Registration:

- ❖ The patient is received by the staff and requests for the registration slip to cross verify the earlier provided details and treatment undergone during the previous visit
- ❖ If the patient has forgotten either the physical or digital card, the staff retrieves the record using alternative options such as the patient's phone number, full name, and place of residence.
- ❖ Once confirmed, the staff enquires about the current reason for visit, including any new symptoms or concerns since the last visit
- ❖ The findings related to complaints, observations, and any changes in the patient's condition are thoroughly documented in the Electronic Medical Record (**EMR**) for continuous follow up.

Handling emergency patients at Vision Centre

The staff at the registration counter identifies emergency condition (trauma or injury or significant exposure to chemical / hazardous materials or sudden loss of vision or acute pain) and the patient is immediately directed to the vision technician for further course of action. These patients after first aid will be guided to the referral hospital for further intervention by specialists.

Refraction:

Cycloplegic Refraction

Cycloplegic refraction is a specialized eye examination technique that involves the use of eye drops to temporarily paralyze the focusing muscles of the eye. This procedure is particularly beneficial for obtaining accurate measurements of refractive errors, especially in children and individuals with conditions affecting accommodation.

This procedure is important for correct diagnosis, prevention of Amblyopia, helps in identifying Latent Hyperopia

Children below the Age of 10 Years (0.5% Cyclopentolate for Children):

Suspected Accommodative Spasm:

Presence of Squint (Strabismus): Supports to determine the comprehensive refractive error and to assess the accommodative segment of the squint

Patients Below the Age of 30 Years with Manifest Hypermetropia: Cycloplegia helps to diagnose accurate refractive error, which is important for preventing potential visual problems and for prescribing appropriate corrective lenses.

Gross Difference Between c (PG) and Dynamic Refraction:

Major discrepancies between PG and dynamic refraction measurements may indicate latent hyperopia or accommodative issues.

Symptomatic Patients with or Without Glasses:

Patients experiencing visual symptoms, such as eye strain, headache, or blurred vision, may have uncorrected refractive errors

Mainly suggested for non-Cooperative patients for retinoscopy to attain nearest possible correction

Post Mydriatic Test (PMT)

PMT is a follow up eye exam performed after the effects of dilatation eye drops have worn off, used to get a true or final prescription for glasses

The purpose of the test

- ❖ To support in determining the exact refractive error by excluding the effect of accommodation and to provide specific prescriptions for corrective lenses
- ❖ Dilatation helps ophthalmologists to monitor changes in a patient's vision over time, identify early detection of conditions such as cataracts, glaucoma and macular degeneration
- ❖ Provides a complete assessment of the retina, optic nerve and blood vessels for identifying potential issues that may not be visible with a non-dilated eye examination.

Procedure:

Explanation to the patient about the need for Dilation, and the impact of the initial stinging sensation, the period of blurring of vision following dilation. Get permission from the teleconsultant before dilatation.

The case-sheet is thoroughly checked before instilling the eye drops

The process begins with the instillation two drops of eye drops to dilate the pupils, typically taking about 30 minutes for full dilation.

The ophthalmologist conducts initial examination of the internal structures of the eye using specialized equipment such as an ophthalmoscope or a slit lamp

Drugs Used

Tropicamide with phenylephrine	most commonly used for Dilation
Tropicamide without phenylephrine	patients with high blood pressure, cardiac illnesses etc
Homide	patient with known tropicamide allergy
Cyclo pentolate	Patients requiring refraction after arrest of accommodation, Tropicamide allergy

Dilation for Fundus examination:

This procedure is carried out to get a complete examination of Fundus including Retina, optic disc and Blood vessels. It is compulsory for all patients visiting for the first time.

Procedure before dilation:

- ❖ Ensure the patient understands the procedure and the potential for blurry vision
- ❖ It is advisable to check muscle balance for young patients with headache and eye strain
- ❖ Ensure that all patients need to be dilated for fundus examination before posting for cataract surgery

Patients above 30 years, Dilation can be done with Tropicamide plus. In hypertensive and cardiac patients Plain Tropicamide should be used.

Pupillary dilation should not be advised initially when we find disc pallor, glaucomatous cupping of disc or in any other conditions like RAPD where field charting and colour vision testing will be required.

