



Reaching the Unreached

Community-Based Eye Care Outreach
in Developing Nations

ARAVIND
EYE
CARE
SYSTEM

1976-2016

40 YEARS

*a journey dedicated to compassionate
service for sight*

REACHING THE UNREACHED
***Community-Based Eye Care Outreach
in Developing Nations***

by
R. Meenakshi Sundaram

edited by
Julie D. Johnston

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DEDICATION



This manual is dedicated to Dr. G.Venkataswamy, founder of Aravind Eye Hospitals and the founding chairman of Aravind Eye Care System, who was the pioneer of eye care outreach in India. His tireless efforts, along with those of the Aravind team, have grown into the sophisticated array of community outreach activities Aravind has in place today. Although Dr.V passed away in 2006, I believe he would have enjoyed reading the synthesis of his outreach work presented in this book along with the growing number of examples from other parts of the world.

AUTHOR'S STATEMENT

The unreached must be reached. The inaccessible must become accessible. Community outreach plays a vital role in extending awareness of eye problems and their solutions into communities not normally served by eye hospitals, eye care clinics and ophthalmology practices.

Outreach also helps an eye care institution attain its social mission and meet its potential, because it promotes the services of the institution while meeting the needs of the community.

Community outreach must be a holistic part of what an eye care institution provides - a central and ongoing aspect, not a one-time or occasional activity. Outreach is simply part of the way that eye care programmes should do business.

- R. Meenakshi Sundaram

Mr. R. Meenakshi Sundaram ("RMS" to his friends and colleagues) is the Senior Manager of Community Outreach at Aravind Eye Care System, based in Madurai in southern India. He joined Aravind in 1983 as Camp Administrative Assistant, and became Assistant Camp Manager in 1988. In 1991, after completing his Master's in Hospital Management (MHM) at Madurai Kamaraj University, he was promoted to his current position. His MHM thesis became Aravind's first outreach manual, which delineates systems and logistics for management of hospital-based outreach activities, eye camp planning, communications, and report generation. In addition to his management responsibilities, RMS currently teaches a certificate course on community outreach in eye care twice a year at Lions-Aravind Institute of Community Ophthalmology (LAICO), in Madurai.

ACKNOWLEDGEMENTS

This manual on 'Reaching the Unreached' would not have been possible without the guidance and commitment of Dr. G.Natchiar, who has been the force behind our outreach work in eye care at Aravind Eye Hospitals. Her dedication and compassion continue to inspire us all, and I would like to express my deepest gratitude to her.

Dr. Venkataswamy initiated community-based eye care right from day one, when Aravind was first opened in 1976. In 1998, he passed the reins to Dr. Natchiar, his sister and a renowned ophthalmologist in her own right. Since then, Dr. G. N. (as she is known) has been the person behind the success of Aravind's outreach programmes and the recent paradigm shift from cataract-focused outreach to comprehensive outreach for all. It was her idea to initiate outreach programmes in ophthalmic specialties, and she has guided us through monitoring and evaluation efforts that have led to significant improvements in what we do. This manual exists because of Dr. Natchiar's belief in the value of sharing what we have learned over several decades. She wanted to create a practical guide on planning and organising outreach for everyone engaged in eye care around the world.

I also want to acknowledge the other Senior Leaders of Aravind Eye Care System for having afforded me this great opportunity, and specifically Dr. P. Namperumalsamy, the Chairman Emeritus of AECS, and Mr. R. D. Thulasiraj, Executive Director of LAICO and AECS, for their guidance. I would also like to thank the staff of outreach department across the Aravind Eye Care System. I sincerely extend my gratitude to the staff of Aravind Eye Hospitals and LAICO for their superb support and contributions; eye care leaders who work at the international level; the VISION 2020 team; former WHO consultant and ongoing advisor to Aravind Eye Hospitals, Dr. Pararajasegaram; other leading eye hospitals in India and abroad; international NGOs engaged in eye care; and finally, a longstanding well wisher of Aravind Eye Care System, Dr. Suzanne Gilbert from Seva Foundation. Special acknowledgement and thanks from the author go to the editor, Julie Johnston, for her wonderful contribution in shaping this manual.

THE EDITOR

Ms Julie D. Johnston, a teacher and writer, first met RMS when she visited Aravind Eye Hospital in 1994 to help enhance Aravind's ophthalmic assistants' training course for accreditation. Since then, she has visited another four times and is the editor of the Quality Cataract Surgery Series, a collection of seven instructional modules on creating high quality, large volume, financially sustainable cataract surgery programmes in a developing nation context. Julie lives in British Columbia, Canada where she works with children and is a sustainability educator with GreenHeart Education (www.greenhearted.org).

PREFACE

The intention of this manual is to help ophthalmic programmes in developing nations to plan, design, execute and evaluate 21st century outreach activities and strategies in eye care to reach the unreached.

It portrays what has been learned by India's Aravind Eye Hospitals (now Aravind Eye Care System, or AECS) during over four decades of active efforts to identify and overcome barriers to eye care. It is based largely on the experiences of AECS in developing a programme of high quality, large volume, financially sustainable cataract surgery and other eye care services, and extending the provision of these services, especially through outreach to the rural poor.

OBJECTIVES OF THIS MANUAL

- to show ways that community outreach activities can contribute to high quality, large volume, financially sustainable cataract surgery programmes and other eye care activities, especially in the context of nations with developing economies
- to describe the purposes, activities and challenges to consider when designing an outreach programme for eye care
- to record lessons learned in the implementation of a variety of ophthalmic outreach activities through an eye care institution
- to provide an educational resource on community outreach in ophthalmology

WHO THIS MANUAL IS FOR

- someone already involved in ophthalmic outreach who would like their outreach activities to be more systematic, structured and strategic
- someone with no experience in ophthalmic outreach who wants to start a programme for their hospital, clinic or ophthalmology practice

WHAT WILL BE FOUND IN THIS MANUAL

Examples and case studies from around the world are embedded throughout the manual to illustrate important aspects of community outreach in ophthalmology. Interactive activities and resources are available at www.v2020resource.org. This manual consists of the following chapters:

- An Introduction and Overview of Community Outreach (Chapter 1)
- Designing Community Outreach Initiatives (Chapter 2)
- Human Resources for Outreach (Chapter 3)
- Eye Camps (Chapter 4)
- Vision Centres and Other Approaches to Outreach (Chapter 5)
- Marketing and Promotion of Outreach Programmes (Chapter 6)
- Financial Considerations In Community Outreach Programmes (Chapter 7)
- Monitoring and Evaluating Outreach (Chapter 8)
- Challenges in Outreach (Chapter 9)
- The Future of Outreach in Eye Care (Chapter 10)

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1. Introduction and Overview

WHAT IS COMMUNITY OUTREACH?

Community Outreach is taking health care to that part of the community which has no access and awareness of such services. In the field of ophthalmology, it is providing eye care service to eliminate needless blindness at the patients' doorstep. Community outreach in eye care is a practice of conducting eye camps involving the local community as partners, thereby creating ownership by the community.

THE RATIONALE FOR COMMUNITY OUTREACH

Despite the magnitude of the problem of avoidable blindness in developing countries, studies have shown that only a small percentage of the people needing cataract surgery or other treatment actually seek it. Therefore it is necessary for eye care institutions to reach out to potential patients, the "unreached", to provide their services to the people who most need them.

To develop and maintain a high quality, large volume, financially sustainable cataract surgery programme, it is essential to be proactive to generate demand, rather than simply waiting for patients to arrive at the hospital's door. By attracting large numbers of patients, community outreach activities can increase an eye care institution's productivity, quality of care, and cost effectiveness in cataract surgery and other eye care delivery services.

Another major rationale for community outreach is that in developing countries the majority of the people live in rural areas, and the majority of ophthalmic services are located in cities, inaccessible to the populations that need those most. In the rural areas of low-income countries where health care facilities are non-existent, the blindness rate is more pronounced than in urban areas. Because of their poverty and lack of awareness, these people remain needlessly blind. In developing nations, the social and financial hardships created by blindness gravely affect individuals and families, as well as communities and nations at large.



Service providers need to broaden their boundary of service beyond their hospital or clinic facility to truly ensure that they are contributing to the mission of eliminating needless blindness.

*- Vision 2020 e-Resource Team,
Aravind*

Distribution of Eye Care Professionals

According to a data published in 2009, in most developing countries in Asia, Africa and South America, up to 80 per cent of ophthalmic human resources are concentrated in urban areas.

- In Bangladesh, where 76% of the population lives in rural areas, there are 650 ophthalmologists in the country but over half of these are unable to perform surgery and the majority live in urban areas.
- In China, 80% of the people live in rural areas while 70% of the country's 24,000 eye doctors work in urban hospitals.
- In Nepal, a large part of the territory remains inaccessible by modern transport and communications and hence distribution of ophthalmologists and other eye care workers is disproportionate. For example, for patients in Taplejung, a remote hilly district in eastern Nepal with a population of 135,000 and a catchment area of 3 million Nepalese, the nearest eye care facility is a three-day journey on difficult roads.
- In Ethiopia, the second largest country in Africa (with over 80 million people),

of fewer than 100 ophthalmologists, 85% live in Addis Ababa, the capital. A typical journey to reach a health care centre to be seen by an eye doctor can take 4 to 5 days. Although the cost of treatment may be affordable, the extra costs of travel put eye care out of the reach of the majority.

- In South Africa, there are 275 ophthalmologists, but 235 of them work in the private sector catering to the needs of 8 million people, while only 25 work in the government Sector that serves 32 million people.
- In South American countries, most eye care professionals live in the cities. There is also a tremendous shortage of all eye care personnel other than ophthalmologists, due to a lack of infrastructure for training paramedicals.
 - Compiled by R. Lakshmi, Human Resources Manager, Aravind Eye Care System, 2008

THE SIGNIFICANCE OF COMMUNITY OUTREACH IN EYE CARE

Community outreach is important for helping eye care institutions meet their goals. Outreach is vital for meeting the needs of the curably blind and those whose vision can be improved. In addition, outreach is necessary if the world is to meet the goals of VISION 2020. The magnitude of needless blindness in countries with developing economies and social services is the major impetus to develop effective community outreach. Community outreach is a key strategy in helping all nations achieve the goals of VISION 2020 in order to eliminate avoidable blindness by 2020.



VISION 2020 - THE RIGHT TO SIGHT INITIATIVE

VISION 2020, a global initiative launched in 1999 jointly by the World Health Organization (WHO) and the International Agency for the Prevention of Blindness (IAPB) with an international membership of non-Governmental organisations (NGOs), professional associations, eye care institutions and corporations, seeks to give all people in the world, particularly the millions of needlessly blind, the right to sight. Over two decades, it is hoped that VISION 2020 will prevent 100 million people from becoming blind.

Vision

A world in which no one is needlessly blind and where those with unavoidable vision loss can achieve their full potential.

Mission

To eliminate the main causes of avoidable blindness by the year 2020 by facilitating the planning, development and implementation of sustainable national eye care programmes based on the three core strategies of (1) cost-effective disease control interventions, (2) human resource development training and motivation and (3) infrastructure development (facilities, appropriate technology, consumables and funds), incorporating the principles of primary health care. This will be achieved by mobilising the will and passion for action through advocacy and by mobilising resources.

The overall aim is to eliminate the main causes of avoidable blindness by the year 2020 and to prevent the projected doubling of avoidable vision impairment between 1990 and 2020. From the outset, it has been clear that the goal of eliminating avoidable blindness by the year 2020 will best be achieved by integrating an equitable, sustainable, high quality, comprehensive eye care system into every national health system.

Objectives

- Increase awareness, within key audiences, on the causes of avoidable blindness and the solutions to the problem;

- Advocate for and secure the necessary resources to increase prevention and treatment activities; and
- Facilitate the planning, development and implementation of national VISION 2020 programmes in all countries.

VISION 2020 is built on a foundation of community participation. Overarching issues such as equity and quality of services and visual outcomes are addressed as part of national programmes.

The magnitude of needless blindness in countries with developing economies and social services is the major impetus to develop effective community outreach. Community outreach is a key strategy in helping all nations achieve the goals of VISION 2020 in order to eliminate avoidable blindness by 2020.

Most developing countries are now challenged with a huge backlog of blind citizens. For example, India has the largest blind and potentially blind population in the world (estimated at 9 to 15 million people), including one-fifth of the world's blind children, and an additional 52 million visually impaired. Around the world, 40 to 80% of this blindness is due to cataract, which can be rectified by a relatively simple surgical procedure.

