Vision Center Guidelines
Background

As cataract blindness remains a persistent challenge, the eye care services in Bangladesh began and grew as a secondary level care in the hierarchy of medical services. With emerging technology, the eye care services expanded in the direction of tertiary care. It is only with the advent of the global initiative VISION 2020-The Right to Sight which depended on universal coverage to meet its goal of eliminating avoidable blindness that primary eye care started surfacing as an important strategy. While this started manifesting in multiple modalities such as community level screening by health workers in primary health care and so on, the need was felt for permanent structures to provide primary eye care services on a regular basis in the community.

In countries like Nepal, due to paucity of ophthalmologists in the 1980s, what is recognized today as primary eye care Centers happened by default with well-trained Ophthalmic Assistants providing the basic eye care including refraction services in fixed facilities in rural areas. As the concept started taking root, several models started to emerge in India and Bangladesh, resulting in a variety and richness in experiences. The Government of India and the Government of Bangladesh made the establishment of primary eye care Centers, an integral strategy of the overall national plan. Through the development of the cadre called as the “Paramedic Ophthalmic Assistants” (PMOA), the government of India initiated the concept of primary eye care in fixed facilities by posting the PMOAs in primary health Centers with the required equipment and physical infrastructure. In Bangladesh, with the demonstration of eye health NGOs, the concept of Vision Center has been introduced in national eye care plan (2018 -19) which is an integral part of the sub-district level general hospital where Nurses trained in eye care have been engaged whereas NGOs in eye health are developing similar cadre “Mid-Level Ophthalmic Personnel”(MLOP) to work at their vision Centers. The non-government sector on the other hand developed this concept under the name of Vision Centers with varying strategies relating to ownership of these Centers, staffing and technologies deployed.

Over the years, each country has developed and/or adapted Vision Center models and expanded its primary eye care services using technology and innovation to reach out to communities and schools. The recently launched World Report on Vision by World Health Organization (WHO) recommended that the Integrated People Centered Eye Care (IPEC) approach is essential to achieve “Universal Eye Health Coverage”, which has already been at the core of Orbis’s community-based eye care approach. This document will support the Orbis India and Bangladesh teams in scaling up the concept of Vision Centers. This Vision Center Guideline is a timely document which consolidates the current experience and provides broad guidelines as well as adequate details for the establishment and running of a Vision Center.

*This Vision Center Guideline is a timely document which has attempted to consolidate the current experience and provides broad guidelines as well as adequate details for the establishment and running of a Vision Center.*
Need for a Vision Center

Many of the existing strategies focus primarily on cataract as a cause of blindness and are lacking in a comprehensive approach in the rural community. 80% of eye problems can be either diagnosed and treated or diagnosed and referred by adequately trained personnel at primary level. The remaining 10 to 20% of the patients may require cataract surgery or any other specialty services in a secondary or tertiary care center.

The existing outreach approaches are not serving the community on a permanent basis. It is reported that <10% of the people who need eye care access these temporary eye care services. Existence of primary eye care centers (vision centers) can serve the community who are living in underserved areas, particularly reaching out to women, children, persons with disabilities (PwDs) poor and displaced population in a cost-effective manner.

Population in rural areas and urban slums do not have access to affordable basic eye care services. Vision centers help in establishing a referral system.

Avoidable blindness and visual impairment can only be tackled by comprehensive eye care services. People do not need to travel far for basic eye care services.

80% of blindness and severe visual impairment is avoidable (preventable or curable). 60-70% of blindness is due to cataract and 20% due to uncorrected refractive errors.

The blind need rehabilitation services of which they are not aware. 70% of low vision is due to uncorrected refractive errors.

25% of the people have some eye problem at any point in time.
## Eye Health and Vision Center Services

<table>
<thead>
<tr>
<th>Eye Condition</th>
<th>Prevention</th>
<th>Early Detection &amp; Diagnosis</th>
<th>First Line Treatment/Management</th>
<th>Referral</th>
</tr>
</thead>
<tbody>
<tr>
<td>Refractive Errors</td>
<td>-</td>
<td>Yes</td>
<td>More than 90%</td>
<td>&lt;10%</td>
</tr>
<tr>
<td>Cataract</td>
<td>-</td>
<td>Yes</td>
<td>Counseling</td>
<td>All operable</td>
</tr>
<tr>
<td>Vitamin A deficiency</td>
<td>Nutrition education &amp; supplementation</td>
<td>Yes</td>
<td>Yes</td>
<td>Corneal involvement</td>
</tr>
<tr>
<td>Trachoma/Conjunctivitis</td>
<td>Safe water; Sanitation; Personal hygiene</td>
<td>Yes</td>
<td>Yes</td>
<td>Significant corneal involvement</td>
</tr>
<tr>
<td>Glaucoma</td>
<td>Family history; 40+</td>
<td></td>
<td>To establish diagnosis and treat</td>
<td></td>
</tr>
<tr>
<td>Diabetic Retinopathy</td>
<td>Exercise; Diet</td>
<td>Screen diabetics</td>
<td>To establish diagnosis and treat</td>
<td></td>
</tr>
<tr>
<td>Trauma</td>
<td>Health education</td>
<td>Yes</td>
<td>Emergency care</td>
<td>To establish diagnosis and treat</td>
</tr>
<tr>
<td>Low Vision</td>
<td></td>
<td>Yes</td>
<td></td>
<td>Yes</td>
</tr>
</tbody>
</table>
Definition of a Vision Center

A vision center is a permanent eye care facility in the community which acts as the first point of interface, with comprehensive eye care services provided by an exclusive skilled eye care worker.