Cases with shallow anterior chamber pupils should not be dilated unless the medical officer sees the patients and also in cases of squint and when contact lens work up has to be done

Check muscle balance for young patients with headache, eyestrain before Dilation.

All patients should be dilated for fundus examination before posting for cataract surgery.

Intraocular Pressure Measurement

The measurement of intraocular pressure (IOP) is performed with the Applanation tonometer at the Vision Centre as part of the comprehensive eye care service in identifying the eye pressure, an important criterion in identifying the glaucoma condition. Early detection of increased IOP helps in timely referral and needed intervention that supports in reducing the risk of vision loss.

This test is mainly performed for patients

- ❖ Above 30 years of age
- ❖ Patients with large cup irrespective of age
- ❖ Patients with asymmetrical cupping
- ❖ Glaucoma suspects/family history of Glaucoma/previous h/o cataract surgery
- ❖ Systemic history of diabetes, hypertension
- ❖ Uveitis cases
- ❖ All patients posted for intraocular surgery
- ❖ Known glaucoma patient
- ❖ Patients with long term use of steroids
- ❖ IOP examination should be avoided in-patients with conjunctivitis, scleritis, corneal ulcer, penetrating injuries and highly uncooperative patients

Applanation Tonometry is preferred in the following patients:

- ❖ All the new patients aged 30 and above
- ❖ For those patients where the last IOP measurement would have been done before 3 months
- ❖ Glaucoma patients who are on follow up
- ❖ All glaucoma suspects
- ❖ Those who have undergone intra-ocular surgeries
- ❖ Patients with mature cataract with AC reaction (Phacolytic & Phacomorphic glaucoma)

Intra-ocular pressure measurement used on slit Lamps

- ❖ The patient is explained about the need for the test. The patient is made to sit in front of the slit lamp on the stool and the chinrest and headrest are adjusted according to the patient's convenience. The patient is given instruction to keep the eyes open and observe the light inside the view hole.
- ❖ The device is adjusted back and front and ensure that the measurements are taken in each eyes twice or thrice to check for the accuracy. This procedure

is performed on both the eyes. Only the machine is moved and the patient is made to sit stable following the instructions.

- ❖ Applanation tonometry - Procedure
- ❖ Ensure that the patient is sitting comfortably at the slit lamp: at the right height, with their chin on the rest and their forehead against the headband
- ❖ Set the magnification of the slit lamp at x10. Method
- ❖ Instil the local anaesthetic drops and then the fluorescein. (Only a very small amount of fluorescein is needed)
- ❖ For measuring the IOP in the right eye, make sure the slit beam is shining on to the tonometer head from the patient's right side; for the left eye, the beam should come from the patient's left side
- ❖ Move the filters so that the blue filter is used to produce a blue beam
- ❖ Make sure the beam of light is as wide as possible, and that the light is as bright as possible. This makes visualizing the fluorescein rings easier (with the slit diaphragm fully open)
- ❖ Ask the patient to look straight ahead, open both eyes wide, fix his or her gaze and keep perfectly still
- ❖ With the thumb, gently hold up the patient's upper eyelid, taking care not to put any pressure on the eye
- ❖ Direct the blue light from the slit lamp on to the prism head
- ❖ Make sure that the tonometer head is perpendicular to the eye
- ❖ Move the tonometer forward slowly until the prism rests gently on the centre of the patient's cornea
- ❖ With the other hand, turn the calibrated dial on the tonometer clockwise until the two fluorescein semi-circles in the prism head are seen to meet and form a horizontal 'S' shape. (Note: the correct end point is when the inner edges of the two fluorescein semi-circle images just touch)
 - Note the reading on the dial
 - Withdraw the prism from the corneal surface and wipe its tip
 - Repeat the procedure for the other eye

Note:

Wipe the prism with a clean, dry swab and replace it in the receptacle containing the disinfectant.

- ❖ Ensure the prism has been disinfected with isopropyl alcohol 70% (methylated spirit) or sodium hypochlorite 1%. The prism must be rinsed in sterile water and wiped dry with a clean swab (residue of the disinfectant may cause a caustic burn on the cornea).
- ❖ Check that the graduation marked '0' on the measuring prism is aligned with the white marker point on the tonometer head
- ❖ Check the calibrated dial of the tonometer is set at 10 mm
- ❖ Instil antibiotic eye drops after the procedure

Blood Sugar

This process is used to check the glucose level in the body and serves as one of the key indicators for the presence or risk of diabetes.