Global Facts about Blindness and Visual Impairment (2012)

The World Health Organization and others estimate that:

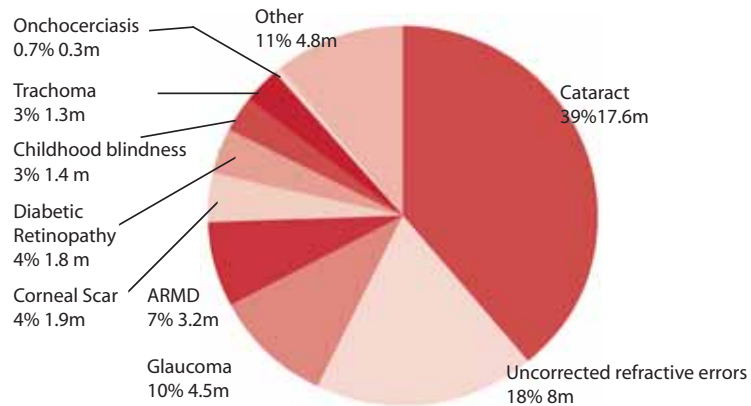
- Approximately 285 million people worldwide live with low vision and blindness.
- Of these, 39 million people are blind and 246 million have low vision.
- There are 8.9 million blind people in India, 6.7 million in China and 7.1 million in Africa – together this constitutes nearly 60% of the global burden of blindness.
- The major cause of blindness in India, China and sub-Saharan Africa is cataract. Globally there are at least 16 million people who are blind from cataract.
- The low vision of 145 million people is due to uncorrected refractive errors (near-sightedness, far-sightedness and / or astigmatism). In most cases, normal vision could be restored with eyeglasses.
- 80% of blindness is avoidable, in other words, readily treatable and/or preventable.
- 90% of blind people live in low-income countries.
- Sight restoration and blindness prevention strategies are among the most cost-effective interventions in health care.
- Infectious causes of blindness are decreasing as a result of public health interventions and socioeconomic development. For example, blinding trachoma now affects fewer than 80 million people, compared to 360 million in 1985.
- However, aging populations and lifestyle changes mean that chronic blinding conditions such as diabetic retinopathy are projected to rise exponentially.
- The prevalence of blindness increases from 0.08% in children to 4.4% in people 60 years or older, with an overall global prevalence of 0.7%.
- Women face a significantly greater risk of vision loss than men.
- Direct economic cost of the global burden of blindness is at least US\$25 billion. Without effective, major intervention, the number of blind people worldwide has been projected to increase to 76 million by 2020.

In 1988, the world population was approximately 5.1 billion. Over the last 20 years, it has increased by approximately 30%, reaching 6.7 billion in 2008. During the same period, the world population has also become proportionally older, as the number of people aged 65 years and over has increased by approximately 55%, from 320 million in 1988 to 500 million in 2008. Since the prevalence of visual impairment becomes higher as people age, this combination of an increasing population and an aging population is expected to cause a significant increase in the total number of blind people.

- Dr. Allen Foster,
Co-Director - International
Centre for Eye Health
Dr. Clare Gilbert, Professor
in International Eye Health,
London School of Hygiene and
Tropical Medicine;
Prof. Gordon Johnson
Honorary Professor, London
School of Hygiene and
Tropical Medicine UK^[3]

The concept of outreach was initiated to help the poor people with unknown eye defects. It was our social responsibility to create awareness of eye problems and to counsel these people. It was an effort aimed at improving health-seeking behaviour. Hence the target segment of society for our outreach is not those patients who can afford to pay. At the same time, we do not restrict or limit who can attend our outreach camps. They serve the whole community, irrespective of age, gender or socioeconomic factors.

- R. Meenakshi Sundaram,
Senior Manager,
Outreach Department,
Aravind Eye Care System



Proportion of cases of blindness due to each major cause
(m = global numbers shown in millions)^[3]

THE PURPOSES OF COMMUNITY OUTREACH

The purposes of community outreach in eye care are at least fourfold:

1. To contribute to society (reducing the burden of avoidable blindness in the world)
2. To involve and educate the community.
3. Service marketing and demand generation.
4. To enhance staff training and development (providing ample opportunities for staff to improve their skills).

Community outreach activities serve several purposes at one time, along a broad spectrum ranging from altruistic (filling a humanitarian need in the community) to expedient (advantageous to the eye care institutions).

1. Contributing to Society

The magnitude of the problem of avoidable blindness in the developing world is so staggering that all eye care institutions, regardless of size, should aim to reach the unreached through community outreach programmes. Outreach in eye care was originally conceived as a humanitarian strategy for serving the less privileged in the prevention of needless blindness.

In order to cover the vast majority of the population in developing nations, health care facilities, or at least their services, must be extended to the rural masses and to the neglected poor in urban and suburban areas. In India, for example, health care facilities are distributed so that 70% of facilities are available in urban areas and 30% in rural areas, whereas the population distribution is vice versa: approximately 30% of the people are urban and 70% are rural. Reaching the unreached and underserved can be done effectively by organising community outreach programmes in rural regions and poorer urban and suburban areas and following a base hospital approach (see Chapter 2 on designing outreach programmes).

2. Community Involvement and Health Education

Poverty, lack of education, local traditions and socioeconomic factors play key roles in keeping poor blind people from accessing the eye care services available in urban areas. Outreach is an excellent way to target communities for eye health education.

At the same time, active community involvement and health education contribute to the success of any outreach programme.

3. Marketing of Services and Demand Generation

Community outreach is a service marketing strategy that helps eye care institutions increase the volume of patients, and improve the productivity which results in cost effectiveness. Outreach helps to create awareness and recognition of the institution's facilities and available services. It promotes the institution's image as a provider of high quality eye care.

(See Chapter 6 for more information on promotion and marketing of community outreach activities and the role this plays in generating more patients for eye hospitals, eye care clinics or ophthalmology practices).

4. Staff Training

Community outreach activities benefit the eye care institution by providing training opportunities for staff. Involvement with the community helps both the doctors and the midlevel ophthalmic personnel to develop their leadership skills, gain exposure to a large volume of patients, improve their clinical skills and build confidence and compassion towards the poor. Contact with the community partners helps the staff's interpersonal relationships, rapport and a sense of belonging to the community.

EXAMPLES OF COMMUNITY OUTREACH INITIATIVES IN EYE CARE

- Screening eye camps
- Diabetic retinopathy screening camps
- School children screening camps
- Paediatric eye screening camps
- Vision centres with Telemedicine technology in unreached communities
- Community-based rehabilitation programmes

HISTORY AND EVOLUTION OF OUTREACH IN EYE CARE

From the medical missionaries of the early 1900s who are credited with devising the first surgical eye camps to, today's vision centres using internet-based telemedicine for diagnoses, the history of ophthalmic outreach is a fascinating one. Each new innovation in the evolution of community-based eye care has moved towards the goal of reaching the unreached, by increasing and improving access to or availability of eye care services.

Surgical Eye Camps

Sir Henry Holland and Victor Rambo, both doctors, are renowned for having taken their surgical skills to the patients in outlying areas, in the form of cataract surgery camps and mobile clinics.

Beginning in 1911 in Shikapur, Sir Holland and later his son, Dr. Ronald Holland, simplified their methods while maintaining essential preoperative techniques and adapting postoperative care to the resources available and to the local culture. Sir Holland's obituary read: "He will always be remembered for establishing temporary

A free screening camp for poorer patients creates a "buzz" in the community, which always seems to lead to more paying patients for the eye care institution.

- Dr. Suzanne Gilbert,
Senior Director,
Innovation & Sight Program,
Seva Foundation, USA

Field experience should be part of the ophthalmology curriculum. Students should be exposed to different settings and learn to think outside the hospital environment. They should have practical experience of the community perspective and gain insight into planning an efficient eye care programme. Conducting of small eye care camps helps develop leadership skills as well as scope for field research.

- R.D.Thulasiraj,
Executive Director, LAICO

There is overwhelming need for a community-based approach to eye health promotion. Most of the methods needed have already been developed for other health topics. The challenge is to apply them to the most important goal of all – the prevention of blindness.

- John Hubley, Health
Promotion Consultant, UK



Introduction and Overview

Service delivery in prevention of blindness is usually based on two different models. The first model focuses mainly on making eye care accessible to as many people as possible. Establishing high-volume reputable eye hospitals in urban areas can reduce the cost of eye services to a level that is affordable for most of the population and leads to a sustainable service. The second model focuses on making eye care available to people in need who live far from eye care professionals. These communities are isolated, and suffer from poor infrastructure and a low-density population.... It is in this setting that outreach can be used most effectively.

- Dan Ward, Eye Care Manager,
CBM International Regional
Office, Nairobi

Loss of sight can be the greatest tragedy next to death, yet hundreds of thousands of people in the world are suffering from blindness. Participation by the public is the urgent cry in this mission of restoring vision.

- Dr. G. Venkataswamy



eye camps in regions where blindness was rife and no surgical help was available. In these, together with a team of surgeons which usually included his two sons, he would operate on an incredible number of cases before he passed on to the next place.”

Dr. Victor Rambo, who arrived in India in 1924, also saw the pressing need for more cataract surgery. He spent many years pioneering the concept of eye camps, deciding to take “mobile eye hospitals” to the villages, rather than forcing people to make the journey to see him. Then, as now, villagers felt insecure or unable to leave their surroundings to seek medical treatment

Rambo’s team worked out a system whereby a volunteer went to a village to advertise the camp, and then on the planned day, the eye team arrived and cleaned out the school or church or factory where the surgery would take place. Patients were examined to see who had Cataracts and Glaucoma and they were tagged to show what treatment they needed. Surgery would often last until late at night. (It is said that Dr. Rambo sometimes tap-danced on a table to lighten the atmosphere and ease the patients’ fear of the knife!) A nurse would stay behind for follow-up care. In 1974, with Arin Chatterjee, Dr. Rambo published “The Curable Blind: A Guide for Establishing and Maintaining Mobile Eye Hospitals”, which explained how to provide modern, scientific eye care and adequate postoperative follow-up in rural surroundings.

Surgical camps were conducted for many decades, but because of the unfamiliar environment for the surgeons in a makeshift arrangement. It was difficult to have a controlled aseptic environment in temporary operation theatres. In some places surgical eye camps were banned.

Community as Partner in Outreach

Dr. G. Venkataswamy (Dr. V), founder of the Aravind Eye Care System, started organising eye camps in 1961 when he was a Professor at the Madurai Medical College. Dr. V had a strong awareness of the barriers to eye care experienced by people in the greatest need: poverty, fear, suspicion, lack of transport. He played a major role in conducting eye camps by involving the local community as a partner in rural areas. He strongly believed that involving community as partners in outreach creates more ownership for the eye camps in the local area, and had many other advantages. The sustainability of eye camps is due to their cost effectiveness. Part of the expense (publicity, the local arrangements) is borne by the community partners. Eye care institutions alone cannot do this work unless the community is involved.

It was a revolution for Dr.V to pioneer the concept of eye camps in rural Tamil Nadu. He developed a network among the Government, social service organizations, industry, and the community. The camps were started in 1961, when the Tamil Nadu Government sanctioned two mobile ophthalmic units, one for Madras (now Chennai) and the other for Madurai. Dr. V took great effort to step up the units with financial assistance from the Government and infrastructure development. Royal Commonwealth Society for the Blind (now called Sight Savers International or SSI), London, donated a vehicle, equipment and a generous annual grant to conduct more eye sight conservation camps. Dr.V was able to perform 21,000 cataract

surgeries in 52 camps in the first decade 1961 to 1971 with a dedicated team of doctors and technicians. He believed the results of the eye camps were better than the good work done elsewhere in this regard. He saw the need for comprehensive eye health care and eye health education in the community, as he found a high prevalence of glaucoma, optic atrophy, infection, and keratomalacia. He felt that they had touched the outermost fringes of the problem; much more remained to be done.

Based on his experiences of outreach work in the Government setup, Dr. V modeled Aravind's outreach programme to overcome the barriers and bridge the gap between the available eye care facilities and the community in need. Integral to his planning of eye camps was the involvement of community members who would play an active role by donating either funds as a sponsor or time as a volunteer in making success of these outreach initiatives. Dr.V was the key person in taking on the prevention of needless blindness project at the Government level. His efforts led to the National Programme for Control of Blindness in the year 1976, and following strong advocacy efforts, the World Bank financed the Cataract Blindness Control Project, in the year 1995.

Screening Eye Camps linked with Base Hospital

The shift to the base hospital approach, where patients are transported from screening eye camps to receive surgery and/or treatment in a permanent facility, was made possible due to the establishment of more eye care infrastructure by Government, NGOs and the private sector. This shift not only improved productivity and cost effectiveness of cataract surgery, but also facilitated an aseptic environment so that surgeons could achieve higher quality surgery outcomes. The base hospital approach was adopted to provide surgical theatres with good sterilisation facilities, avoiding infection and improving the quality of surgical outcomes.