Proposed eye care service delivery pyramid

- **Vision Centers**: 1 for 50,000 population
- **Training Centers**: 1 for 5 million population
- **Service Centers**: 1 for 500,000 population
- **Centers of Excellence**: 1 for 50 million population
Characteristics of a Vision Center

- It forms the base of the eye care service delivery pyramid
- It is accessible to a catchment (service) population of 50,000 – 100,000
- With an average village population of 1000, one vision center caters to the needs of 50 villages (range 10-50 depending on size of the village)
- It is networked with a secondary eye care hospital /institution (service center) preferably within 50 kilometers for taking care of referrals
- It is financially sustainable within a span of 2-3 years of establishment
- It is a permanent facility available to the local population round the year
- It is managed by a trained eye care technician
- It is linked to primary eye care workers/primary health care workers/developmental NGO workers/community health volunteers/anganwadi workers for increase in uptake of services and patient flow
- It utilizes community resources through community participation and monitoring or community ownership in some cases

Many hospitals provide mobile eye care services or refraction clinics/outreach camps from secondary level hospitals. These are important for increasing the coverage of primary eye care services including refraction to population in remote areas and underprivileged communities, but these are not vision centers as they are not a permanent static facility existing within the community.
## Functions of a Vision Center

The vision center will be responsible for providing comprehensive eye care services to the 'catchment' population which is about 50,000 -100,000 population as suggested in the 'eye care pyramid'. This includes identification and treatment/referral of eye problems, refraction services, increasing awareness on different eye conditions and the means of prevention or early detection, referral follow-up and post operative follow-up.

Ideally, there should be no duplication of vision centers between the Government and Non-Government Organization (NGO) set-ups and every effort should be made to avoid overlap.

<table>
<thead>
<tr>
<th>Type of Services provided by Vision Centers</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Essential</strong></td>
</tr>
<tr>
<td>Early detection of eye problems</td>
</tr>
<tr>
<td>Prepare a register of visually impaired persons</td>
</tr>
<tr>
<td>Vision testing and refraction</td>
</tr>
<tr>
<td>Dispensing spectacles</td>
</tr>
<tr>
<td>Refer individuals needing surgery or specialist attention to the service center (secondary level)</td>
</tr>
<tr>
<td>Referral / post operative follow up</td>
</tr>
<tr>
<td>Training of school teachers and preliminary screening by teachers</td>
</tr>
<tr>
<td>School eye screening</td>
</tr>
<tr>
<td>Support to incurably blind and low vision Individuals</td>
</tr>
<tr>
<td>Training and skill augmentation of other health/social development functionaries/ volunteers</td>
</tr>
<tr>
<td>IEC activities (Health education)</td>
</tr>
<tr>
<td>Networking with community leadership</td>
</tr>
<tr>
<td>Networking with ICDS/MNC&amp;AH programs</td>
</tr>
<tr>
<td>First line management of eye emergencies</td>
</tr>
</tbody>
</table>
Value addition of a Vision Center

Poverty and absence of an attendant accompanying the needy patients especially women, children and PwDs are some of the major barriers for poor uptake of eye care services. It can be addressed by providing the service at convenient times at an accessible location so that people can access eye care without losing a day’s wage or depending on attendants.

Major eye problems like glaucoma and diabetic retinopathy have to be diagnosed at the earliest stage for better restoration of eyesight and preventing blindness.

Improve awareness about eye conditions and their management within the community.

Refer surgical cases to the referral service center.

Provide good quality eye services at an affordable cost to rural and disadvantaged communities.

Eye health education can scale up the awareness level in rural community.

Efficient management of vision centers can help us to eliminate avoidable blindness and visual impairment to achieve universal eye health towards SDGs of a country.

Increase engagement and empowerment through community participation in eye care services.

---

Premises

A vision center can either be a stand-alone exclusive eye care facility or be a part of a comprehensive health service delivery unit of a hospital facility like a primary health center, village dispensaries, community health outpost etc. In either situation, the pre-requisites are listed below:

- The vision center can function either from an owned or a rented building
- There should be an adequate space for patient consultation, refraction and dispensing spectacles
- While complete range of spectacles /f_itting is neither possible nor cost effective, the technician in the vision center should be trained to make minor repairs and adjustments in spectacles
- The first room should provide for the patient reception and waiting area and the spectacle-dispensing unit (preferably 10’ x 8’)
- A separate area should be available for patient examination and refraction. (Preferably 10’ x 8’)
- A private space should be provided for the office and spectacles workshop (preferably 6’x 6’)
- Residential facility provided in the same village will help the technician be more productive
- Local level management and support committee can help promote services, improve quality of care and mobilize local resources to sustain the efforts

Layout

The vision center should have adequate spaces for patient reception, optical counter, patient waiting area, client examination station etc. Client comfort should be ensured so that the center is patient friendly and attractive. One such layout is proposed below.