Criteria to motivate the patient for Blood sugar test

- All the patients aged 30 and above
- Known Diabetic patients if their last test is done 1 month before
- Patient with fundus changes but the diabetes status not known

Monitoring glucose levels at the vision centre provides valuable indication whether a patient is at risk of developing diabetic retinopathy or other serious eye conditions

The staff at the centre should ensure that the following materials are available at the centre Glucometer (digital blood glucose meter), Lancets, test strips, gloves, cotton balls that is needed for performing the blood sugar examination.

The staff explains the patient the need for the test, gets the consent and made to be seated comfortably. Before the start of the procedure the staff sanitizes her palm and fingers thoroughly. The lancet is fixed properly to the glucometer and checks the calibration is at 0. On the other end of the glucometer the test strip is inserted.

The finger where the test is taken is wiped with sterile cotton. A small prick is made in the finger and it is absorbed in the test strip. Cotton is placed in the pricked spot and the patient is asked to close the finger. Once the blood stops the cotton are disposed in the trash bin. This is mainly to control the blood leakage.

After noting down the reading the used lancet and the test strip are discarded in the respective trash bin.

The readings are noted, entered in the EMR. In case if the value is either low or high the staff advises the patient to meet the physician to have full blood sugar examination. The blood sugar level is high (hyperglycaemia) or low (hypoglycaemia). The information is shared with the ophthalmologists at the base hospital at the time of teleconsultation.

The patient is given clear instruction to meet the physician for further evaluation and explain the importance of keeping the sugar level under control.

For the continuity of service at the vision centre ensure that the glucometer is properly calibrated, and sufficient quantity of lancets and strips should be available at the centre.

Consultation with ophthalmologist through tele-consultations

The primary objective of conducting teleconsultations from Primary Eye Care Centres with Ophthalmologists at the base Hospital is to enable timely accessible care for patients.

During the time of registration consent is obtained from the patient for teleconsultation

The vision centre technician feeds in all the needed information and connects the video/audio call with the ophthalmologist. The patient is made to sit comfortably and the technician presents the overall patient history, findings to the ophthalmologists and informs the patient to interact with the doctor at the end

Based on the findings uploaded by the vision centre technician the tele ophthalmologist thoroughly read through the documentation and converse with the patient at Vision centre. After listening to the patients they advise appropriate intervention. All the recommendations are done e-prescription from doctor's end

- ❖ Medication prescription
- ❖ Spectacle prescriptions
- ❖ Suggest an in-person visit to the Base Hospital for further evaluation, investigations, and surgical treatment

As soon as the consultation is over, the vision centre technician enters the prescribed details in the EMR for the next course of action.

Optical Services at the Vision Centre:

This is one of the important services offered at the vision centre where the patient can undergo refraction, acquire spectacles and get consultation for any related queries.

- ❖ The teleconsultation ophthalmologist from the base hospital goes through the patients findings and prescribes the appropriate spectacle based on the diagnosis
- ❖ The VC coordinator
 - explains the patients about the eye condition clearly and explains the importance of wearing spectacles for better improvement of vision
 - supports the patients in frame selection in accordance to the prescription and personal convenience
 - make sure that the selected frame is suitable for the type of lens prescribed
- ❖ The staff also keeps in mind that the spectacle that is recommended is user friendly, cost effective, durable and it suits their occupation.
- ❖ If the patient is not able to make their own selection, the staff assist them in selection process
- ❖ Once the selection process is completed the details are entered in the EMR
- ❖ The partial payment is received from the patient as part of the confirmation process of order placement An **advance receipt slip** is provided immediately for this payment
- ❖ The order placed is reflected in the base hospital vision centre processing unit
- ❖ The staff explains the approximate time of receiving the spectacles
- ❖ On receiving the spectacles, the staff at the vision centre does a quality check
- ❖ The patient is called to the vision centre to receive the spectacles.
- ❖ The patient is made to wear the spectacles to ensure comfort and proper fit
- ❖ The staff gives proper instruction to the patient about the importance of wearing the spectacles, handling method, safety and care.
- ❖ The staff finally receives the balance amount and issues the receipt.
- ❖ The whole process is documented at every stage in the EMR

Counselling

Counseling is important at the vision centre as

1. It helps in creating awareness among patients on common Eye Conditions, possible and appropriate treatment options.
2. Educate about eye care hygiene practices and preventive measures

Counselling is done to the patients after the teleconsultation process where the final consent is given by the ophthalmologists at the Base Hospital.