IOL Implantation

The technology has evolved as camps have evolved, beginning with ICCE (Intra Capsular Cataract Extraction) to ECCE (Extra Capsular Cataract Extraction) with Intraocular lens implantation and now SICS (Small Incision Cataract Surgery) with IOL implantation. Recent surveys have confirmed higher success rates following cataract surgery with Intra Ocular lens (IOL) implantation as compared to conventional surgery. [4] In the 1990s, higher quality postoperative outcomes with IOLs convinced eye care institutions in developing countries to start using them in cataract surgery, in both camps and base hospitals. IOL surgery became a service marketing strategy. As a new initiative for quality eye care, with fewer complications, better visual outcomes and faster postoperative recovery, IOL surgery started attracting more and more patients. In India, for example, the volume of cataract surgery has steadily increased since 1993, and there has been a significant increase in the proportion of cataract surgeries with IOL implantation from <9% in 1994 to 93% in 2006-2007.[5]

Vision Centres (A primary eye care model)

Community outreach now calls for greater engagement in the communities served. Eye care institutions find it

Initially community ophthalmology became synonymous with outreach work, free services, school screening, etc. In more recent years, those involved in these activities also became involved in population-based epidemiologic studies as well as policy formation at state, regional and national levels. Thus community ophthalmology has now come to include all of the above.

- R.D.Thulasiraj

The concept of community ophthalmology came into sharp focus during the last three decades of the 20th century. As we move into the 21st century, we are at a crossroads and there is a need to define the need and the role of community ophthalmology. At a very broad level, there is the philosophical issue of whether we ought to move towards strengthening community ophthalmology outreach or engineer a complete paradigm shift that ensures eye care to all and thus work towards dispensing with community ophthalmology outreach.

- R.D.Thulasiraj



Anissa, too, is disappointed. They only used a torch [flashlight], she says. They only looked for cataracts. She feels rejected.

- Iona Hine (visitor to a free eye treatment camp)

One of the main institutional objectives of Aravind Eye Hospital is to take quality eye care to the doorsteps of millions of rural people. These people are deprived of good vision by easily curable causes like cataract. Aravind provides them one of the biggest gifts humanity can give – eyesight, which helps them lead socially and economically productive life.

- R. Meenakshi Sundaram



helpful to develop relationships with the population in their catchment areas. In the new millennium, vision centres with fixed facilities and full-time staff have evolved to complement screening eye camps. Aravind Eye Care System and other eye care institutions have introduced innovations using advanced information and communication technology. For example, Aravind's vision centres offer consultations with an ophthalmologist stationed at the base hospital via internet-based telemedicine, clear proof that community-based outreach in eye care has moved into the digital age.

Beyond Cataracts

Outreach is evolving from a single focus on cataract. Community outreach in eye care now deals with several eye problems besides cataracts, which used to be responsible for up to 80% of avoidable blindness in developing regions but has today dropped from 60% to 40%.

Refraction services are now recognised as a vital part of outreach because of the high rate of global visual impairment due to refractive error.

Statistics on the causes of preventable blindness show a recent increase in Diabetic Retinopathy (DR), glaucoma, and eye diseases associated with aging and lifestyle.

These conditions assume greater significance because they can lead to irreversible loss of vision. Conditions can be aggravated by lack of awareness in the community and access to medical facilities. Community outreach increasingly includes awareness campaigns and screening initiatives for diabetic retinopathy, glaucoma and other treatable eye disease.

MODELS OF COMMUNITY OUTREACH CITED IN THIS MANUAL

Community outreach considerations suggested in this manual are drawn from a variety of sources. The most often cited programme is Aravind Eye Care System (AECS) in Tamil Nadu, India, with additional examples and case studies from around the world, including Lumbini Eye Hospital in Nepal, L.V. Prasad Eye Institute in Hyderabad, India, and the International Centre for Eye Care Education's outreach initiatives in KwaZulu-Natal, South Africa.

Aravind is an organisation committed to the VISION 2020 goal of eliminating avoidable blindness through its network of hospitals, extensive outreach work, and willingness to provide services to all, regardless of their capacity to pay. About 65% of Aravind's services are for non-paying or subsidised patients, yet the hospital is self-supporting. This is possible through hard work, efficient management, a work culture based on compassion and dedication, cost-effective pricing, a large volume of paying patients and the continued support of well wishers and voluntary organisations. Aravind does not wait for the poor blind to show up at their doors. Almost every day of the year, it sends outreach teams to rural villages to seek out potential patients.

CONCLUSION

This chapter has introduced the need for community outreach in eye care.

The next chapter will explain how to design outreach programmes and how it can be organised in a systematic manner.

2. Designing Community Outreach Initiatives and Activities

Outreach has to be planned in a systematic and scientific way. Planning is the key factor in the success of any outreach programme. Although the approach towards outreach will change in different geographical settings, the principles of planning remain the same in every place on the globe.

Proper design and planning of each outreach initiative or event ensures benefit for the maximum number of patients. “Social mobilisation,” is defined by UNICEF as “a broad scale movement to engage people’s participation in achieving a specific development goal through self-reliant efforts.” In this case, the developmental goal is the “Right to Sight” for everyone. Since blindness now impacts 45 million people around the world, 90% of them are in developing countries which costs national economies worldwide the sum of over US\$25 billion annually, though the total cost borne almost entirely by the developing world, may be closer to \$50 billion or even \$75 billion.

Eye care in the developing world still suffers from:

- Financial and logistical barriers to access
- Urban-based eye care facilities
- Patient awareness on available services is low
- Doctor Vs patient ratio is low

Effective and efficient outreach is designed and planned keeping the difficulties of affordable and accessible eye care in mind. The four main parameters to consider when setting up community outreach are:

1. Targets
2. Approaches
3. Resources
4. Organisation

1. TARGETS

Outreach involves estimating the unmet need in the target population, setting targets, and then planning how to reach those targets annually. A target is a reference point to aim for, expressed in numbers. There are two types of targets to consider before deciding on a specific approach to outreach:

- **Target population:** expected number of people to be covered in a given population in a given geographical location through a community outreach programme.
- **Target outcomes:** projected numbers to be reached in a specific community outreach programme

For example, this chart of the targets set for each outreach organiser at Aravind Eye Hospitals reflects a focus on comprehensive eye care in outreach (rather than just cataracts) and the motto “Eye Care to All.” (See chapter 3, Role of Outreach Organisers).

The first step in planning community outreach is to ensure that it is target group-specific, and this entails first understanding the target group or audience, the potential “beneficiaries” of the outreach initiative. This, in turn, entails looking at:

The term “outreach” as it is used today covers a fairly wide range of strategies and approaches, some quite different from each other, but all aimed at providing services to those who otherwise would not come to the clinic.

*- Daniel Etya’ale,
Coordinator of VISION 2020
in Africa*

Community outreach is an integral part of fighting needless blindness in developing countries, where treatable eye disease is highly prevalent in rural areas. Despite this, most eye hospitals operate in urban zones, unknown or inaccessible to people in need of eye care. Poverty, lack of education, physical remoteness and traditional belief all constitute potential barriers to accessing treatment. Community outreach aims to overcome these obstacles.

- Quality Cataract Surgery Series⁽¹⁵⁾

Daring to come out of the clinic may not be enough in itself to bridge the existing gap between eye care service providers and the millions of blind and severely visually impaired people needing their services in those impoverished areas. To be optimally effective, outreach strategies must be grounded in, and guided by, a clear understanding of the inequitable nature of many eye care services, particularly, but not exclusively, in the developing world.

- Daniel Etya’ale

TARGET PER ORGANISER PER YEAR PER MILLION POPULATION

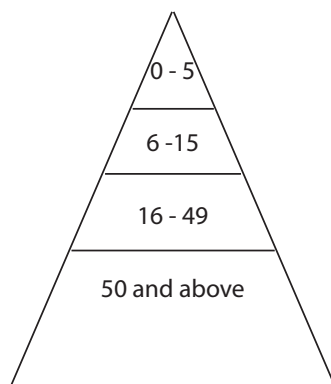
Type of Outreach (Targeted Age gp.)	Camps/ Year	Out-patients	Output per camp & % to OP	Annual Target
Eye Screening Camps (40+ Population)	40 camps	200 OP/ camp	40 Cataracts (20%) 40 Eye glasses 20%) 10 Specialties (5%)	1600 Cataracts 1600 Eye glasses
Workplace Screening Camps (30 - 50 yrs)	10 camps	200 employees / camp	70 Eye glasses (35%)	700 Glasses
School Screening Camps (6 - 17 yrs.)	10 schools	1000 children/ school	50 Eye glasses (5%)	500 Glasses
Diabetic Retinopathy Screening Camp (diabetic or 40+)	3 camps	250 OP/ camp	125 Diabetic (50%) 20 D.R. (15 % of Diab)	375 Diabetic 60 Diab.Ret.
Paediatric Screening Camps (0 - 5 yrs.)	2 camps	200 children	10 Childhood blindness (Excl.Ref. Err) (5%)	20 Childhood Blindness

When thinking about sociodemographic issues, gender is important. The closer the services are to the doorstep, the more women are included. It is therefore essential to include gender considerations in the design of outreach activities.

- Dr.Suzanne Gilbert

- Age groups (there is a correlation between major causes of visual impairment and age group; for example, older populations have a higher incidence of cataract and presbyopia); see pyramid below.
- Occupation (outdoor workers who do not protect their eyes from the sun, and heavy industry workers (steel, welding, stone cutting) have a higher incidence of cataract and other eye disease).
- Disease pattern (high incidence of certain diseases such as diabetes or rubella will lead to higher incidence of related eye problems, such as diabetic retinopathy or congenital cataract).
- Income (determines ability to access and pay for services).
- Education and literacy rate (determines the format for health education materials and publicity).
- Gender (in many parts of the world, more women than men remain needlessly blind).

Designing Outreach Pyramid



Age specific eye problems and relevant approaches

Congenital eye prolems Childhood Problems	Paediatric Eye Screening Camp
Refractive Errors, Squint, Other ailments	School Children Eye Screening Camp
Refractive Errors	Workplace Screening Camp
Diabetic Retinopathy	Diabetic Retinopathy Screening Camp
Cataract, Glaucoma, Retina etc.	Comprehensive Eye Screening Camp

Gender is an excellent example of the need to consider the target population in outreach design decision. Two-thirds of all blind people are women, primarily because they are treated less than half as often as men. [16] The barriers that prevent women and girls from receiving surgery vary locally and can include:

- Cost of surgery
- Inability to travel to a surgical facility
- Differences in the perceived value of surgery
- Lack of access to information and resources
- Fear of a poor outcome^[16]

BASIC EPIDEMIOLOGY

The basic principles of epidemiology are helpful when assessing the magnitude and causes of blindness and low vision within the target audience. This is only an overview.

Epidemiology is the study of health-related states and events in populations, and the application of this study to control health problems. It involves measures of mortality, morbidity and disability, and indicators of the latter two. Epidemiological studies have three important components:

1. Study of disease frequency, by measuring disease in numbers
 - absolute numbers (how many in the population?)
 - rates (what percentage are afflicted? sometimes more important than absolute numbers when determining a target audience)
 - ratios (in comparison to?)
 - prevalence (number of current cases?)
 - incidence (number of new cases each year in the population, so percentage of population at risk during that time period?)
2. Study of disease distribution in terms of:
 - time (for example, seasonal variations, or trends over several years?)
 - place (for example, specific to a geographical region?)
 - personal data (for example, more prevalent in older populations, or amongst females?)
3. Study of disease determinants, which are the variables that directly or indirectly influence the frequency or distribution of a disease

Epidemiology is used in ophthalmology to:

- determine ocular health in high risk or selected population groups
- screen for eye conditions
- maintain surveillance of ocular diseases at hospital and community level
- describe high risk individuals or sub-groups
- describe the clinical course and natural history of an eye disease
- provide data for decision making
- investigate ocular epidemics and their control
- evaluate effectiveness of treatment
- collect, interpret and utilise data on eye conditions and services in order to promote eye health and reduce ocular disease

Research and data collection techniques include:

- Quantitative: (measuring health behaviour in numbers)
 - primary data (information collected by the eye care institution)
 - secondary data (census, hospital records, insurance records, blindness registries)
 - descriptive numerical data (trends, gender, race, marital status, rural/urban, etc.)
 - analytical (determinants, risk factors of diseases)
 - community surveys

Seva believes that, to achieve VISION 2020 goals, eye care programs must develop explicit strategies to reach the most vulnerable populations, particularly women and girls. We encourage our program partners to disaggregate data by sex, determine gender-specific barriers to uptake of services, and study strategies to increase utilization by women. More generally, Seva looks forward to collaborating with all international eye care providers to eliminate all forms of inequities in eye care.