---

Equipment, furniture, drugs and consumables

Equipment, furniture, drugs and consumables need of a vision center may vary depending upon the kind of eye care services to be provided, available HR competencies and available financial resources. The need has been categorized in three segments. They are: i) Essential; ii) Desirable and iii) Ideal. The list of equipment in these three segments is included in the Annexure 1.
Infrastructure Plan for a Vision Center

i) Premises
A vision center can either be a stand-alone exclusive eye care facility or be a part of a comprehensive health service delivery unit of a hospital facility like a primary health center, village dispensaries, community health outpost etc. In either situation, the pre-requisites are listed below:

- The vision center can function either from an owned or a rented building
- There should be an adequate space for patient consultation, refraction and dispensing spectacles
- While complete range of spectacles fitting is neither possible nor cost effective, the technician in the vision center should be trained to make minor repairs and adjustments in spectacles
- The first room should provide for the patient reception and waiting area and the spectacle-dispensing unit (preferably 10’ x 8’)

- A separate area should be available for patient examination and refraction. (Preferably 10’ x 8’)
- A private space should be provided for the office and spectacles workshop (preferably 6’x 6’)
- Residential facility provided in the same village will help the technician be more productive
- Local level management and support committee can help promote services, improve quality of care and mobilize local resources to sustain the efforts

ii) Layout
The vision center should have adequate spaces for patient reception, optical counter, patient waiting area, client examination station etc. Client comfort should be ensured so that the center is patient friendly and attractive. One such layout is proposed below.

iii) Equipment, furniture, drugs and consumables
Equipment, furniture, drugs and consumables need of a vision center may vary depending upon the kind of eye care services to be provided, available HR competencies and available financial resources. The need has been categorized in three segments. They are: i) Essential; ii) Desirable and iii) Ideal. The list of equipment in these three segments is included in the Annexure 1.
Human Resource Plan for a Vision Center: Requisite skills and qualifications

The vision center personnel should preferably be from the same community to retain staff and ensure dedication in the work.

**Essential:** Mid-level ophthalmic person (Ophthalmic Assistant / Optometrist/ Refractionist / Vision technician etc.)

**Ideal:** Vision technician with one year training and 6-12 months internship will be ideal and adequate.

The vision technician must be trained for a comprehensive eye examination, Schiotz and applanation tonometry, refraction, and good knowledge of common eye diseases.

It is also important to remember that a person at a vision center is an independent functionary and will need patience and expertise to manage the whole community. Such people should therefore be more experienced, compared to those in a hospital set up, where the senior doctors and administrators can help resolve potential challenges.

Success of a vision center will be directly proportional to the skill of the vision center staff and their attitude and behavior with patients. Therefore, an induction course should be organized for all new personnel before joining the vision center.

Two important elements are keys to long term success of the vision center and the personnel in the Vision Center:

i. Periodic visit of the ophthalmologist from the affiliated secondary center.

ii. Build periodic skill enhancement training and a long-term career advancement for the technician.

A locally hired person can take care of daily cleaning and housekeeping work.

---

*It is also important to remember that a person at a vision center is an independent functionary and will need patience and expertise to manage the whole community.*
Support from a Secondary Eye Hospital /Center (Service Center) for a Vision Center

Service center will be linked to a number of vision centers in a region. Hence the service center must be equipped to receive all the referred cases form the vision center. The service center will act as a training center for all vision technicians. In order to maintain a standard in quality of service and management of activities, a leadership team can be assigned at the service center. The team should consist of an ophthalmologist, optometrist and a coordinator. The leadership team can take care of upgradation, training, coordination, optimum utilization of available resources across the centers linked with each service center.

Telephonic (or mobile phone) connectivity between the vision center and service center should be ensured for troubleshooting.

It is only necessary that the vision technician returns to the secondary center for one month every year for refresher courses and skill enhancements.

- An ophthalmologist from the service center (secondary level) should hold a ‘specialist eye clinic’ at the vision center. It is essential that this clinic be scheduled once a week.
- The ‘specialist eye clinic’ should be organized at the same time and same day of the week every time.
- The specialist clinic should target complicated cases and post-operative cases.
- A vision center coordinator should be located at the service center and should visit each vision center every fortnight (preferably every week).
- The coordinator should help in augmenting managerial and clinical skills of vision center staff.

The service center can be linked with district headquarters service providers for better communication and updating activities and performance.