Importance of Counseling

- ❖ Patients are able to have better clarity about their treatment plan and its benefits
- ❖ Helps in managing fear, anxiety and provides an emotional support to accept for the next course of action
- ❖ Understand the preventive action and support in leading a quality life
- ❖ Builds a good connection between the patient and the care giver
- ❖ Patients are clarified about their traditional beliefs and self-medication

Counselling for different cases:

Common Eye Conditions:

- ❖ The staff diagnose the condition, shares the details with the Teleconsultation ophthalmologist for final opinion.
- ❖ Based on the prescribed details the staff explains about the cause and the treatment process (medication, maintaining hygiene, and care, safety preventive measures to be followed)
- ❖ The importance of follow up is clearly mentioned to see the patients based on the opinion given
- ❖ The patient is strictly advised to come back to the centre in case of any discomfort during the treatment process.

Referring patients to Base Hospital

The staff clearly explains about the need and importance of referral to the base hospital for further intervention to concerned specialty clinic based on the diagnostic condition— for conditions like Cataract, Glaucoma, Diabetic Retinopathy, Retinal Disorders, Orbit, Neuro problems, Paediatric disorders etc.

Patients, after undergoing teleconsultation with the ophthalmologist at the Vision Centre, are referred to the Base Hospital for further intervention. This may include further evaluation, advanced investigations, confirmation of diagnosis, medical or surgical treatment as required. E1, E2, E3

Emergency 1: refers to patients that need immediate attention

Specialties	Conditions
IOL	Endophthalmitis, Traumatic cataract, Complicated cataract, Post op complications
Cornea	Cornea ulcer, Penetrating corneal injury, Chemical injury, Foreign body with infiltrate
Uvea	Acute uveitis, Scleritis, Recurrent episcleritis
Glaucoma	Phacolytic /Phacomorphic, Angle closure attack, Advanced glaucoma
Orbit	Orbital cellulitis, Acute proptosis, Orbital fracture, Lid tear, Tumor, Retinoblastoma
Neuro	Sudden onset of ptosis/Diplopia/Defective vision, Third /fourth/sixth nerve palsy, AION, Optic neuritis
Retina	Unstable PDR, Fresh retinal detachment, vein occlusion, CRAO, Vitreous HG, Intra ocular foreign body and Open Globe Injury
Paediatric	Congenital cataract, Amblyopia, Sudden onset of nystagmus, White reflex

Emergency 2: Condition is not very serious but need intervention at the base hospital within 1 – 2 Weeks

Specialties	Conditions
IOL	PCO - Posterior capsular opacification
Cornea	Pterygium, Keratoconus, Limbal mass, VKC - Vernal keratoconjunctivitis
Glaucoma	Glaucoma suspect, K/C/O – Known case Glaucoma for treatment
Orbit	Chalazion, Ectropion/Entropion, Senile ptosis, Chronic dacryocystitis
Neuro	Disc Pallor - Temporal and Mild
Retina	Macula hole, ERM - epiretinal membrane , Moderate/severe NPDR (Non-proliferative diabetic retinopathy), With no macula edema, High myopia
Paediatric	Long standing squint(willing for squint correction), CNLDO - Congenital nasolacrimal duct obstruction

Emergency 3: Condition is not very serious but need intervention at the base hospital but depends on patients' willingness

Specialties	Conditions
IOL	Optic capture of lens, Old mild decentration of lens
Cornea	Old corneal opacity, Old scar, High astigmatism with clear cornea
UVEA	Old CR – Chorioretinitis scar
Glaucoma	absolute eye with normal IOP - Intraocular pressure
Neuro	K/C/O Traumatic optic neuropathy, Old optic atrophy
Retina	scared CNVM -Choroidal Neovascular Membrane Old retinitis pigmentosa, Old RD - Retinal Detachment, Macula scar
Pediatric	Long standing squint(willing for squint correction

The referred patients are given proper instruction and explained about the follow up based on the urgency. Similarly the staff at the base hospital are also informed and follow up with the treatment process based on the severity.