- Seva Foundation and Seva Canada

As eye service programmes organize to achieve VISION 2020 targets, it is clear that they need to go out into communities to make services available to the patients, rather than wait for patients to come to them. This is usually done through outreach services.

- Susan Lewallen, Edson Eliah, Dr. Suzanne Gilbert

- Qualitative (understanding health behaviour in natural situations)
 - observational methods
 - semi-structured interviews
 - focus group discussions
 - case studies
 - participatory rural appraisal (village mapping and modelling)

Thanks to Mr. V. Vijayakumar of the Lions Aravind Institute of Community Ophthalmology, India for his contribution to this section.

Target Setting

The next step in designing outreach is to plan and set targets that match the actual problems of the target audience.

Targets for the outreach initiative or activity are set based on demographics and epidemiology. First, based on recent studies and statistics, the numbers of eye problems in the target area are estimated:

- Number of people with refractive errors
- Number of people with cataracts
- Number of people with glaucoma
- Number of people with diabetic retinopathy

Next, realistic targets (goals) must be established for the number of patients expected, based on:

- Prevalence and incidence
- Current cataract surgical rate
- Surgeries performed by all service providers in the area
- Available resources
- The capacity or maximum volume, in terms of human resources and infrastructure
- Geographical or chronological overlap with other outreach activities
- Productivity per camp (out patients and cataract admission per camp)
- Trend in annual growth rate
- Past experience
- Cataract surgery rate per physician (such as 2000 per surgeon per year)
- A gender balance (such as ensuring that at least 50% of patients are women)

2. APPROACHES

Alternate, more far-reaching, as well as more successful eye care delivery systems are needed. Despite the best efforts by numerous eye care institutions, non-governmental organisations and government agencies around the world, the number of needlessly blind people in the world, especially in the developing world, continues to increase.

A look at the evolution of eye care in developing regions shows that it was community-based and provided by local people with traditional training. This meant that it was easily accessible, affordable, and occurred in a familiar place. Unfortunately, it often led to low success rates.

More recently, eye care technology and clinical skills have advanced to high standards in the diagnosis and management of eye diseases. Unfortunately, rural patients are not able to access the advantages of the development in technology in a cost-effective way. Visual outcomes are better, but this care is expensive and has many inherent barriers to access.

By making the elimination of needless blindness its prime objective, VISION 2020 has introduced a major paradigm shift in the planning and delivery of eye care. For many service providers and other stakeholders in this global initiative, this is both a challenge and an urgent call to move quickly from "reaching as many as we can" strategies to new approaches that insist on "doing it right and doing it enough to make a lasting impact." How does one achieve this in the poorest and neediest parts of the world where service delivery is quite often synonymous with dysfunctional infrastructure, and limited access to and use of existing eye care services? This is what makes current discussions on "reaching out beyond the clinic" so relevant and so urgent.

- Daniel Etya'ale

The goal, therefore, is to make available the best practices in eye care to the poor and the unreached in a cost effective way so that every patient is benefitted.

IDEAL EYE CARE OUTREACH IN A DEVELOPING NATION CONTEXT

TRADITIONAL COMMUNITY-BASED EYE CARE	MODERN INDIVIDUAL-FOCUSED EYE CARE	IDEAL (MODERN, COMMUNITY-BASED) EYE CARE OUTREACH
low doctor-patient ratio	high doctor-patient ratio in urban centres	highly productive eye care teams go to the neediest
many untrained providers	highly trained medical and paramedical staff	highly trained staff working with trained volunteers
makeshift eye care facilities led to low quality outcomes	eye care facilities inaccessible to the neediest	primary eye care centres where needed most, with base hospital for surgeries
local awareness of services	low patient awareness among the neediest	marketing, IEC*, health promotion are a part of all outreach

*Information, Education and Communication

Community outreach

- Takes eye care to the patient (uses local people to help organise and promote screening eye camps or other outreach activities and to assist highly trained professionals in identifying those who need eye care services)
- Motivates and guides patients to visit eye care treatment centres to complete the cycle of service delivery (by making screening camps or other outreach initiatives as accessible as possible and then providing free transportation to the base hospital, if necessary)

There is a popular song that refers to the need to “reach out and touch somebody.” Outreach should be planned so that you can count on touching that “somebody.” Clients in need of the specialised expertise brought by the outreach team should have already been identified, mobilised and be willing to receive the services offered. A strategy of outreach is justified provided we efficiently combine those projects seeking to provide accessible services with those projects making services available.

- Dan Ward, Eye Care Manager, CBM International Regional Office, Nairobi, Kenya

Approach to Outreach in East Africa

Eye units in Africa currently use a variety of outreach service approaches. A popular strategy is one in which a team goes out to examine large groups in the community, provides basic ocular medical services, makes definitive selection of patients who will benefit from surgery, then transports those selected back to the base hospital for surgery. This is sometimes referred to as the “Aravind model” and it has several advantages:

- It does not take the surgeon and team from their base station for too long (as compared to sending a team to do surgery outside the hospital).
- The quality of surgery provided at the base hospital is likely to be superior to that provided at a makeshift outreach operating theatre.
- A team with skills enough to diagnose early operable cataract accurately should encourage patients to have surgery before they become blind.
- A team with skills enough to diagnose and treat a number of causes of visual impairment as well as basic eye diseases brings the service into the community. This avoids needless trips to the hospital by patients who are merely “screened” by low-level health workers.

- Susan Lewallen, Edson Eliah, Dr. Suzanne Gilbert

Effective Approaches to Community Outreach

The following approaches are covered in detail in Chapter 4 and Chapter 5:

- Comprehensive screening eye camps
- Diabetic retinopathy awareness and screening campaigns.
- Paediatric screening eye camps
- School children screening eye camps
- Vision centres
- Village volunteers programme
- Community-based rehabilitation
- Internet Kiosk-based eye health schemes

Comprehensive Screening Eye Camps

Camps are conducted at rural areas with medical teams who will screen for basic eye problems. Basic investigations are done such as visual acuity testing. Measurement of intraocular pressure, syringing of duct can be done at the camp site. Patients who are identified with cataract are brought to the base hospital for surgery through locally arranged transport.

Diabetic Retinopathy Awareness and Screening Campaign

Medical teams who are trained to identify and diagnose diabetic retinopathy changes in diabetic patients conduct these camps, usually in partnership with local diabetologists or physicians. Patients who are identified as having early diabetic retinopathy are advised to undergo regular follow-up. Patients who have advanced diabetic retinopathy and who require laser or surgical treatment such as vitrectomy are referred to the base hospital. The most crucial element in these camps is having a database of the identified patients and having a periodic follow-up in the community. Diabetes is a lifelong disease and they will be lifelong patients who have to be followed.

School children Screening Eye Camp

Teachers from participating schools are trained to identify children with visual impairments through this structured programme. In addition to learning the basic structures of the eye and their functions, teachers are trained to measure visual acuity, to identify signs of squint (strabismus), vitamin A deficiency and other ocular disorders. Once all the children are screened and those with visual impairments identified, then the day of the camp is set and the school invites the parents to bring in those identified children. At the camp, these children are further examined by ophthalmic assistants and ophthalmologists to confirm the diagnosis and direct them to treatment. Children who have refractive errors are prescribed glasses and they are followed up in subsequent years. The idea behind involving the school teachers is that it saves ophthalmologists time; the other advantage is that the teachers take the ownership for their own students every year

Paediatric Screening Eye Camp

These camps are focused on prevention and treatment of eye problems in children aged 0 to 5 years. World over, the age group targeted generally is above five years and several congenital eye disorders are missed out. Hence at the paediatric screening camps, this age group is specifically targeted so as to not miss any congenital eye disorders, strabismus etc. To restore vision, it is important to identify them and treat them early. The team can also trace vitamin A deficiency

The development of community-based eye health promotion can benefit from the successes and failures over the last twenty years of many programmes on other health topics. These have explored a wide range of relevant strategies including developing village health workers and working with traditional healers.

- John Hubley, PhD, Health Promotion Consultant

and xerophthalmia, which is still a significant cause of childhood blindness in many parts of the world.

Vision Centre

This is a primary eye care centre, located close to a secondary or tertiary eye hospital, where an unreached population lives (usually a highly populated or centrally located rural area). It provides comprehensive eye care with refraction services and eye glass dispensing, as well as eye health counselling and referral. This permanent facility can be run by a well-trained ophthalmic technician.



Village Volunteer Programme

Motivated villagers or grassroots-level field workers who are involved with their community are trained to promote awareness of eye health in their communities, and to participate in or carry out preliminary eye health screenings. Volunteer programmes are an effective way of ensuring a continuous source of eye health maintenance and education in between eye camps. Village volunteers can be trained in the base hospital. This case-finding process is highly recommended for remote areas and hilly or tribal regions.

Community-Based Rehabilitation

Rural hospitals or eye care centres provide preventive, curative and rehabilitative services to surrounding communities, reaching patients through eye camps and house-to-house identification. This programme rehabilitates the incurably blind by teaching them skills in orientation, mobility and activities of daily living.

Internet Kiosk-Based Eye Health Scheme

Internet Kiosk workers in remote locations are trained similarly to village volunteers to make preliminary diagnoses of eye impairments. In addition, they learn to photograph patients' eyes using simple webcam equipment (a camera attached to the computer monitor). The photographs can then be sent via internet to clinicians at the base hospital. This technique enables doctors to assess the urgency of treatment, as well as the prevalence of certain eye ailments in a specific village. Kiosk workers ensure a liaison between patients who must be seen by eye doctors immediately and the base hospital, to facilitate the patients' transportation and arrival.

This technology also works in vision centres, where the doctor based at the eye hospital is able (to with the help of the ophthalmic technicians, staffing the vision centre) see and converse with the patient and observe their eyes, ensuring a personal connection between the doctor and patient. Eye care institutions without the finances to invest in a permanent vision centre can nevertheless use existing internet Kiosks to set up this scheme.

(See Chapter 4 and 5 for more specific details on each of these approaches to outreach).



A community participation strategy should take into account the many factors that can influence community actions. These include community beliefs, perceptions and values concerning the cause, prevention and treatment of the different forms of blindness. Of basic importance are the felt needs and understandings and values that the community places on health in general and eye health in particular.

- John Hubley

Effective action involves moving from a patient-centred approach to one that involves the family and community in making decisions and taking action. Communication and health education are at the heart of this community-based approach.

- John Hubley

The secret behind the success of Aravind's community outreach activities is the good organisational set-up and a team of dedicated and experienced staff with good support from a number of voluntary and social service organisations in the community.

Social service organisations are a kind of community partners who are the key stakeholders to run outreach programme sustainably.

- R. Meenakshi Sundaram

3. RESOURCES

Effective and efficient utilisation of available resources is a vital part of developing successful outreach initiatives. The main resources to consider when designing and planning an outreach initiative are the base hospital and the target community. Other necessary and helpful resources are discussed throughout this manual

Internal Resources of the Base Hospital

Outreach is not possible without the resources provided by the eye care institution. These include:

- The right mix of trained ophthalmic professionals (clinical teams made up of ophthalmologists, ophthalmic assistants, refractionists, patient counsellors) to match the target outcomes.
- Adequate mobile equipment and permanent infrastructure and technology to manage the different kinds of outreach and the volume of work expected
- An effective and efficient way to order and ensure timely arrival of adequate supplies and consumables, especially those that lead to high quality visual outcomes, such as intraocular lenses (IOLs)

Target Community as Resource

Two outreach principles are important:

- Seek maximum community awareness (see Chapter 6 - Marketing)
- Create joint community-hospital participation, or teamwork.

These principles, when implemented together, create motivation for the whole community to participate in screening eye camps or other outreach programmes

Mobilisation and motivation of the community entails:

- Respect for building community values and culture
- Community empowerment
- Community participation
- Identifying community partners
- Clearly defined roles of community partners (sponsors, volunteers) in outreach activities
- Building rapport and strengthening relationships with community partners on a continual basis
- Ensuring that the quality of care is of high quality, as this will make the community more open to eye care and make the task of the eye care providers easier.

The Benefits of Working Together with the Community

- A sense of ownership of the programmes will lead to greater success
- Acceptance and positive response will be reflected in target outcomes being reached
- Volunteers, facilities and other support for eye camps and similar initiatives are assured
- Public relations will help in building the eye care institution's (and participating NGOs') reputation and goodwill
- Good recognition for all stakeholders
- Base hospital may attract more walk-in patients as a result
- Helps the base hospital ensure better follow-up care for operated patients

- Cost management is improved through the sharing of financial responsibilities
- Helps the base hospital manage any kind of crisis or emergency
- Helps in the sustainability of the programme

4. ORGANISATION

Planning of outreach is best done in an organised manner. Planning of an outreach camp has to be conducted by considering the following factors: the target group, the approach to the camp, the timing of the camp, the correct place for the camp and the methodology to be adopted.

