Eye Care For All
In the Pursuit of Reaching the Unreached

Implementation Guidance
for Vision Centres
An Overview

According to WHO, there are presently 39 million blind and 285 million visually impaired people in the world. The leading causes of visual impairment are uncorrected refractive errors (43%) and cataract (33%), which are largely avoidable or curable. In fact, it is estimated that 80% of all visual impairment in the world can be prevented or cured.

Understanding that a core challenge to eliminating needless blindness is creating access to quality eye care, **Aravind Eye Care System** in India has undertaken a variety of methods to extend primary eye care delivery to rural and remote populations. In particular, one approach that Aravind has successfully carried out and thus recommends is the creation and use of small permanent primary eye care facilities located throughout rural villages known as **Vision Centres** (VCs).

This pamphlet shares the Aravind Vision Centre model and offers basic guidance on creating & managing VCs. We encourage you to adopt, adapt and improve upon this model to suit your context, in order to address the eye care needs of your community.

Eye care providers in developing countries have long struggled with the issue of extending care to all those in need. Hospitals are often difficult to access for communities in remote areas. And while eye camps are relatively useful mechanisms by which some patients from rural areas can be reached, studies show attendance can be limited. Studies show that less than 7% of those in need of eye care in the targeted population will attend an eye screening camp.

In comparison, **Vision Centres have been able to achieve much higher penetration of those in need of eye care.** Aravind VCs have been able to **reach more than 90%** of those who need care within four years.

Of the patients who seek care at Aravind VCs, **over 90% of the patients can be fully treated on-site**. Less than 10% of VC patients are referred to the base hospital for further treatment, usually for surgery or advanced investigations. VCs also track the compliance with advice – uptake of spectacles, medicines and referral advised.

Since launching its first VC in 2004, Aravind has established a total of 65 vision centres, covering a population of close to four million in Tamil Nadu.

What is a Vision Centre?

A vision centre is a small, permanent facility set up to provide primary eye care services to semi-rural and rural communities. Ophthalmic assistants operate the centre, but ophthalmologists offer consultation to the VC patients through tele-medicine. The purpose of VCs is to:
- Increase the uptake of eye care services among rural populations
- Offer comprehensive primary eye care to the targeted population
- Offer on going care to those with chronic eye conditions
- Raise awareness and educate the target community about eye health
- Establish a population-based eye care monitoring and support system

THE ARAVIND VISION CENTER MODEL

Service Area

7 KMS radius
50,000 to 70,000 population
Located in a town panchayath
Typically 400 sq. ft. infrastructure

Human Resource

1 Vision technician
1 Coordinator
1 Field worker

Outreach

School screening
Workplace camps
Diabetic retinopathy screening

Services

Comprehensive eye examination
Ocular imaging
BP and blood sugar examination
Ophthalmologist teleconsultation
Medicine dispensing
Spectacle dispensing
Referral to base hospital

A TYPICAL DAY AT A VISION CENTRE

25 Outpatients   **4** Spectacles   **1** Patient referred for cataract surgery   **1** Patient referred other ocular conditions

ARAVIND VISION CENTRES
Towards Universal Coverage

65 Vision Centres
Cover a total Population of 4.3 million people
Each VC serves a population of 50,000 to 75,000

CSR* of 6000
achieved in the Vision Centres' service area population
18,869 cataract surgeries were performed on patients identified & referred through VCs

73,263 Spectacles
dispensed at the Vision Centres during the year 2017

5,755 Patients identified with DR
These patients receive regular annual examination during the biannual DR camp organised at the Vision Centre

13,899 Identified with Glaucoma
These patients receive on going care at the biannual glaucoma camp organised at the Vision Centre

91% of the care is complete
at the vision centre itself. Less than 10% of the patients need to be referred to the base hospital for further investigation, specialty consultation or surgery

High compliance to treatment
Compliance to medication, spectacles, essential review visits, uptake of surgery or referral visit to the base hospital is tracked closely and ensured through counselling

Data shown is for the year 2017 January to December
*CSR: Cataract Surgical Rate
(Caclualted as the Annual Number of cataract surgeries performed per million population; India's CSR is 5,100)

Key Principles of an Aravind VC

- The facility is operated by a trained staff equivalent to an optometrist.