### Spectacles need in a population of 50,000

<table>
<thead>
<tr>
<th>Age</th>
<th>% of population</th>
<th>No. of individuals</th>
<th>% of refractive error</th>
<th>Current coverage</th>
<th>No. of people in need of spectacles</th>
<th>Frequency of change of glasses</th>
<th>No. of glasses required per year</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-14 yrs</td>
<td>12 %</td>
<td>6,050</td>
<td>5%</td>
<td>10%</td>
<td>275</td>
<td>Every year</td>
<td>275</td>
</tr>
<tr>
<td>15-45 yrs</td>
<td>46 %</td>
<td>23,050</td>
<td>8%</td>
<td>10%</td>
<td>1650</td>
<td>Every 2 yrs</td>
<td>825</td>
</tr>
<tr>
<td>45+</td>
<td>18 %</td>
<td>9,150</td>
<td>50%</td>
<td>10%</td>
<td>4100</td>
<td>Every 3 yrs</td>
<td>1350</td>
</tr>
</tbody>
</table>

The service center will act as a training center for all vision technicians. In order to maintain a standard in quality of service and management of activities, a leadership team can be assigned at the service center.
Financial Sustainability

A vision center in the NGO sector should attain financial sustainability within 2-3 years of inception. Since most of the government facilities like PHC/CHC would not have optical units and do not usually charge user-fee, financial sustainability would not be too difficult.

A nominal fee for all patient registrations is recommended but left at the discretion of the service providers.

Prescription and sale of spectacles may be considered as a major source of revenue for financial sustainability. If we consider half of the annual demand of spectacles, the revenue generated from about 1,200 spectacles may support a major portion of operational cost.

The initial cost of setting up a vision center would be between USD 20,000 – USD 50,000, depending upon the proposed equipment and facilities to be provided at the vision center. This does not include the capital investment on the building and the rentals.

The initial cost of setting up a vision center would be between USD 20,000 – USD 50,000, depending upon the proposed equipment and facilities to be provided at the vision center.

Charge a nominal user fee
Sale of spectacles at vision center should consider the market value of spectacles (vision center should charge less than the market value to attract clients)
Staff with adequate skills to manage patients and for refraction
Ensuring a high quality of service and client-interaction
Delivery time of spectacles should be minimized
Good quality of spectacles
Vision center staff should be available in the catchment area for any emergency
Tailoring vision center timings to suit the population needs

The leadership team based at the secondary center has to ensure the maintenance of quality as per the standards. Quality assurance should be prioritized if vision centers are to succeed. In the initial stages, hand holding should be done at frequent intervals.

Some of the quality assurance protocols to be adopted include:
• Availability of a refraction manual
• Availability of checklist of refraction
• Availability of diagnostic algorithm
• Checking of the process of refraction, in a sample of clients, by the visiting ophthalmologist
• Verification of diagnostic skills by visiting ophthalmologist
• Cross checking 10% sample of spectacles by coordinator and visiting ophthalmologist
• Standard follow up process on referred cases
• Client satisfaction surveys
• Spectacle utilization rates among school children
• Regular feedback on performance and financial monitoring indicators from service center
• Supportive supervision
• Monitoring and evaluation of the proposed activities
• Annual CME program for vision center personnel

Regular monitoring of vision center activities should be ensured from the service center. The Vision Center Coordinator (VCC) should be responsible for data maintenance and submission of periodical reports. The MIS, forms & formats and various data management tools are included in Annexure 3. The VCC should help the leadership team in the service center in monitoring performance and evaluation. A number of monitoring indicators can be used for this purpose. List of indicators is included in the Annexure 4.
Quality Assurance at a Vision Center

The leadership team based at the secondary center has to ensure the maintenance of quality as per the standards. Quality assurance should be prioritized if vision centers are to succeed. In the initial stages, hand holding should be done at frequent intervals.

Some of the quality assurance protocols to be adopted include:

- Availability of a refraction manual
- Availability of checklist of refraction
- Availability of diagnostic algorithm
- Checking of the process of refraction, in a sample of clients, by the visiting ophthalmologist
- Verification of diagnostic skills by visiting ophthalmologist
- Cross checking 10% sample of spectacles by coordinator and visiting ophthalmologist
- Standard follow up process on referred cases
- Client satisfaction surveys
- Spectacle utilization rates among school children
- Regular feedback on performance and financial monitoring indicators from service center
- Supportive supervision
- Monitoring and evaluation of the proposed activities
- Annual CME program for vision center personnel

One of the best ways to ensure quality is by adopting a uniform training curriculum and a standard duration of training for staff to be posted at vision centers. At present, there is huge variation in both the curriculum and the duration of training. This impacts the skills of the personnel responsible for managing the vision centers. For details on “Dos and Don’ts” of use of medicines and issues related to refraction – See Annexure - 2.

Monitoring of Vision Center Activities

Regular monitoring of vision center activities should be ensured from the service center. The Vision Center Coordinator (VCC) should be responsible for data maintenance and submission of periodical reports. The MIS, forms & formats and various data management tools are included in Annexure 3.