The target group for outreach

First, determine the specific group or audience being targeted:

- Patients with cataract, glaucoma, or diabetic retinopathy
- Patients with refractive error
- Elderly, children or general population
- An industrial sector
- Rural unreached or urban/suburban unreached
- Specific neighbourhoods or geographic areas

Next, to create a win-win situation, the eye care institution must ensure that the design of an outreach programme or intervention provides benefits to all stakeholders, including current and potential advocates. Therefore, it is essential to create a list of all stakeholders and then ascertain that their needs will be met:

The best approach to be adopted

The next step is to determine what approach will meet the needs of stakeholders:

- A short-term event or a longer-term initiative?
- A temporary set-up or a permanent facility?
- Provision of primary eye care or secondary eye care?
- Screening programme? (Surgical camp only in parts of the world where absolutely necessary)
- How much of an educational component should be included?
- What will be its impact from other outreach activities, both geographically and chronologically?

The timing of the camp

First, outreach can be used to increase the uptake of services at the eye care institution, eye clinic or ophthalmology practice. But to do this successfully necessitates the introduction of demand management strategies into outreach planning. That means structuring service management and scheduling outreach activities to meet the variations of daily, weekly and seasonal peaks in demand, to reduce patient waiting time and to keep staff work schedules flowing smoothly.

- Schedule surgery for camp patients early the next morning if outpatients prefer to come later in the day.
- Schedule screening camps for Sundays if Mondays are less crowded days at the base hospital theatre.
- Seasonal fluctuations can affect patient load. For example, in northern India, many people believe that having cataract surgery in the summer will lead to a greater chance of infection or complication (although studies show there is

Urban eye care institutions have to identify influential people and organisations in rural areas and poorer districts and convince them of the need to welcome eye care outreach. They must also explain the benefits that the community will reap. It is the responsibility of the institutions to ensure effective coordination and harmonious working relationships with these leaders in order to provide eye care services to their communities.

- Quality Cataract Surgery Series⁽¹⁵⁾

We do not expect the community – even the patients with eye problems to participate in outreach activities during festival seasons. Sometimes, an unexpected event like a general election comes up. We cannot conduct screening eye camps in the community at times like that because the local police department will not permit our publicity campaigns. Hence, we engage ourselves in training, midterm evaluation of our performance, discussion around scope for improvement, and brainstorming sessions, etc.

- R. Meenakshi Sundaram



no correlation). Building effective patient education into outreach programmes can help alleviate fluctuations such as this.

Second, outreach programmes can be conducted throughout the year, but the timing must respect national holidays and local or regional customs to ensure the attendance of an adequate number of patients. For example, holding outreach camps during festival times will have a poor outcome because potential patients would rather participate in the festivities. During holidays and festivals, the eye care institution, eye clinic or ophthalmology practice can take advantage of the low patient intake by organising staff vacations or training

programmes for staff, maintenance work and administrative catch up (Refer appendix 2).

The selection of a suitable place for the camp

A macro and micro location of the outreach programme must both be considered. On the macro level, where the outreach activity will take place depends on the target audience, the size and attributes of the catchment area (population, area, access to public transportation) and proximity to the base hospital.

While more details are provided in Chapters 4 and 5, there are several factors to keep in mind when choosing where to hold or place an outreach activity or initiative on the micro level:

- Is the location free or cheap (Educational institution on weekends, community centre, church premises, factory owned by the sponsor)?
- Is it clean and hygienic?
- Is there access to the proper equipment and furniture (Benches, chairs, tables)?
- Is reliable electricity available?
- Is it centrally located or located near public transportation?
- Is internet connectivity available (for vision centres)?

The methodology in conducting outreach

In short, this is how outreach programmes are planned:

- Assign dedicated outreach staff to coordinate programmes.
- Estimate the unmet need in the catchment area.



- Set achievable targets.
- Do annual planning for meeting target outcomes, with monthly distribution for the year (keeping holidays and festivals in mind). (Appendix 2 A and 2 B)
- Develop detailed action plans and determine how to meet those targets. (App. 2C)
- Engage the community leaders, taking advantage of their knowledge of the host community.
- Use community resources as much as possible to keep costs down.
- Develop micro level planning on weekly basis.
- Plan and execute effective publicity campaigns
- Monitor and evaluate regularly (see Chapter 8 for details).

Aravind Eye Hospital has designed its outreach programmes to ensure that the service delivery cycle is complete. Aravind believes that the design of the programme should have a link with its objectives. The flow of activities has been standardized to make ensure the completeness in its service delivery system. The process is not just to identify the eye problem. It should help the patients to prevent further loss of vision due to any reason like cost or accessibility.

Usually a Lions Club, Rotary Club, Industry, Religious Institution or a Village leader is supporting Aravind’s camp ‘as a camp sponsor’ to take care of community based activities especially patients mobilization. The field work prior to the camp can take three to five days.

Most outreach programmes can easily result in increased numbers of patients seen or offered surgery. The real challenge, however, is ensuring the administrative, organisational and financial sustainability [of these programmes] for the long term, something that only few countries, institutions or organisations have done successfully so far.

- Daniel Etya’ale

- Screening eye camp
- Early stage or immature cataract patients are given counselling to access the nearest service point after a few months.
 - Mature cataract patients are transported to the base hospital on the screening day itself to reduce the dropout rate.
 - Eyeglasses are delivered on site at an affordable price.
 - Patients with speciality eye problems like glaucoma or retinal problems are given counselling and an appointment to visit speciality clinic in the base hospital and monitored in the following week.
- Screening eye camp in industries
- Even though refractive error is a major problem in industry or any approach, a comprehensive eye screening is conducted in workplaces in order to diagnose other major problems like glaucoma so that early detection can prevent loss of vision.
 - The employer /sponsor of the camp gives an assurance that either the employees will pay the cost and receive eyeglasses or the employer may arrange for the payment later so that the staff with refractive error can use the eye glasses immediately.
- Diabetic Retinopathy Screening Camp
- Coordination between local physicians, diabetes specialists, and the bio-chemistry lab services helps to mobilize a great number of known and undiagnosed diabetic patients for eye screening.



- Indirect ophthalmoscope is the main equipment used to detect diabetic retinopathy problems.
- Diabetes patients with no symptoms of diabetic retinopathy (DR) are given counselling on the importance of an annual eye check-up to detect the occurrence of DR.
- Diabetes patients with early stages of proliferative or non-proliferative diabetic retinopathy are given customized counselling and education for further visits.
- Diabetes patients with mature stages of DR are given counselling and strongly recommended to have laser treatment.
- Patients with DR who are advised to have laser treatment are monitored by the patient counsellor to ensure they keep the appointment.

Screening for schools

- The teachers in the respective schools are given a short-term (one day) training session either in the base hospital or in the school premises which helps to create a sense of ownership of the programme.
- Parents of the children identified with eye defects are given instructions to be present on the day of screening so that they can buy the eyeglasses or take their children to the base hospital in case further intervention is required in the paediatric department.

- The trained teachers follow up the rate of compliance following paediatric screening
- Aravind tries to develop linkages with community-based health centres, child welfare based NGOs, paediatricians, and maternity clinics
- Involvement of local health professionals helps to achieve higher rates of compliance.

CONCLUSION

This chapter has set out the parameters to be considered in the design and planning of outreach programmes (long-term campaigns, a series of initiatives, or one-time events).



Appendix 2A: Annual Target Setting Statement

The statement helps to set a new goal based on the current scenario and key performance parameters. This would be the first step for developing annual outreach action plan.

Appendix 2B: Outreach Monthly Calendar

This is a template which helps to distribute the annual target into months. This is a kind of macro level planning of outreach proposals.

Appendix 2C: Detailed Action Plan

The targeted outreach outcomes have to be converted in to detailed action plans so that the outreach staff plan ahead and maintain a good track on the activities.

Appendix 2A

Outreach Target Worksheet

Hospital Name: Location: Period:

Parameters to set cataract target	Current scenario	Plan (for the next year)	Notes
Cataract Surgery Rate (CSR)			Desired CSR through outreach may be 1000 - 1500
Productivity (Admissions per camp)			Cataract admissions per camp may be 50 - 75
Annual growth rate in the last year			The annual growth rate may be 10 - 15 %

Type of the Programme	No. of Camps	Projected Output for the Year					Guidelines to set Target (Based on Aravind's Experience)
		OP	Cataract	Glasses	Diabetic	Diab.Ret.	
Comprehensive Eye Screening Camp	Current Scenario						250-300 OP per camp
	Plan (Period)						50 Cataract (roughly 20% of OP)
	Avg. Output/camp						15 - 20% of OP need Eye glasses 5-10% of OP diagnosed with Sply
Diabetic Retinopathy Screening Camp	Current Scenario						250 OP per camp
	Plan (Period)						40 - 50% of OP as Diabetic.
	Avg. Output/camp						15 to 20% of Diab. with D.R. (15% of D.R. referred for Laser)
Workplace Eye Screening Camp	Current Scenario						200 employees per camp
	Plan (Period)						35 to 40% of employees to receive eye glasses
	Avg. Output/camp						
School Children Screening Camp	Current Scenario						1000 strength/ School
	Plan (Period)						About 5% of the strength to receive eye glasses
	Avg. Output/school						
Total programmes and beneficiaries							

Appendix 2B

Outreach Monthly Calendar (Distribution of Programmes and Output)												
Month	Comprehensive eye screening camp			Workplace eye screening		School Children screening camp		Diabetic Ret. screening camp		Paediatric screening camp		List the events which can influence the efficiency of outreach such as Festivals, Seasons, Conferences, Auspicious days
	Camps	Cat.	Gl.Del.	Camps	Gl.Delivery	Camps	Gl.Delivery	Camps	Diab.	Camps	Defects	
Jan												
Feb												
Mar												
Apr												
May												
Jun												
Jul												
Aug												
Sep												
Oct												
Nov												
Dec												
Total	0	0	0	0	0	0	0	0	0	0	0	

Note: This calendar is prepared by the head of outreach for each organizer/Outreach field worker in the beginning of the year considering the experience, demand pattern, available resources and other seasonal fluctuations

Appendix 2C

Department of Outreach - Detailed Action Plan for the year

Date	Organizer	District	Camp type	Place	Sponsor/School/Work Place	Predicted Output									
						OP	Cataract Surgery	Eye Glasses	Diabetics	DR	Paed. Defects				
Jan															
					Sub total	0	0	0	0	0	0	0	0	0	0
Feb															
					Sub total	0	0	0	0	0	0	0	0	0	0
Mar															
					Sub total	0	0	0	0	0	0	0	0	0	0
Apr															
					Sub total	0	0	0	0	0	0	0	0	0	0
.....															
Dec															
					Sub total	0	0	0	0	0	0	0	0	0	0
					Total for the year	0	0	0	0	0	0	0	0	0	0

Note: Outreach manager or the administrator helps the camp organizer to list out reasonably populated and accessible locations in the given service area and proposed community partners who can support the outreach programme, to prepare this detailed action plan preferably for the ensuing year. This plan will help the outreach team to analyse the performance proportionate to the period.

3. Human Resource for Community Outreach in Eye Care

One of the biggest barriers to community outreach and indeed eye care in general, in developing nations is the lack of human resource or personnel. This is why VISION 2020 - The Right to Sight includes “human resource development (training and motivation)” among its three core strategies for eliminating the main causes of avoidable blindness by the year 2020.

There are four main barriers to adequate and effective human resource (or HR) in eye care outreach:

- Inadequate human resource
- Uneven distribution of human resource
- Inadequate training of human resource
- Ineffective utilization

1. Increasing the Number of Eye Care Workers in Developing Nations

Finding an exclusive team of outreach staffs especially camp organiser as a full time staff for an eye hospital is a crucial part in conducting outreach programmes successfully. The camp organiser is bridging the gap between the resources available in the base hospital and eye care needs in the community.

Funding, especially for training and salaries, to ensure adequate ophthalmic and support staff for eye care programmes seems to be an issue at national, local and institutional levels.

This lack of financial support for recruiting staff leads to human resource being underutilised (for example, ophthalmologists performing paramedical tasks that do not require their level of training) and others being overburdened. (for example, paramedical staff doing administrative work on top of their regular eye care duties). Furthermore, eye care institutions that are short-staffed will be less likely to undertake community outreach activities.

Many programmes meet this challenge by drawing on the services of external human resource for many aspects of their outreach:

- outreach sponsors
- community partners (employers, teachers, service clubs, other NGOs)
- field workers, specially trained village volunteers, and pseudophakic motivators (those who have already undergone cataract surgery and received an intraocular lens implant)
- traditional healers
- local health care workers

Given the new paradigm (scenario) in eye care - a global shift from ophthalmology focused on individuals to community-based eye care services – it is important and advisable to involve more local community members in outreach initiatives and activities.