Additional for reference – Optional

Priority	Condition	Example
Immediate	It requires immediate treatment and highly critical	sudden and complete vision loss, or severe eye pain with signs of infection
Emergency	If untreated at the earliest possible will lead to loss of vision	Severe eye trauma, sudden occurrence of blurred vision with other symptoms, or suspected retinal detachment
Urgent	Need treatment at the earliest possible but not sight threatening	Red eye with pain, foreign body in the eye, or corneal abrasion.
Non-Urgent / Regular follow up	Patient can make visit based on his/ her convenience	Regular medical treatment checkup and follow up

Proper and clear communication need to be given for both the patients and the in-charge staff at the base hospital.

The referral letter is shared and the patient is advised to reach the destination on time to get the care

Ensure that the patient is clear and understands about the importance of referral

Provide clear guidance on travel, person to contact at base hospital, approximate time taken for travel, treatment, and cost incurred for the same.

Ensure the patient reached the base hospital and received quality and good care.

Keep in touch with the staff at the base hospital regarding the condition of the patient in terms of treatment given and follow up details

As an additional responsibility, check with the **referred patients** and explain them about the importance of follow up and go by the instruction given by the ophthalmologist at the base hospital.

Role of Teleophthalmology at Vision Centre

TELEHEALTH 'is the delivery and facilitation of health and health-related services including medical care, provider and patient education, health information services, and self-care via telecommunications and digital communication technologies.

Objectives:

- To offer eye care service for the patients at affordable cost by reducing travel cost and saves time
- To enable patients at remote areas have access to specialized eye care facility
- To act as an interface between doctors to share their experiences

Purpose:

- Encourages healthcare providers to accept telemedicine as a part of their regular caregiving process.
- Provide guidance for safe and effective medical care with the available information and resources.

- Provide norms relating to physician-patient relationship, issues of liability and negligence, evaluation, management and treatment, informed consent for continuity of care, referrals for emergency services; medical records
- Maintain the privacy and security of the patient records and exchange of information - Prescribing, reimbursement, health education and counseling
- Support in Follow-up consultation: Conducted for patients undergoing ongoing treatment or those who were previously seen in person
- Emergency Consult for immediate assistance or first aid etc.

Advantages of telemedicine

- Provides easy access to rural patient and reduces overall cost
- Ensures safety for Patients, Doctors and Health workers during the breakout of infection spread
- Support in providing timely first hand care and possible treatment for the patients
- The record of patient and doctor are properly documented for legal safety
- India's health Digital health policy lays an significant role on using telemedicine to ensure health care to last mile

Tools for telemedicine

Major requirement are Hardware and Software, LAN, WAN, Internet, Mobile, landline phones, what's app, zoom, skype and any digital platforms

Telemedicine applications can be classified into three basic types

- Based on the mode of communication
- Timing of the information transmitted
- Need for purpose of the consultation

Teleconsultation Guidance and Protocol

Guidelines on Technology Platforms and tools available for telemedicine. These guidelines should be used in conjunction with the other national clinical standards, protocols, policies and procedures

- Open the patient's record in EMR using the details provided by the sisters.
- Sisters will then present the case to you
- Identify the patient by name and also let the patient know that you are doctor .../ speaking from base hospital (Aravind, Madurai)
- Talk to the patient to get further details about the case.

- Verify the findings entered by the sister in the case sheet.
- Ensure all necessary investigations are completed.
- If the patient is dilated or to be dilated instruct the sisters to do so after verifying the contraindications
- Ask relevant questions to the patient to arrive at the diagnosis.
- Explain to the patient about the condition and treatment plan
- Close the consultation with a positive note where ever it is possible (insist on treatment)
- Convey the review patient to come in the afternoons (this helps them in avoid the crowd)
- Enter your prescription or opinion in EMR and advice on follow up.

Medications Guidelines for the telemedicine ophthalmologists

- Once posted at teleconsultation take time to understand the drugs available (types, brands and costs) available at Vision Centre
- Ensure timely and appropriate prescription of drugs.
- Follow preferred practice guidelines at all times.
- Do not prescribe costly drugs.
- Do not prescribe unnecessary medications.
- Ensure compliance of drugs given on previous visits before taking further decisions.
- Monitor for adverse drug reactions/ side effects if any through history.
- Ensure that the sisters are updated regarding treatment guidelines.