The VCC should help the leadership team in the service center in monitoring performance and evaluation. A number of monitoring indicators can be used for this purpose. List of indicators is included in the Annexure 4.
Case Stories (India and Bangladesh)

i) India experience: Green Vision Centers (GVCs)

In the Indian context, ideally, there has to be a Vision Center (VC) for a population of 50,000, but in reality, there is a considerable gap with the country requiring an additional 20,000 VCs to meet the primary eye care needs of the population. The existing VCs face challenges in data management and providing uninterrupted services. The majority of VCs have a manual system of data recording. The manual system poses many challenges, including slower service delivery, data quality and integrity issues, and the inability to track referrals to and from the base hospital. A critical infrastructure gap observed with the VCs is the erratic power supply, which affects the smooth functioning of the facilities.

In the above context, Orbis in India piloted the concept of Green Vision Centers (GVCs) to provide uninterrupted services at VCs in a sustainable and environmentally responsible manner. The following are the three features of GVCs that contribute to the conservation of natural resources and thereby becoming a green initiative: i) Use of Solar energy; ii) Use of software for data management; iii) Energy-efficient appliances.

Use of Solar energy: For a VC to function at its full potential, requires an uninterrupted energy supply to run its various equipment, computers, and appliances. In general, VCs are powered by conventional power, which includes the combustion of fossil fuels, emitting greenhouse gases, and resulting in air pollution. The GVCs are powered by renewable solar energy to ensure continued services, irrespective of the availability of grid electricity. Sustainable energy options like solar will help phase out the more expensive diesel generators being used as power backup with a cleaner source of electricity and contribute towards the sustainability of GVCs.
i) India experience: Green Vision Centers (GVCs)

In the Indian context, ideally, there has to be a Vision Center (VC) for a population of 50,000, but in reality, there is a considerable gap with the country requiring an additional 20,000 VCs to meet the primary eye care needs of the population. The existing VCs face challenges in data management and providing uninterrupted services. The majority of VCs have a manual system of data recording. The manual system poses many challenges, including slower service delivery, data quality and integrity issues, and the inability to track referrals to and from the base hospital. A critical infrastructure gap observed with the VCs is the erratic power supply, which affects the smooth functioning of the facilities.

In the above context, Orbis in India piloted the concept of Green Vision Centers (GVCs) to provide uninterrupted services at VCs in a sustainable and environmentally responsible manner. The following are the three features of GVCs that contribute to the conservation of natural resources and thereby becoming a green initiative:

i) Use of Solar energy:

For a VC to function at its full potential, requires an uninterrupted energy supply to run its various equipment, computers, and appliances. In general, VCs are powered by conventional power, which includes the combustion of fossil fuels, emitting greenhouse gases, and resulting in air pollution. The GVCs are powered by renewable solar energy to ensure continued services, irrespective of the availability of grid electricity. Sustainable energy options like solar will help phase out the more expensive diesel generators being used as power backup with a cleaner source of electricity and contribute towards the sustainability of GVCs.

Digital data management: The manual data collection system relies on paper, which has a tremendous environmental impact in terms of energy consumption in production, cutting of trees, transportation and paper waste generation. The GVCs are deployed with digital data management software enabling better patient care and patient data, and improving continuity of care when patients move between the GVC and referral facility. This feature significantly reduces paper use in the GVCs and contributes to environmental sustainability. In addition to environmental benefits, use of the software will ensure better flow of information and clinical decisions apart from data accuracy and security of information.

Energy-efficient appliances: Energy initiatives are currently limited to tertiary or secondary facilities and have not percolated to the primary level. The GVCs are equipped with highly energy-efficient equipment.

Following are some of the key benefits that can be attributed to GVCs:

- 10 Mega Watt of electricity generated from conventional sources can be replaced every year by establishing 10 GVCs
- 94% reduction in carbon emission as against a regular VC
- 4-5 trees saved by every 10 GVCs per year due to reduced usage of paper
- 100% reduction in electricity expenses
- 76% reduction in expenses towards management of medical records
Orbis has been working to strengthen eye care services at community level, especially hard-to-reach area, by establishing Primary Eye Care Centers (Vision Centers) in collaboration with partner organizations. Till now 31 vision centers have been established across the country, providing comprehensive eye care services in rural areas. Some of the vision centers are run by women staff. BRAC is one of the partner organizations which established six women led /managed vision centers. The women led vision centers encourage more women and girls to undertake eye examination, as the centers are located near their homes. Usually, as the hospitals are located far away, women would accompany male member of the family to visit hospitals for treatment. Orbis supported BRAC in establishing tele consultation services at the Vision Center, to connect the patients with the ophthalmologists at the base hospital and support tele consultation.

Nanadail is the first VC established by BRAC in October 2016, supported by Orbis, and led by women Vision Technicians (Ophthalmic Assistant). The VCs are located near the communities, allowing women to receive services without the need to travel long distances. Increasing accessibility to eye care services, means that women need not take time off from their work/home. Orbis’s VC approach is applied with strong emphasis on recruiting, training from relevant institution and hiring female staff mostly from local level, thus allowing women patients to feel more comfortable and accept counselling, advice, and diagnoses. During school screening events and outreach activities, special efforts are made to ensure girls and boys have equal access to receive eye care services. Two female staff were recruited locally and trained, so patients especially women are very happy to receive services in their community.