Programmes in some parts of the world have learned how to collaborate with local traditional healers, benefitting from their community connections for the benefit of reaching the unreached. Traditional healers understand local beliefs as well as the cultural, social and religious organisation of their community, and represent an underutilised human resource. In Africa, for example, “doctors, nurses

The major goal of VISION 2020 - The Right to Sight is to make high quality eye care services available, accessible and affordable to all, through a sustainable delivery system. One of the key prerequisites is the development of adequate, appropriate human resource. An analysis of current practices reveals problems related to number, distribution, quality of training, and utilisation of various categories of eye care personnel. Fundamentally, most eye care delivery services in developing countries lack appropriate human resource planning and, therefore, implementation of services is seriously affected.

- Gullapalli N. Rao, MD,
L.V.Prasad Eye Institute

To estimate the human resource required there are various calculations to make based on the need in the community, magnitude of blindness, and proportion of staff required for a population of one million.

- VISION 2020 e-resource team

In my experience, the most effective way to reach these communities has been to train and integrate primary eye care workers into the existing primary health care systems. Ideally, a resident of these communities is identified and trained for this work.... These primary eye care workers are best placed to penetrate the 100-metre barrier that exists around a blind person's home.

- Dan Ward

Eye care services do not operate in a vacuum. Rather, they should be viewed in the broader context of the society for which they are intended. Hence, development of skilled manpower oriented to the needs of the community is vital in our crusade against needless blindness. In contrast to an individualised healthcare system, a community approach to eye care aims at improving the eye health of the entire community.

- Dr.G.Venkataswamy,
Founder, AECS

Unlike ophthalmologists, or even medical assistants, healers live and work even in the most rural villages; they are already in place. Furthermore, healers are already salaried and have been practicing free-for-services medicine for centuries. Community-based healers are usually the moral core of the community and actions or behaviours promoted by healers are more likely to be received favourably than if they are promoted by a health worker from a nearby health post. Involving them in prevention of blindness does not require hiring additional health staff. We... must be willing to adapt and, most importantly, to empower others to provide eye care.

- Paul Courtright, Dr PH and
Susan Lewallen, MD^[7]

In ophthalmology, even brief encounters with patients can have a dramatic effect on their health and quality of life, whether this is through sight-restoring surgery or corrective spectacles. [Yet] many isolated communities have no hope of an ophthalmic service, but for the intervention of an outsider.

- Andy Pyott, MD,
Medical Advisor, CBM
International^[8]

and traditional healers have to share the burden of health care services. It may not be possible to exclude the role of traditional healers in culturally bound rural communities. Traditional healers are not only important but crucial in primary eye care in some developing countries.”^[6]

To maximise the benefits of community programmes it is better to take advantage of visiting eye care professionals who will develop a sustainable eye care programme by training local ophthalmic workers.^[8]

Aravind Eye Care System in India is making efforts to optimise utilisation of human resource by redeploying eye surgeons to eye care facilities. The mechanism they are evolving will utilise the large number of underutilised ophthalmologists in the private health sector, by contracting out service delivery to them.

When it comes to being able to hire adequate staff, one vital strategy is to make eye care services, including outreach, financially sustainable (see Chapter 7). Another important strategy for outreach programmes is to carefully track successes statistically (see Chapter 8 on monitoring and evaluating community outreach). Government policymakers, international eye care NGOs, local charitable organisations, and other advocates will appreciate seeing the correlation between outreach efforts, a rising cataract surgical rate (the number of surgeries done in one year per million population), and a decrease in the backlog of those who are needlessly blind.

2. Ensuring Equitable Distribution of Eye Care Workers

Around the world, most eye care services are available in urban centres, while those who most need the services live mainly in rural areas. The best way to distribute ophthalmic care equally is by mobilising more eye care personnel to rural areas, which is most easily done through well organised outreach programmes.

In our experience we have found that it would be better to find people from the same community, recruit them, train them and post them in the vision centres. This will give a sense of ownership to them and at the same time encourage them to stay in the centre longer.

Another way to distribute human resources more equitably is to work to ensure the right balance of private sector (often for-profit) with public sector eye care (not for profit).

A further staffing issue affecting outreach is that personnel are often not efficiently or effectively distributed between

- Primary eye care (community-based and screening-oriented, with a focus on prevention and awareness)
- Secondary eye care (hospitals with basic diagnostic and treatment facilities for common eye problems such as cataract and refractive errors)
- Tertiary eye care (hospitals with advanced eye care speciality clinics, such as paediatric ophthalmology, cornea, vitreo-retinal services, with diagnostic, therapeutic and research facilities)

In some settings, people are underutilised, in others they are overextended. The best way to efficiently utilise manpower is to train them in several roles to do multitasking, so that they may cover several areas and responsibilities:

- medical
- paramedical
- coordination / administrative / support

Medical Personnel

- Ophthalmologists generally examine, diagnose and treat eye diseases
- Ophthalmological subspecialists receive additional training in one area of eye disease and its management. An eye specialist can specialise in glaucoma, retina, cornea, paediatric eye disorders, or several others.

Paramedical / Allied Eye Care Personnel

- Optometrists / refractionists perform initial evaluations, visual acuity tests, refraction, and write prescriptions for eyeglasses
- Ophthalmic nurses / assistants assist the doctors and are involved in all types of clinical supportive services in the outpatient department, wards, operating theatre and refraction clinic
- Laboratory technicians do all microbiological and biochemistry tests (blood group investigation, urine sugar test, serology tests, etc.)
- Patient counsellors / social workers help with patient education regarding eye health and eye diseases, and guide patients in decision making
- Orthoptists evaluate and treat visual disorders caused by imbalance of the eye muscles.

Coordination, Administrative and Support Personnel

For the clinical (medical and paramedical) team to be productive, someone has to ensure that outreach initiatives are well planned, patient load is adequately maintained sufficient supplies are available and equipment is in good working condition. Finances must be available and accounted, adequate manpower must be hired and managed, clean surroundings must be ensured, and there must be adequate controls, through monitoring and evaluation, to ensure high quality in every area.

3. Ensuring Adequate, High-Quality Training for Staff and Volunteers

Mid-level Eye care personnel are either poorly trained (due to lack of training institutions and/or funding) or not well trained in all aspects of their work, making them less productive in outreach work. There is lack of opportunities and teaching resources, little access to professional development and continuing medical education for updating their knowledge and upgrading their skills.

The training needs of the outreach and other staff might include;

- Clinical / medical concepts (the principles and practise in the management of eye care)
- Practical skills (especially up-to-date surgical techniques)
- Basic knowledge on prevalence of various common eye problems in their geographical settings
- Interpersonal and communication skills
- Leadership and decision-making skills
- Attitudes and values

to have basic understanding of what community ophthalmology is and how it is conducted (see Appendix 3A for specific learning outcomes in these categories).

Fortunately, participating in outreach activities can be used as an on-going training opportunity for staff. Community outreach initiatives bring the hospital's best-trained staff to rural areas to provide people with a full array of eye care services. As an outcome, these initiatives also provide training for doctors and paramedicals.

VISION 2020 - The Right to Sight is a plan to intensify global efforts to eliminate needless blindness. Human resource development is vital to the successful execution of this plan. The resources are available but the mechanisms to exploit them should be put in place.

- Gullapalli N.Rao

We need to think not of eye care workers, but of "personnel needed for eye care." The former label is too restrictive; the latter term moves the focus to those who need care rather than those who provide it. This stems from a larger shift in focus from inputs to outcomes. The training and deployment of health workers then becomes oriented to community need.

- Daniel Etya'ale, Coordinator of VISION 2020 in Africa

Use paramedical staff in the correct ophthalmologist-to-paramedical ratio (usually one ophthalmologist to five paramedicals) in order to free the ophthalmologist's time to perform surgery or treat other eyecare problems.

- David Green, Seva Consultant

Confirm the real training and the real surgical skills of everybody [on your staff]. Don't be afraid if their results are lower than what you thought. Develop training programs for all categories of professionals. Don't try to increase your number of patients or surgeries fast, until your basic team is perfectly trained. Training courses abroad can be very useful, especially if people visit other sustainable eye care models [in a developing country]. [But] if you send people abroad to Europe or USA, send them for a short time and

always to learn something specific. Otherwise you could lose them.

- Julio Yangüela Rodilla,
MD, Presidente, Fundación
Vision Mundi

Outreach programmes increase the volume of patients that doctors treat on a daily basis. In addition to learning to work with volume, doctors also come into contact with a wider variety of eye diseases than they would in a typical hospital setting. This pushes them to exercise their diagnostic and problem solving skills.

- Dr. G. Natchiar,
Director - Emeritus

Addressing the huge burden of blindness in India will require ophthalmology residents – the country's future ophthalmologists – to be equipped with the skills necessary to translate the clinical acumen gained through residency programs into effective services for a population rather than individuals.

- Inclusion of Community Eye Health in Ophthalmology Residency Programs in India: Recommendations for the Curriculum

Community outreach is a team effort. The ophthalmologist is often leader of that team. The extent to which the ophthalmologist is informed and enthusiastic can make all the difference for an eye hospital making outreach a priority. We want to create a new consciousness whereby a quality eye hospital not only serves those lucky enough to walk in the door. The quality eye hospital is vigilant about creating community awareness and easy access.

- Suzanne Gilbert, Director of the Center for Innovation in Eye Care, Seva Foundation

All participating staff benefit from being exposed to community ophthalmology in terms of eye care needs in the community, people attitude, socio-economic barriers, health education, and the principles of social marketing.

After two days of deliberations at the Workshop on Inclusion of Community Eye Health in Ophthalmology Residency Programs in India: Recommendations for the Curriculum, at the ICARE campus at Kismatpur, it was decided that the Community Eye Health curriculum should include material that will help residents plan for implement and manage comprehensive eye care services for one million people ... and enable each resident to:

- Develop an understanding of community outreach and an ability to articulate, issues relating to global, regional and national blindness and initiatives against blindness, including the VISION 2020 - The Right to Sight initiative;
- Apply the principles of epidemiology to a defined population to determine the magnitude of disease, and develop strategies for optimal use of available resources for better control of diseases in their service area;
- Identify the human resource needs at all levels of eye care delivery, and know how to select, train, evaluate and maintain eye care teams at each level;
- Deliver training courses to different cadres for the efficient and effective implementation of a comprehensive eye care program;
- Determine the infrastructure and technology requirements at each level of eye care delivery and effectively manage resources;
- Know the principles of health education (i.e., health promotion, reorienting services, and advocacy), and acquire skills in communication, public relations and advocacy;
- Understand the principles of health economics in relation to implementing eye care programs as well as in practice management and
- Plan a comprehensive three/five year plan for the control of major blinding eye diseases in their service delivery unit of approximately one million and know how to manage, monitor and evaluate these plans using appropriate indicators.

Another issue affecting outreach human resource is that during their initial education, many eye care workers - including ophthalmologists - receive little or no training specific to outreach strategies and initiatives. Yet it is believed that community ophthalmology should not be considered a subspecialty of ophthalmology but an integral part of it. For that reason, India has devised a basic curriculum on community ophthalmology which every ophthalmic resident should receive during their post-graduation.

Paramedical staff and other eye care professionals who want to upgrade their skills and knowledge, and extend their reach, would benefit from training in community eye health and eye care outreach. This could be provided during their initial training or at mid-career. Volunteers who want to help with outreach activities would also benefit from this training to their level.

Eye care institutions in developing nations can certainly take advantage of ophthalmic training opportunities (in person, on paper, or online) available through national and international organisations, such as:

- Lions Aravind Institute of Community Ophthalmology in Madurai, India (for information on LAICO's course on community outreach: www.laico.org)
- International Resource Centre at the International Centre for Eye Health in London: <https://www.iceh.org.uk/display/LIB/Resources>
- International Centre for Eye care Education: www.iccee.org
- International Council of Ophthalmology: www.icoph.org/ed/icoallied.html

- Kilimanjaro Centre for Community Ophthalmology (KCCO) in Tanzania, Africa: www.kcco.net
- Other country or region-specific resource centres, such as those being developed in India (L.V. Prasad Eye Institute), Pakistan (Pakistan Institute of Community Ophthalmology) and Colombia (Fundación Oftalmologica de Santander).



And finally, something we don't often think about when considering the training needs of our personnel is the availability of information. "Those producing eye health information from an international base face the challenge of finding out what eye health workers in specific locations need to know, the communication medium that best suits them, and to what extent materials can be developed or adapted locally."^[9]

When creating or acquiring training and information resources on outreach for eye care staff, it is important to remember to ask them what they want or need to learn.