Advantages

For the patients

- Quality assured as an ophthalmologist go through the record and consult
- People at remote areas get access to reputed tertiary care and doctors
- Reduces travel cost and save their time
- Provides solutions to common eye problems like refractive error, cataract, conjunctivitis
- Helps in screening and early detection of specialty eye problems like corneal ulcer, glaucoma, diabetic retinopathy (through fundus camera)
- Helps in early referral of patients to tertiary centre for further management or surgical intervention
- Local ophthalmologists can retain their patient base.

Ophthalmologists at the base hospital

- Improves diagnostic skills of young residents/ fellows
- Ensures they are updated about latest treatment guidelines that are practiced.
- Enables easy follow up of patients – helps in better understanding of the disease.
- Helps them to be a part of screening of various conditions like glaucoma, diabetic retinopathy etc.
- Two-way learning platform between the doctor and the VC sister

For hospitals --

- Can serve local population without much investment on infrastructure
- Increased acceptance to treatment & referral for surgeries and OPD procedures
- Instant sharing of knowledge by broadcasting to other hospitals
- Helps in decreasing the burden of needless blindness through early diagnosis and timely intervention
- Can run training programs to other staff of other hospitals in a structured way

Monitoring of Vision Centre at Base Hospital Level

	Process	Frequency
Monitoring the patient experience and practices at the VC	Regular feedback on patient experiences are collected regarding the level of satisfaction, services received, and expenses incurred through randomly system-selected data. The responses are entered in the system and shared to corresponding team for their review and action to be taken	On daily basis
Vision Centre Staff Feedback	The Vision Centre manager reviews the overall online feedback received from each vision centre on aspects such as teleconsultation, doctor availability, referral case follow-up, and supply chain management, and takes appropriate timely actions	On monthly basis
Review of Performance & Functioning of VC's	A review meeting is organized at regular intervals for all Vision Centre staff (Technicians and Coordinators) at the Base Hospital. The Vision Centre Manager prepares an overall performance report for each centre and organizes the meeting. The key performance indicators reviewed include New Outpatients (OP), Cataract cases, Spectacles delivered, Village-wise penetration, Specialty Camps conducted, and the Income and Expenditure for the specified period	Review quarterly and meeting held once a year
Accounts monitoring	The accounts Office shares the monthly report of each Vision Centre, which is verified by the	Monthly basis

	Manager to cross-check income, expenses, and stock details. The key areas of verification include monthly income and expenditure, bank transactions, and the purchase of optical items and medicines	
Visit by the vision centre manager / Clinical manager	Random visit is made by either the Vision centre Manager/ clinical manager to oversee the centre activities – Stock verification, ambience, patient care and clinical care and staff attendance, maintenance of the equipment's, cash flow cash collection and bank remittance etc.,	Monthly
Vision Centre staff shift	The Vision Centre Manager ensures that staff taking leave or absence (including sabbatical, transfer, short leave, long leave, or emergency leave) properly hand over all records after verification to ensure a smooth workflow for the alternate staff posted in the respective centre	Monthly basis
To ensure Speciality outreach Services to VC catchment areas	The Registry for identified locations for organizing DR and Glaucoma cases are planned during the yearly annual planning meeting should be accessible and the occurrence of camps should be monitored by Specialty Clinic Vision centre Manager and clinical manager	2 DR camps 2 Glaucoma Camps 2 Paediatric camp per annum to be provided at alternative month

Other areas that require close monitoring

1) Others

- a) **Internalizing the VC Operations:** Speciality Department and Clinical Managers should be involved in providing Speciality services to VC Patients- Glaucoma, Retina, Paediatric, Cornea, Eye Bank along with Vision centre Team.
- b) **System Generated MIS:** Manager should verify the staff attendance, Optical Medical Stock, Patients service data from the VC system Data Base through – Automatic System Generated report OR through VNC instead of relying on the reports generated / typed by the VC staff.
- c) **To develop local community/sponsor level of support:** To get any support including sponsoring of specialty screening, school eye health and also to have feedback every month from local sponsors for better monitoring and solving local issues.
- d) **Focused Uptake of Services:** Monitor the Village wise OP and Penetration every month by BH Manager to have a focus and initiate activities for better uptake in need locations.
- e) **Preparation of Required HR-MLOP** for VC by imparting VC Training curriculum in to our main MLOP Course and to have Target Based / Focused recruitment of MLOP for present and Future Locations.
- f) **Monitoring of undelivered Spectacles:** It has been widely advised and circulated to all VC staff to take an advance of Minimum of Cost of the Lenses for the spectacle order. The non-delivery beyond 6 months to be recycled with the help of Optical shop staff.
- g) Review of performance of VC Managers to be done once in 6 months to know the progress