As Vision Technicians are female, more female patients access the services compared to male. It is observed that since inception, 55% patients are women in Nandail vision center. These statistics suggest that VCs have been successful in designing interventions with a gender lens, ensuring barriers for accessing services are considered and addressed for both adults and children. Nonetheless, given that women are much more likely to suffer from blinding eye conditions, it is important to replicate and scale the model.
Female patients face more trouble to get their eye treatment. There are many female patients who cannot take a vehicle. The vision center, however, is very near to them and it is very easy to access. Women are very happy with that; they don't need a vehicle for transportation. Moreover, females work here. Women feel quite comfortable that they are talking about their problems to a female technician. They think, ‘How can we express all of our problems to a male worker?’ They become very uncomfortable. As we are working here, women visit the center and they feel happy. My family members including my husband respect me more now and encourage me to continue my job.

People especially women are very happy to receive the eye care services from female staff at the vision center. The female Vision Technicians are playing an important role by providing eye health treatment to more women living in rural community.

Regional Manager, BRAC

iii) Vision Centers and other Orbis Primary Eye Care Models Integrated Vision Center Models

CHINA: In China, over 30 township level Vision Centers were established in 6 counties. These centers are integrated within the government local county and township hospitals, which are Orbis partners. Orbis builds the capacity of these primary level centers and provides medical equipment such as slit lamps, retinoscope, visual chart with lighting and external ophthalmic surgical instruments. Through our partnership, Orbis China also supports training of township hospital doctors and community health workers. These trained eye care professionals provide support within the Vision Center as well as in the community and schools by assisting in outreach community screening. Referral networks, with local county and township hospitals are strengthened for those in need of specialized care.

After training [on screening, referral and basic treatment], I returned to my unit. Using the knowledge I learned, I carried out cataract screening and visual acuity survey for young people in rural areas. In my daily work, I used slit lamps and other equipment to carry out basic ophthalmic diagnosis and treatment, and did many minor operations such as hordeolum. I can do my best to relieve the sufferings of the local people.

Chen Shaochan
Jinshi township health center general practitioner,
Chaoan district, Chaozhou City, Guangdong province
VIETNAM: In Vietnam, an integrated Vision Center model has been adopted. In addition to integrating project activities into existing government health systems, Orbis Vietnam has supported 10 Vision Centers in 3 Provinces in partnership with their respective District Health Centers and Hospitals to meet local demand. These centers are either newly constructed or are upgraded from existing government facilities and include furniture and a full range of specialized equipment. Vision Centers are also equipped for making eyeglasses and lenses. Each center provides eye examinations, primary eye treatment for children and refractive services by trained ophthalmologists nurses and optometrists. Prior to launching a Vision Center, Orbis Vietnam organizes trainings on management, operations and business plan development for relevant stakeholders in each district. To support outreach activities, training is provided to community level health workers and school health teachers to help them undertake vision screening in their communities. The training also includes counseling and communication skills. An established referral network creates linkages with vision centers and other eye care centers depending on needs.

Other Integrated Primary Eye Care Models

GHANA: In Ghana, Primary Eye Care (PEC) integration is a priority focus area for the Ghana Health Service, a government body under Ghana’s Ministry of Health. To respond to the call, Orbis has successfully integrated eye care services in nine districts using the demonstrated Ghana SOARS (Strengthen referral network, Outreach, Advocacy, Resources, Screening) model and is presently working to integrate eye care services in three other districts in the Ashanti region. Orbis collaborates with regional partners to contribute to the overall effort of the Ghana Health Service to make PEC accessible by strengthening existing teams and health infrastructure. As the SOARS model is integrated, it creates opportunities to make eye care services more accessible to the community in a sustainable manner. The approach strengthens referral pathways to ensure that eye care service providers can coordinate efficiently and that patients receive the right care at the right level. The SOARS model also blends eye care services into existing healthcare outreach programs, raises awareness on the importance of eye health in communities, supports the training of ophthalmic nurses deployed to districts and provides the essential equipment and training needed for ophthalmic staff. Orbis Ghana also trains Community Health Officers and Ophthalmic Nurses to provide screening and care at the community level, while advocating for eye health services at the national, regional and district levels.

“Thanks to the new Tay Son Vision Center and doctors here, my daughter can now read her favourite books easily and never complains about wearing glasses. We’re lucky to find a good place for vision check with qualified doctor and get free eye glasses.”

Mother of patient Tay Son District Vision Center
Binh Dinh Province, Vietnam

“Other Integrated Primary Eye Care Models

ETHIOPIA: In Ethiopia, Orbis established and strengthened over 150 Primary Eye Care Units (PECU) by integrating them with existing public health delivery units to support primary eye care services in districts where these units exist. While the model is not a standard model for eye health service delivery across the country, it has created an opportunity for Orbis units to strengthen health service delivery across the national, regional and district levels.