4. Ensuring Efficient and Effective Utilisation of Staff

Effective and efficient utilisation of manpower is important in eye care and community outreach. Underutilisation or overburdening of human resource should be avoided. Optimal utilisation is crucial for optimal outcome and this has to be well planned. Outreach teams must comprise of the "appropriate matrix" of different personnel to ensure cost-effectiveness and high quality. For a screening eye camp the team might include :

- An Ophthalmologist / Senior Optometrist can handle 150 outpatients for diagnosis and influencing management
- An Ophthalmic technician can handle 50 patients for IOP, Lacrimal duct, BP and Blood sugar in the same denominator (150 outpatients)
- An Optometrist / Refractionist can handle 60 refractions
- An Optician can handle 40 glass orders
- A Counsellor / Social worker can handle 50 cataract admissions
- A Camp organiser (full time staff of the hospital) for overall management and
- Local volunteers

The Right Matrix for a Screening Eye Camp - A Case in Point

Research into the cost-effectiveness of outreach services in eastern Africa uncovered an interesting human resource and financial consideration. Including someone on the outreach team who can perform funduscopy (an examination of the fundus, the back part of the eye's interior, including the retina, which is useful for detecting Diabetic Retinopathy and other eye conditions such as Glaucoma) ensures that virtually 100% of patients brought back for cataract surgery receive it, which keeps the cost per cataract surgery patient down. Without performing funduscopic examination at the screening eye camp, some patients with irreversible blinding conditions (hiding behind cataracts) will be transported to the hospital – and disappointed!^[10]

Nobody is perfect, but a team can be. A team is capable of sustained and enduring success as it builds up a store of shared experience, information and judgement.

- Dr. Meredith Belbin

The use of personnel with specific but limited training as members of multidisciplinary teams has become increasingly important as health systems seek to extract better value from their investments in personnel.... It has been shown in developing countries that the use of personnel with limited but appropriately specialized training resulting in high-value outcomes is very cost-effective.

- Keith Masnick, School of Public Health & Community Medicine, University of New South Wales, Australia

VISION 2020 - The Right to Sight has provided a vision and a common goal for eye care programmes. It has provided the paradigm shift or change in the way of thinking, from individual patient care to population care, a shift from each person doing a job or task, to a group working to eliminate avoidable blindness. Such a common goal needs a team approach.

- Hannah Faal
Former President, IAPB

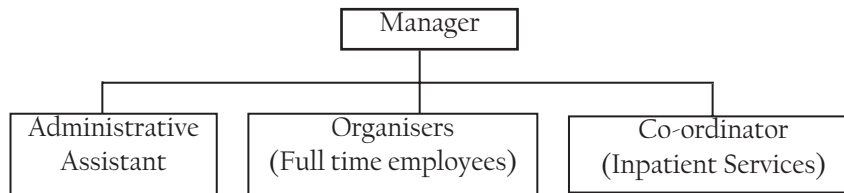
Although Aravind Eye Hospital has a full separate department for its outreach work now, initially it was manned by one coordinator, three camp organisers and one typist. The community rapport created by the organiser has helped the department to grow and develop. At present, the Aravind outreach team includes almost three dozen employees at six hospitals (excluding Vision Centre staff), covering most of Tamil Nadu State and bordering Kerala State.

- R. Meenakshi Sundaram

Often team members have no job description, but build a combined commitment to outcomes and practice effective communication. These are factors which drive high performance.

- Van Lansingh, MD PhD,
Regional Coordinator,
VISION 2020 Latin America

Aravind Outreach Department Structure



Faal^[1] suggests strengthening the performance of a team through recognition of their functional roles (the job they are trained to do) and their team roles (their personal qualities and skills which contribute to the running of the team).

HUMAN RESOURCE IN AN OUTREACH DEPARTMENT

This section explains how to organise human resources within an outreach department.

Coordination and Communication within and Outside the Department

A very high level of coordination and communication is vital for carrying out successful outreach activities.

Regular meetings with outreach staff are invaluable, especially as most of them are in the field. A regularly scheduled weekly (or monthly) meeting makes outreach planning and reporting easier. The purpose of each meeting is to report the details of the previous week's outreach activities and outline the coming week's estimated workload. Discussion focuses on the factors that influenced outcomes (successes and failures) of the previous week's work.

Templates are another way to ensure smooth communication and coordination between people who work in different geographical locations. An eye care institution should have a form for everything that needs to be communicated on a regular basis (especially for statistics).

The community outreach department must coordinate internally, within the eye care institution, with multiple departments (posting for clinical teams, ordering supplies, advising the base hospital's operating theatre team and wards of expected surgeries from upcoming outreach activities so that they can prepare). The outreach department is also responsible for liaison with community and Government agencies, for planning, reporting and funding purposes (for example, in India the National Programme for control of Blindness, through its District Blindness Control Societies, reimburses US\$15 for each free cataract surgery performed, so these statistics must be reported). Coordination and communication are crucial for the smooth functioning of outreach initiatives.

The Role of Job Descriptions

A job description is a written document that explains to the job holder their work, the purpose of the work, and how the work should be done. It clearly defines the job responsibilities, duties and tasks to be done. It usually includes the following sections:

- Job Identification
- Job Summary
- Qualifications Needed
- Duties to be Performed
- Relationship to Other Jobs / Departments

- Supervision to be given/taken
- Type of Tools/Equipment Used
- Conditions of Work

Job descriptions protect both the employee and the employer. They are useful to the eye care institution and outreach department in several ways. They:

- streamline training needs assessments and HR hiring procedures.
- help determine qualifications for the job and then match the right person to the right position.
- give clarity to the job holder (or seeker) about the role of the position, its reporting relationships, and its position in the workplace hierarchy.
- help employees focus on their job performance.
- guide employers in supporting their employees.
- structure the evaluation of employee performance.
- record information such as pay increase schedule and criteria for bonuses (and could, conversely, include probationary period and grounds/protocols for dismissal).

See Appendix 3B for complete job descriptions of human resource within an outreach department and a template for a job description.

HUMAN RESOURCE FOR EYE CAMPS

The success of an eye camp is a team effort achieved when there is an effective camp organiser from a well organised outreach department, a committed sponsor and an adequate number of clinical personnel and volunteers. This number is determined ahead of time based on the number of outpatients expected at the camp.

Role of Camp Organisers

The organisers' main responsibilities include:

- Selecting good sponsors
- Conducting camps
- Accompanying patients to hospital
- Visiting postoperative wards to measure the patients' satisfaction
- Ensuring that complicated cases are taken care of
- Discharging patients in coordination with the hospital manager
- Keeping sponsors up to date on camp arrangements
- Sending a standardised drug list to the sponsor (so they can encourage local pharmacies/druggists to make those medications available on camp days)

Are full-time camp organisers necessary? Community awareness and involvement are vital to the success of any programme dealing with large volumes of patients. The camp organiser is the link between the hospital and the community. Because the eye care institution must identify and persuade potential camp sponsors to conduct camps (rather than waiting for sponsors to volunteer their services), full-time personnel are ideal to meet these sponsors, fix camp dates and arrangements, prepare schedules and generate reports.

Role of Volunteers at an Eye Camp

Volunteers are essential for various activities before, during and after an eye camp. They can be found through employee groups, educational institutions, religious groups, service clubs, fan clubs, or community organisations.

Human resource is a right mix of Employees and Trainees in all departments for being efficient and effective. We have developed Job description for a wide range of positions both in clinical and non clinical areas to transfer the mission of the organization in to actions through their own contributions in their departments. Job description is a document not only helps everyone to have clarity on their role and responsibilities but also to empower them to become a leader of core activity.

- Dr.G.Natchiar

Develop and implement a performance review system that is not punitive but helps recognise achievements and identify training needs.

- Kayode Odusote, Director of Human Resources Development, West African Health Organisation, Burkina Faso

Eye hospitals, depending on their size and the extent of the population they are serving in the region, might have one or more camp organisers. Each camp organiser can be assigned a million population in a separate territory and made responsible for community outreach in that territory. He or she should be well informed about eye diseases, cataract and the number of cataract patients in a given population. He or she should also be outgoing and pleasant and capable of selecting the right sponsor and / or community group to work with who will publicise the event so that the maximum possible number of people learn about the camp and attend it.

How Volunteers Can Help !

Before the camp

- Preparing and putting up posters and banners
- Distributing handbills
- Other publicity activities

Day before the camp

- Cleaning the camp venue
- Arranging the furniture

On the day of the camp

- Managing the crowd
- Making entries in the registers and records with good handwriting
- Registering patients selected for surgery with good handwriting
- Assisting the clinical team and escorting patients at all stations

After the camp

- Cleaning the camp venue
- Assisting in transport of selected patients to hospital

Role of Patient Counsellors / Social Workers

Some eye camp patients have dozens of questions as they undergo screening and diagnostic tests and get a prescription or referral. Unfortunately, while recognising the importance of allaying patients' fears and answering their questions, at an eye camp the doctor and paramedical staff are too busy to spend their time reassuring and educating these patients. This is why patient counsellors are indispensable.

There are four reasons for the introduction of patient counselling at eye camps:

- Improving patient comfort and satisfaction
- Increasing the uptake of surgery and other treatment
- Providing eye health education
- Allowing optimum utilisation of camp manpower

Patient counsellors have a very high degree of accountability in terms of patient satisfaction, surgery acceptance rate, and referral acceptance rate. The productivity of the camp - number of admissions and acceptance of referrals - is highly dependent upon the counsellors' communication skills. Once patients have gone through all the stages of the eye camp, the senior doctor prescribes medication or eyeglasses, or advises surgery or further medical intervention at the base hospital. The patients are then guided to the counselling area where the counsellors' job is to answer the patients' questions and convince the patient to follow the doctor's advice.

Patient Counsellor's Activities Checklist

- Respond to any concerns or questions about medications or eyeglasses prescribed, or surgery or other treatment advised
- Counsel the patients who are advised to have cataract surgery

- Convince the patient to accept surgery by explaining the consequences of not undergoing surgery
- Get consent for surgery from the patients or their relatives
- Keep track of records of the admitted patients
- Counsel the patients who have systemic problems like asthma, hypertension, cardiac problems, diabetes, etc. to seek their family physician's opinion and then attend the base hospital with an attendant
- Counsel the patients to come to base hospital if they require any speciality treatment
- Follow up on the patients referred for speciality treatment

Detailed counselling at the eye camp focuses on

- Details of the diagnosis
- Cause of blindness or other visual impairment
- Treatment advised
- Need for surgery in case of cataract
- Details of treatment/surgery at base hospital
- Details of preoperative and postoperative procedures and what the patient's hospital stay will be like
- Health education on primary eye care

These responsibilities should be adjusted to respect local laws and regulations concerning patient consent.

Patient counsellors are also responsible for continuing their counselling at the base hospital, just prior to surgery, in the ward after surgery, and at the time of discharge to instruct patients on postoperative behaviour. They explain the importance and logistics of attending the follow-up camp, which is held 30 days after surgery. Counsellors also keep track of patients who were identified at the eye camp with speciality problems and referred to the base hospital.

This significant role that counsellors play helps to improve the quality, effectiveness and efficiency of outreach eye care services.

Performance Evaluation

Developmental supervision (a type of formative evaluation) is a process by which supervisors observe employee performance for the purpose of helping them build on their skills and notice what they must improve. Typically it is based on their job description as well as professional goals that they have predetermined. The employee directs this process:

- Pre-conference - determining what the employee would like the supervisor to watch for or observe
- Observation - the supervisor jots down objective data and questions for the employee, including concerns if they arise during the direct observation period
- Post-conference - the employee, based on the supervisor's observation data and questions, discusses what they are doing well and will continue, and what improvements they would like to make (outlining help and support they will seek, if necessary)

This form of on-going performance evaluation empowers employees (leading to higher morale) and gives supervisors a chance to serve as mentors (many supervisors love their work but are not comfortable in authoritarian roles, or become too overbearing when fulfilling them). The post-conference discussion centres on outcomes and impacts, efficiency and effectiveness, and questions of why and how. If sanctions are called for, they are better accepted by employees

The expenses incurred for an eye camp are nothing when we see what it means to the patient. Regaining sight is like getting a new life, and the value of this is much more than the money spent to achieve it.

- Dr.G.Natchiar

Experience has shown that while enthusiasm consequently, productivity, is high at the beginning of a new entrant's placement, this decreases very soon thereafter. Problems such as community resistance, isolation from professional and academic bodies, and difficulties in dealing with technology and equipment, are often responsible for the fall in enthusiasm.

- Ingrid Mason, in *Human Resource for Eye Care: Changing the Way We Think*

Celebrate results. We are fortunate in eye care that our work can be very rewarding on an immediate basis. It is important, for example, that people who may not be directly involved with experiencing the patient's delight at having their sight restored, get to witness this or to hear about it.