Quality Indicators

Parameters are effective monitoring tool with Key Performance Indicators (KPIs) measuring the quality care, optimum utilization of resources (material and human),

Primary Eye Care Centres					
Vision Centre Annual Performance growth	Year			Vision Centre	
No of Vision centres					
Functioning from					
No.of Months					
No.of days					
Service area Population					
In charge medical officer Name					
Vision Technician					
Vision Centre Coordinator					
Eye Health worker					
Out patients	2022	2023	Growth	2024	Growth
New					
From Service area in New OP					
Outside Service area in New OP					
From Service area in New OP %					
New OP %					
Review					
Total					
Age group in New Op					
0-15					
16-40					
Above 40					
% in above 40 in new op					
Above 40 in total op					

% in above 40 in total op					
Gender in New op					
Male					
Female					
% Female in new op					
Advised for Cataract this year					
Cataract surgery done on this year advice					
Acceptance rate					
Paying					
Paying %					
Subsidized Surgery					
Camp (Mostly Free)					
Refraction					
Refraction done					
% of Refraction in total OP					
Refractive error					
Same GP					
VC Gl. Prescribed					
% of GP in Refraction					
Glass order for vc prescription					
Glasses Acceptance					
No of Un delivery glasses					
% of undelivery glasses					
Sugar test Done					
Diab patients seen					
No of New Diab Identified					

Fundus pictures captured					
Total Fundus pictures captured					
Fundus pictures Upload in Software (No of patient)					
Fundus Picture taken in 40+ age group					
% of fundus taken in 40+ OP					
No of patients done IOP in the 40+ age group					
% of patients underwent IOP in 40 and above					
No of patients done BP in the 40+ age group					
% of patients underwent BP in 40 and above					
NEW OP					
REVIEW OP					
Cataract surgery					
Glasses delivered					
Sp.cases Regd.in BH					
NEW OP					
REVIEW OP					
Cataract surgery					
Glasses delivered					
Sp.cases Regd.in BH					

Patient feedback system

This system is a measuring tool used to capture the feedback of patients visiting the center. It helps to evaluate the quality of care provided, identify areas for improvement, and maintain high standards that contribute to patient satisfaction.

Patient feedback on their visit experience is collected through telephone calls using a random selection process. The questions are asked to the patient or the attender and the feedback are collected, documented and analyzed.

1. **Did the staff listen carefully to your description about your eye condition?**
a. Excellent b. Good c. Average d. Did not listen properly
2. **Did the staff explain clearly to you about your eye condition and the treatment advised?**
a. Excellent b. Good c. Average d. Did not explain clearly
3. **Did you consult with the doctor over telemedicine?**
a. Yes b. No c. Consult with doctor directly
4. **Was the connectivity clear when you were consulting with the doctor?**
a. Clear b. Not clear
5. **Were you satisfied with the telemedicine consultation with the doctor?**
a. Excellent b. Good c. Average d. Not satisfactory
6. **Were you satisfied with the direct consultation with the doctor?**
a. Excellent b. Good c. Average d. Not satisfactory
7. **If you were prescribed medicines, were they available at the center?**
a. Yes b. No c. Was not prescribed
8. **How well did the staff explain about the dosage and handling of medicines?**
a. Quite clearly b. not clearly c. Was not prescribed
9. **How much amount did you receipt for medicines? (based on sales data availability with the Patient feedback team the answer from patient get verified)**
a. Medicine rate entered correctly in the data list
b. Medicine rate entered not correctly in the data list
c. Medicine rate not entered in the data list
10. **Did you get receipt for medicine purchase?**
a. Yes b. No