“This intervention has come at the right time to provide a much-needed relief on the eye health system in the region. It has made eye care more accessible to community members on the primary level while reducing pressure on the secondary level facilities. It has really boosted our capacity in the region and at the same time highlighted additional areas that needs to be developed and improved.”

Dr. Kwadwo Amoah
Ashanti Regional Ophthalmologist
ETHIOPIA: A national level strategy in Ethiopia, prioritizing the expansion of primary health care units to strengthen health service delivery across the country has created an opportunity for Orbis to support primary eye care services in districts where these units exist. While the model is not a typical Vision Center, over the past 20 years, Orbis has established and strengthened over 150 Primary Eye Care Units (PECU) by integrating them with existing public health delivery units based within government facilities. These PECUs are eye care facilities established at the Health Center level, the second tier of the Ethiopian Health Tier System serving 15,000-25,000 in rural and 40,000 people in urban settings. The PECUs are focused on delivering basic eye care services and Trachomatous Trichiasis (TT) surgery. Orbis Ethiopia supports PECUs with standardization, human resource development and providing basic equipment and supplies. Training, task shifting and deployment of at least one Integrated Eye Care Worker (IECW) per PECU is critical for functionality of PECUs. Task shifting involves the training, certification, and supervision of general health workers, including nurses, to provide TT surgery. Orbis also trains nurses on primary eye care and trichiasis surgery to diagnose, treat and care for patients with eye care problems as well as deliver health education and referral. The Primary Eye Care Centers are often supported by Secondary Eye Care Units, delivering cataract surgery, refractive error correction and production and distribution centers for eyeglasses. These Centers are often integrated into public health facility, with opportunities for income generation for sustainability.

“Thanks to this partnership, over the last five years trachoma prevalence is decreased to 13% in 2021 in an area that hosts over 1.7 million population. We hope that this partnership is extended further and continues to strengthen comprehensive eye health care.”

Chernet Sewore
Disease Prevention and
Health Promotion Directorate Director,
Hadiya Zone Health Department
# Annexure -1

## Equipment needs for a Vision Center

<table>
<thead>
<tr>
<th>Essential</th>
<th>Desirable</th>
<th>‘Ideal’</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flashlight</td>
<td>Handheld Tonometer</td>
<td>Lea symbols</td>
</tr>
<tr>
<td>Distance vision charts</td>
<td>Slit lamp</td>
<td>Low vision testing kit</td>
</tr>
<tr>
<td>Near vision charts</td>
<td>Auto refractor</td>
<td>Glucometer</td>
</tr>
<tr>
<td>Trial set</td>
<td>Color vision charts</td>
<td>Software based medical record system</td>
</tr>
<tr>
<td>Trial frames</td>
<td>BP instrument</td>
<td>Slit lamp with camera</td>
</tr>
<tr>
<td>Pediatric trial frames</td>
<td>Thermometer</td>
<td>Tele-ophthalmology Kit</td>
</tr>
<tr>
<td>Slit lamp with applanation tonometer</td>
<td>Lister’s lamp</td>
<td></td>
</tr>
<tr>
<td>Streak retinoscope</td>
<td>Telephone / Mobile phone</td>
<td></td>
</tr>
<tr>
<td>Ophthalmoscope direct</td>
<td>Computer</td>
<td></td>
</tr>
<tr>
<td>Hand washing solutions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Generator / Inverter</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lensometer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Occluder</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Near vision light</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Big mirror (2’x2’)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Optical rule</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cross cylinder</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MRD, documentation &amp; report generation</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Drugs and consumables for a Vision Center

<table>
<thead>
<tr>
<th>Essential</th>
<th>Desirable</th>
<th>‘Ideal’</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xylocaine 4% eye drops</td>
<td>Moisol drops</td>
<td>Room freshener</td>
</tr>
<tr>
<td>Vitamin A capsules</td>
<td>Blood glucose strips</td>
<td>Mosquito repellant</td>
</tr>
<tr>
<td>Fluorescein strips</td>
<td>Urine albumin &amp; sugar strips</td>
<td>Diamox 500 mg tablets</td>
</tr>
<tr>
<td>Cotton and gauze</td>
<td>Povidone 1% drops</td>
<td></td>
</tr>
<tr>
<td>Eye pads</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plastic eye shield</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Savlon solution</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Antiseptic hand wash</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Normal saline</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Furniture for a Vision Center**
- Chairs / benches for patients
- Optical show case/ rack/ optical display table
- Table and chairs for office work
- Stand/ table for trial set
- Almirahs for storage
- Water jug (20 liters)
- Revolving stools
- Wooden stools
- Book racks
- Storage racks
- Door mats
- Dustbin
- Display boards and Tube lights, fans

---

**Stationery at Vision Centers**

**Essential**
- OPD cards
- OPD register
- Blind & visually impaired register
- Referral register
- Refraction register
- Cataract cases register
- Optical order register
- Medicines stock register
- Income register
- Cash book
- Optical cash register
- Optical ledger register
- Frames stock register
- Advance bill book
- Cash bill book
- Prescription pads
- Spectacle prescription pads
- Envelopes
- Carbon paper
- Paper reams
- Stapler and pins
- Gum, glue stick etc.
- School health register
- School Vision Testing Cards
- School Health Referral Slips
- Vision Center manual
- Refraction checklist
- Health education material
- Pens, pencils etc.