- Ophthalmologists provide teleconsultation to VC patients via telemedicine. This provides quality assurance of the care provided – as all patients are seen by the doctor who gives the final prescription

- The treatment provided should be comprehensive: VC patients should receive a full diagnosis, treatment advice, and have access to spectacles and medicines as prescribed or hospitalized care if needed

- Patients requiring higher levels of care should be referred appropriately

- The uptake and compliance to the treatment advised should be monitored and patients requiring chronic care should be tracked appropriately in the long term

- The referral hospital – either secondary or tertiary centre – should be able to provide affordable care to those referred from the VC

- Computerisation of the entire operations – starting with medical records to billing and inventory management – should all be done allowing for better management and oversight

- Patient satisfaction should be monitored continuously allowing for continuous improvement in service standards

- VC staff must receive regular retraining and updation

- Each facility must be financially sustainable for its operating expenses

Vision Centres and the benefit of Demand Generation

Based on the existing trends, VCs are close to achieving universal coverage in their targeted areas. In addition to reaching the previously unreached, VCs are also mechanisms for generating demand for referral centres or hospitals. VCs can help to identify cataract patients for surgery as well as monitor and manage choric conditions like glaucoma and diabetic retinopathy. At Aravind, 6% of VC outpatients require cataract surgery. Due to VCs' comprehensive population reach, VC referrals can contribute a significant percentage to a hospital's outpatient population and source of revenue.

Sources of income for VCs include fees for consultation and lab tests (such as the diabetes test), as well as sales revenue from medicines and eyeglasses. Each VC can be financially self-sufficient by the end of the second year of operation, if not sooner, and can be a cost effective means of generating demand.

VC: Scope of Services

- Comprehensive eye examination
- Dispensation of glasses and medicine
- Diagnosis, referral for treatment, and follow-up for cataract, glaucoma, diabetic retinopathy, and other eye illnesses
- Diabetes and blood pressure test
- Rehabilitation for the incurably blind and those with low vision
- First aid services, including conjunctivitis, corneal abrasion and ulcers, trauma, and foreign bodies
- Outreach: Screening camps and eye health education

Referral Centre Services

- Treat and/or operate referral patients
- Provide telemedicine consultation sessions for patients at VCs

Staffing at VC

Each VC should have 3 staff members:

1 VC Technician: an ophthalmic assistant who has the equivalent skills and competency of an optometrist. He or she would be responsible for examining patients and facilitating teleconsultations between the ophthalmologist in the hospital and the patient at the VC

1 VC Coordinator: an ophthalmic assistant who has experience in managing medical records entry, registration, patient counselling, and medicine inventories. He or she is in charge of the VC's administration

1 Fieldworker: a local university graduate should be recruited as a fieldworker to coordinate the VC's outreach activities and promote eye care in the local community

Management Activities

While VCs function independently on a daily basis, they require significant back-end management and administrative support. The organisation that governs and manages a given network of VCs should provide support in the following areas:

Staff recruitment and training: Hold centralized training for all staff before deploying them to respective VCs

Accounting: Set up a regular revenue collection process and monitor each VC's profit and losses

Inventory Maintenance: Establish a supply chain system for restocking VCs' medical and glasses inventories

Tech Support: Provide IT specialists who can install and maintain the tele-medicine setup and electronic records system

Instrument Maintenance: Provide technicians who can regularly repair instruments & perform quality checks at VCs

Staff Supervision: Designate a senior ophthalmic assistant to supervise the work quality of VC staff

Patient feedback: Collect patient feedback across all VCs to identify areas for continual improvement

VC-Referral Centre Coordination: Facilitate coordination between VCs and referral centres to ensure doctors are available for referral patients and for teleconsultations

Management should ensure continuous oversight to each VC (e.g. monthly visits) to check inventory, adherence to standard protocols, proper maintenance, and monitor that services are meeting set standards

Prerequisites for Creating a Vision Centre

Vision centres are often started and governed by eye hospitals because they can readily serve as referral centres for VCs. However, VCs do not have to be set up by hospitals.