11. **How did the staff treat you with care and respect?**
a. Excellent b. Good c. Average d. Poor
12. **Was the time taken for the consultation reasonable?**
a. Reasonable b. Waiting time is too long
13. **Were you satisfied with the range of lenses and frames available in the centre?**
a. Excellent b. Good c. Average d. Not satisfactory
14. **What do you think about the prices of the spectacles?**
a. Reasonable b. High c. No idea
15. **How much amount did you receipt for spectacles?**
a. Spectacles rate entered correctly in the data list
b. Spectacles rate entered not correctly in the data list
c. Spectacles rate not entered in the data list
16. **Did you get receipt for spectacles purchase?**
a. Yes b. No
17. **Did you get the glasses on time?**
a. Yes b. No
18. **How do you rate overall the service of the vision center?**
a. Excellent b. Good c. Average d. Not satisfactory
19. **Do you have any other comments or suggestions?**

The report thus obtained are shared to respective department for taking necessary steps for improving the quality of care. In addition to that this system helps to build trust and satisfaction among the patients and strengthens the long term bondage among the patient and the service provider.

Incident Reporting

Incident reporting is an important process for documenting workplace errors, unexpected occurrences or deviations to ensure patient safety and uphold quality management standards, benefiting both the organization and its patients

The deviation could result in a harm or no harm to the patient hence reporting help us to strengthen the system. This is a fact finding process to improve the patient care and safety, not to find fault with or punish an individual.

Key indicators to capture in the incident reporting

Which area or areas are involved in the incident reporting?

Name of the vision centre	
Date of the incident occurred	
Time of incident occurred	
Date of reporting the incident	
Type of incident occurrence	❖ Data Entry ❖ Investigation ❖ Teleconsultation ❖ Counseling ❖ Medicine prescription ❖ Glass Prescription and dispensing ❖ Instrument failure ❖ Safety and security
Others (Any specific)	
Date of Incident occurrence	dd/mm/yy
If the patient is involved	Patient Name MR number UIN Number
Brief description about the incident	
Action taken	
Outcome / status	

Quality Case Record:

It is one of the most important documentation that gives an accurate details of the comprehensive care given at the Vision Centre that comprises of detailed patient history, clinical findings, Treatment process, and follow up of continuity of care. It is an authentic evidence for legal and ethical practices both for the welfare of the patient and service provider.

Vision Centre Quality Case Sheet Checking

Date:

UID number				
MR number				
Complaints entered				
Vision checked				
Refraction performed				
If Review Patient 3 Months				
Systemic history entered				
Ocular history mentioned				
Anterior segment evaluation done				
Investigation				
IOP checked (AT)				
Blood pressure Measured				
Fundus evaluation done				
Blood Sugar				
Diagnosis entered				
Drug prescription given				
Has blood sugar been checked before prescribing glasses in diabetics				
GP given (In case of same GP has it been mentioned)				
Specialty Clinic opinion				
Fundus photo				
Teleconsultation				
Routine Pt's-Follow up advice given				

List of records, Registers and forms maintained at the vision Centre

Attendance monitoring in the workplace tracks the overall details of employees **present, absent, late, or on leave** during working hours. It helps employers in maintaining discipline, to calculate salaries, and ensure productivity in their work

The periodic monitoring of both clinical and non-clinical areas helps to identify and track the overall performance of vision centre activities, supports the evaluation of work and growth progress, and enables timely action to address challenges. This benefits both the service providers and the patients

Snap Shot of the Statistics for 117 Aravind Vision Centres cover the population of 10.6 million for the current year 24 – 25

Patients seen at Vision Centre	
New Outpatients	517,178
Review Outpatients	502,626
Total Number of OP Visits	10, 19, 804
Spectacles	
Prescribed	155,876
Sales	117,982
Cataract Surgery	
Advised	43,911
Acceptance	43,911
Specialty	
Referral to Base Hospitals	83,302
Compliance	60,446

Aravind Support for external organizations in scaling up the vision centre

Policy / Permissions	Infrastructure	Training	Implementation
• Support for engaging your leadership • Input for your proposal and review	• Share specs for infrastructure • Guidance for location and lay out design for pilot centres • Recommendations for equipment and specs • eyeNotes EMR	• Exposure visit for your leadership team • VC technician training (2 month) • VC manager training (5 days) • Exposure for telemedicine team	• Handholding during implementation of pilot centres • Performance monitoring for first few months

Contact for Further Enquiries

Mohammed Gowth, Senior Faculty, LAICO (mohammed@aravind.org)

Dhivya Ramasamy, Executive Director, LAICO (dhivya@aravind.org)

Phone: +91-452-435-6500