**Desirable**
- Complicated cases logbook
- Visitor’s register
- Computer with printer
- Specialist clinic register
- Daily activity record

**Ideal**
- Standard MIS/ Electronic Medical Record
Annexure-2

**DO's and DON'Ts for medicines**
- Keep medicines in a cool, dry place
- Check for the expiry date of the medicines and do not use after expiry date
- The cap of the vials should be covered
- Do not touch the tip of the vial when instilling medicines in the eye
- Do not use opened vials after one week even if medicine is wasted
- Medicines nearing expiry date should be used first
- Update the medicine stock regularly (twice a month)
- Ask the patient to look up when instilling medicines

**Issues related to refraction**
- Keep a variety of frames for clients to select from
- Keep the optic centers opposite to the pupil centers
- Measure Inter Pupillary Distance (IPD)
- Ensure correct centering to avoid prism effect and patient discomfort
- Always get the client to wear the spectacles and make adjustments if necessary
- Counsel patients about headaches and blurring of vision when they use spectacles for the first time
- Always do cycloplegic refraction for children especially when prescribing for the first time
- Do a Post Mydriatic Test (PMT) after cycloplegic refraction
- As a rule, under correct rather than overcorrect
- 50% of prescriptions can be dispensed from a range of readymade spectacles

Annexure-3

**MIS at a Vision Center**
- The vision center staff will need to spend 1-2 hours every day to update all the records
- On the last day of the month, the monthly report should be compiled
- The monthly report should be communicated to the service center by the 5th of the subsequent month
- Feedback from the service center should be provided to the vision center by the 15th of the subsequent month based on the periodical visits made by ophthalmologist to upgrade the quality
- If computer facilities are available, all records can be maintained in a dedicated data base and data transmitted online to the service center
- Formats should be designed for data management at all vision centers

**Formats to be used at Vision Centers**

**Performance related formats**
- Outpatient consultation record
- Refraction record
- Spectacle prescription record
- Spectacles order record
- Drug dispensing record
- Stock and inventory register
- Referral record
- Blind and visually impaired person’s record
- Emergencies attended record
- School screening record
- Trainee’s record

**Financial formats**
- Money collection from patient registration record
- Money collected from spectacle sale record
- Income from other sources record
- Expense statements detailing salary, drug/frames purchase other consumable purchase, rentals, electricity, diesel, kerosene etc.
Prototypes of common formats

### Outpatient Consultation Format

<table>
<thead>
<tr>
<th>Date</th>
<th>OP Registration No.</th>
<th>Name and Address</th>
<th>Age</th>
<th>Gender</th>
<th>Probable Diagnosis</th>
<th>Action taken / Remarks</th>
</tr>
</thead>
</table>

### Refraction Format

<table>
<thead>
<tr>
<th>Data</th>
<th>OP Registration No. Address</th>
<th>Name</th>
<th>Age</th>
<th>Gender</th>
<th>Type of RE</th>
<th>Distance Correction</th>
<th>Near</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Right Eye Sph  Cyl  Axis</td>
<td>Left Eye Sph  Cyl  Axis</td>
</tr>
</tbody>
</table>

### Blind / Visually Impaired Persons Register

<table>
<thead>
<tr>
<th>Data</th>
<th>Father/ Husband's Name</th>
<th>Address</th>
<th>Village</th>
<th>Age</th>
<th>Gender</th>
<th>Vision RE</th>
<th>Vision LE</th>
<th>Probable cause</th>
<th>Action taken / Remarks</th>
</tr>
</thead>
</table>

### Annexure-4

**Monitoring Indicators for a Vision Center**

- No. of outpatient consultations (weekly/ monthly) – Age/ Gender/ Village
- No. of refractions (weekly/ monthly) – Age/ Gender/ Village
- No. of spectacles prescribed (weekly/ monthly) – Age/ Gender/ Village
- No. of spectacles dispensed (weekly/ monthly) – Age/ Gender/ Village
- No. of patients referred with remarks by ophthalmic assistant (weekly/ monthly) – Age/ Gender/ Village
- No. of patients attended service center (monthly)
- No. of school children screened (monthly) – Age/ Gender/ Village
- No. of school children advised and received spectacles (monthly – school wise reports)
- No. of teachers/ health workers/volunteers trained – Village
- No. of awareness campaign conducted with details
- Cost Recovery ratio (Income/Expenditure)
- Quality assurance mechanisms adopted
- Client satisfaction surveys