Below is a list of qualifications that must be met by any organisation (non-hospital or hospital) that wishes to create a sustainable VC system:

☑ **Secondary or tertiary care referral centre**
There must be ties with a tertiary or secondary eye care facility within reach that is able and willing to serve as a referral centre for patients who need surgery or advance treatment

☑ **Telemedicine and EMR capacity**
While these is not a strict prerequisite, it is highly recommended that the system has the manpower and technological resources to provide telemedicine consultation to VC patients and to maintain electronic medical records

☑ **Inventory and equipment maintenance**
Have the financial and organizational capacity to replenish each VC's supply of spectacles and medicines, as well as regularly maintain each VC's equipment

☑ **Capacity to recruit and oversee VC staff**
Have the resources and capacity to recruit, train, deploy, and supervise VC staff

☑ **Financial Qualifications**
Have sufficient funding to launch a VC. While VCs can prove to be financially self-sustainable for their operating expenses, the capital expenses will have to be invested

To provide an idea of the types of expenditures involved in setting up a VC, below is **Aravind's general budget for starting one vision centre** (an Aravind VC has the capacity to treat an average of 25-30 patients daily)

Expenditure	Cost (USD)
Eye Examination Equipment: Slit lamp, retinoscope, ophthalmoscope, trial sets, trial frame, applanation tonometre, sterilizer, 90 D lenses, IPD Scale, JCC, Snellen's chart drum and near vision chart	$6,000
Optical dispensing: Marking, edging kit and machine	$400
Digital Connectivity: 2 computers, webcam, speakers, printer, teleconference software, anti-virus software, telephone, and digital camera	$2,200
General Clinical Equipment: Thermometer, BP apparatus, stethoscope, flashlight, glucometer, and weighing machine	$130
Publicity and Awareness Materials: Posters, pamphlets, brochures, advertisement boards, and opening invitations	$1,700
Furniture and other costs: Reception chair and table, waiting room chairs, revolving stools, bench, computer bureau/desk, power generator, and optical frame display	$2,000
VC team salary for one year: VC Coordinator, Technician, and Fieldworker	$4,500
Total Investment cost per VC	**$16,930**
Overhead cost at 5%	$850
Overall budget for setting up 1 VC	**$17,780**

Implementation: Setting up Vision Centres

At the management level

- Identify the villages/towns where you plan to set up the VCs
- Collect demographic information for the VC service area
- Identify and engage community partners and philanthropists who will promote and champion eye care in the community
- Select VC locations and suitable rental spaces
- Select and train VC staff
- Design a standard office layout for all VCs
- Standardise equipment, furniture, glasses, and medicine list, then place orders for VCs
- Design or procure an electronic administration and medical record system.
- Design VC awareness materials
- Institute a robust supply chain for VC supplies that need to be sent out on a regular basis
- identify staff within the managment or the base hospital who will champion and support the vision centres - including performing supervisory roles

At each vision centre

- Complete renovation on the identified site, including setting up internet and telephone connection
- Deploy trained staff to VCs
- Install electronic administration and medical record system
- Check instruments and computer systems are in place and functioning correctly
- Establish community relations
- Host an inaugural ceremony and invite local leaders to generate publicity
- Generate demand through outreach events, education and information

Resources for Establishing & Managing Vision Centres

Resources for Advocacy
Document:
- "Primary Eye Care as the key strategy for Universal Coverage": Vision Centre Model from Aravind Eye Care System (2013)

Videos:
- Voice of America: "Telemedicine Transforming Rural India": https://youtu.be/R_RyiMaAgMo
- "Vision Centre – Aravind Eye Care System": http://www.youtube.com/watch?v=115wcbN6xeQ

Implementation Guidelines
- Vision 2020: Vision Centre Manual

Training
- VC Technician Teaching Guide and course materials
- VC Coordinator Teaching Guide and course materials
- Training resources for Ophthalmic Assistants
- Instrument Maintenance course for ophthalmic equipment

IT & Network Support
- LAICO's Electronic Vision Centre Management System
- Electronic Medical Record System – Onsite consulting and training
- Network - Onsite consulting and training

Technical Assistance
- Management Consultancy and Mentoring Services
- Vision Centre Implementation support and guidance

Outreach Guide
- "Reaching the Unreached": Community Outreach in Developing Nations – A Manual (2011)

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