- Helen Roberts, Programme Coordinator, Kwale District Eye Care, Kenya

Effective and good quality people-centred eye care services that are required to achieve the goals of VISION 2020 can be achieved with people-centred human resource management, even in the face of restricted staff recruitment, inequitable deployment and low budgetary allocation. Good management depends on a leadership that is committed to the people serving and the people to be served.

- Kayode Odusote

because they are based on empirical, objective and quantitative data (for example, how many patients were examined in one hour, how many culturally appropriate communication strategies were used in one day, how many cases were diagnosed correctly in one week, how many compliments or complaints were received in a month, etc).

If an eye care institution has a set of employee performance evaluation form, one way to still empower employees is to ask them to self-evaluate using the form, before a meeting to discuss their performance ranking. Also, supervisors and staff must go into any performance review with an open mind, acknowledging that the vast majority of people want to do their job well and that we always have much to learn from each other.

Staff Motivation, Morale and Retention

Although productivity and retention of outreach staff are sometimes affected by environmental conditions, they often depend on HR practices that maintain workers' enthusiasm, create a sense of belonging and appreciation and build their confidence.

Good HR practices include the following:

- accommodating personal and professional goals and creating career advancement opportunities (with greater responsibilities and challenges).
- using transparent mechanisms that are based on merit, objective performance evaluations, commitment, seniority, equity and fairness.
- providing on-the-job and off-site training opportunities.
- recognising and celebrating employee, team and institutional achievements.
- paying a fair and equitable living wage and using a transparent pay scale, commensurate with education, experience and level of responsibility.
- when or where appropriate, giving financial bonuses or employee perks (training opportunities or trips to conferences, for example) in exchange for dedication above and beyond job expectations, productivity and loyalty (number of years employed); selecting recipients using a transparent system.
- respecting and advocating for employees; valuing their work and considering their needs and input when making decisions.
- providing adequate, well maintained equipment and a steady stream of supplies for employees to do their jobs.
- giving them choice of assignment, shift or placement and rewarding long-term service employees, as much as possible.
- fostering communication; being proactive in mediating conflicts.
- tracking staff absenteeism and turnover.
- using an employee performance evaluation approach that empowers and motivates employees.
- offering a safe, healthy and nice-to-come-to work culture and environment.

CONCLUSION

This chapter introduced the four major challenges facing human resource in eye care in developing countries (lack of trained personnel, inequitable distribution, lack of training opportunities and ineffective utilisation of staff) and some solutions, as well as how to manage human resource in an outreach department.

(Please see Appendix 3A, B, C for specific information related to training and responsibilities).

The next chapter 4 outlines a step by step planning process for organising a successful screening camp that is designed to overcome all the barriers to reaching the unreached.

Appendix 3A: Human Resource Training Needs for Community Outreach in Eye Care

According to health promotion consultant, John Hubley, “Our understanding of what must be done to prevent blindness and promote eye health has advanced considerably in recent years. The challenge ahead is to introduce these methods to the field as quickly as possible. Training is an essential activity in the spread of new knowledge and skills to eye health workers.” [12]

Training for outreach workers can take place during initial training or as part of continuing education for existing outreach workers. It can occur on the job informally or through supervised practice in the community, intensive workshops at the base hospital with other employees, short-term conferences or long-term courses, or through individualised use of manuals, internet-based modules, and newsletters.

The training needs of your outreach and other staff might include

- clinical / medical (practical skills or new factual knowledge)
- interpersonal and communication skills
- leadership and decision-making skills
- attitudes and values
- skills and understandings specific to outreach strategies and initiatives

CLINICAL SKILLS

As a training ground for clinical staff, screening eye camps and other outreach events offer a large number and variety of eye diseases that might not be seen in hospital settings. At times, senior ophthalmologists point out and discuss different cases with junior doctors and fellows who are helping at the camps. At other times, because they are seeing a variety of serious cases where senior doctors are not available, junior doctors are forced to put all their knowledge to use. This builds their experience, confidence and diagnostic problem-solving skills. Furthermore, outreach programmes increase the volume of patients that doctors treat on a daily basis. Ophthalmology students can develop the capacity to screen large numbers of patients - around 200 patients during an average six-hour camp.

INTERPERSONAL AND COMMUNICATION SKILLS

Whether in private practice or on staff in a medical clinic or eye hospital, doctors and other staff must learn and develop effective interpersonal and communication skills. Outreach work calls for even more skillful interactions. Some villagers and rural people feel intimidated by doctors and many have never been to a hospital. So when working in eye camps or other outreach events or initiatives, doctors and paramedicals must learn to adapt to these patients’ needs and communicate with local sponsors and volunteers. The medical success of an outreach initiative depends largely on the whole outreach team’s ability to communicate with patients and others effectively.

Recommended interpersonal and communication skills include:

Awareness of potential communication barriers such as

- fear, lack of self-confidence
- different social customs

One of the first steps in planning training is to prepare a revised job description for the field worker incorporating the new skills you plan to introduce. This may be based on concerns of field staff, communities, or ideas that come from outside, such as reports from journals describing successful approaches in other communities.

- John Hubley, Health Promotion Consultant

People tend to teach others the way they themselves are taught, so it is important to expose participants to teaching methods that they themselves will be expected to use afterwards. Studies have shown that people retain less than 10% of the factual information given in a formal lecture – not a very effective way of learning.

- John Hubley

An ophthalmologist is interested to build his capacity in clinical services especially surgical skills. It is inevitable that he should gain adequate knowledge about the community in terms of magnitude of the problems, socio-economic barriers, living standards and attitudes. Eye camp is a greater opportunity for the doctor to understand the community and helps to develop their leadership skills.

- Dr.G.Venkataswamy

- level of education
- language or dialect spoken
- physical pain, or other impairments (sight, hearing)

Empathy

- placing oneself in the patient's situation
- understanding the patient's point of view and emotions

Active listening

- concentrating, giving one's full attention
- patience, clarifying as needed
- seeking further information, probing
- acknowledging and responding to the patient's words
- paraphrasing, summarising

Linguistic sensitivity

- changing over to the language understood by the listener
- speaking simply and clearly, without too many technical words
- speaking respectfully, without condescension
- respecting different learning styles when asking patients to remember something (repeating or writing instructions, demonstrating, using illustrations as needed)

... and doing all this at a brisk pace!

LEADERSHIP AND DECISION-MAKING SKILLS

Eye camps and other outreach activities can help eye doctors and their outreach colleagues to develop their leadership and management skills. For example, as the team leader, the senior doctor at each eye camp must foster a sense of teamwork and team spirit amongst the staff and volunteers in order to screen a large number of patients in a smooth and efficient way. From camp sponsors and organisers, the doctors can learn strategies for patient generation as well as leadership and management aspects of large volume surgery. These experiences increase their confidence in their decision-making skills.

ATTITUDES AND VALUES

Outreach staff are the "face" of the eye care institution in the community and should therefore be steeped in the values of the institution. For example, many eye care institutions view the community and its members as full partners in their outreach work, not merely as supporters of it. Outreach workers must learn (through direct instruction and observation) to interact and engage with the community in ways that reflect this attitude.

COMMUNITY OUTREACH SKILLS AND UNDERSTANDINGS

- Estimating the magnitude of blindness, annual workload and unmet need in a service area
- Target-setting techniques
- Designing community outreach programmes to meet the target segment
- Developing strategies and action plans to achieve the goal
- Applying the concept of social marketing and the principles of service marketing in eye care service delivery
- Importance of community participation in eye care services

A common problem with many training programmes is that they give too much emphasis on learning facts and not enough to acquiring skills and exploring attitudes and values.

- John Hubley

- Importance of health communication and behaviour change for tackling the barriers to service utilisation
- Effective use of human resources in outreach programmes (for example, how patient counsellors increase acceptance of treatment and help an outreach team to cope with the large volume of patients; how the proper ratio of doctors to paramedics leads to efficiency)
- Logistics planning for efficient management of community outreach activities
- Quality assurance in outpatient and inpatient services
- Performance indicators for monitoring community outreach programmes
- Evaluating outreach performance
- Using a management information system (MIS) to track outreach statistics
- Case studies of success in outreach activities

TRAINING OF FIELDWORKERS (AND VILLAGE VOLUNTEERS) IN OUTREACH SKILLS AND UNDERSTANDINGS

Training is vital for fieldworkers and volunteers - to enable them to do their work well and confidently, and as a motivational tool for retaining their services.

Fieldworkers (volunteers, in some cases) benefit from learning

- method of measuring visual acuity
- method of examining the eyes
- various treatable eye diseases (conjunctivitis, mild trauma, watery eyes, etc.)
- preventable causes of blindness prevalence in their service area (Trachoma / water sanitation, Xerophthalmia / Vitamin A supplementation, Onchocerciasis / Ivermectin distribution, etc)
- treatable causes of blindness (cataract, early diabetic retinopathy, trichiasis from trachoma, etc)
- how to diagnose conditions which can be adequately treated on their own
- identify eye diseases that should be referred to secondary or tertiary eye care centres for more detailed examination, diagnosis and treatment

If community health workers are to deal with eye care and perform basic vision screening, then they should be equipped with the skills and the technology to do this. They may also need to be given the technical wherewithal to manage and maintain equipment, as well as the advocacy and communication skills to create and exploit links with other sectors, when and where required.

- Paul Courtright, Daniel Etya'ale, Hannah Faal, Ingrid Mason, Van Lansingh, Noel Chua^[13]

Programmes in which the community has selected those who will distribute ivermectin have been more effective than those where ivermectin is distributed by people chosen by external bodies, showing the importance of community participation, another principle of primary health care.

- Clare Gilbert^[14]

This is a very important activity of primary eye care, as the wrong diagnosis can lead to delay in providing the right treatment, which may have adverse long-term consequences.

- Clare Gilbert

Appendix 3B: Job Descriptions for An Eye Care Outreach Department

Outreach Coordination staff are the link between the hospital and the community.

1. **Head Doctors** act as administrators, attending weekly meetings and validating the quality of outreach results. They represent the overall hospital administration.
2. **Outreach Managers** coordinate camp organisers' work and liaise between the base hospital and the community outreach department.

Duties of Outreach Managers

- Help organisers develop an annual plan of outreach goals, activities and target populations
- Coordinate outreach organisers' activities
- Plan and coordinate all outreach activities in cooperation with clinical and non-clinical staff
- Keep track of hospital-based activities with relevance to outreach activities
- Meet regularly with department staff to coordinate logistics and to help the outreach organisers to arrange accommodation, food, transport, and supplies for all the outreach initiatives of the week
- Ensure that their staff are kept informed of the outreach department's activities
- Check inventory and place orders from the hospital's stores to keep outreach organisers supplied in a timely fashion
- Collect all outreach reports from organisers, and conduct performance reviews
- Submit appropriate reports to other hospital departments and external agencies
- Coordinate outreach trainings
- Conduct various eye care awareness programmes, studies, etc.
- Forecast the department's and each organiser's achievements for the month, and provide specific guidance for attaining these goals
- Motivate organisers and outreach staff to perform well at their jobs

Aravind Eye Hospital

JOB TITLE: Manager - Community Outreach

Job Description - Manager of Community Outreach

CONFIRMATION DATE :

DEPARTMENT : Community Outreach

REPORTS TO : Administrator

1. JOB PURPOSE :

To manage and develop the outreach activities at Madurai to improve accessibility to the patients so that ultimately utilisation of Aravind Eye Hospital services is increased

2. DIMENSIONS OF RESPONSIBILITIES:

Managing Community Outreach Department office and field staff

3. KNOWLEDGE

For performing this role effectively it is expected that the person develops his/her knowledge related to

- Eye Care - Anatomy, Physiology of eye to Eye Diseases
- Role of Government in eye care – NPCB, DBCS
- Magnitude of eye care and demography of service area
- GIS

4. RESPONSIBILITIES:

Your responsibility will have dual roles

1. Operational: In this role you will be expected to ensure that routine functioning of the department is enhanced. This includes:
 - Coordinate movement planning for camp organizers
 - Plan the human resource requirement for camps
 - Understand the output per camp and the reasons for success or failure of camps
 - Build rapport with existing sponsors, receive sponsor in the hospital and provide necessary guidance
 - Coordinate with transport manager for vehicles
 - Monitor the follow up rate of the camps, the number of patients per camp
 - Coordinate sponsors meeting for Madurai
 - Ensure effective use of GIS by the community outreach department to increase better utilization of resources and for ensuring better reach
 - Facilitate the development of the outreach programme by collating and presenting performance data from Madurai
 - Maintain records and statistics of all camp related activities
 - Facilitate the development of annual plans and targets by providing support and guidance to camp organizers through the development of annual plans, monthly schedules and weekly movements which will achieve target
 - Coordinate and monitor all funding related activities
 - Study cost per district and correlate with DBCS grant
 - Calculate and monitor the cost factor per patient for various types of community outreach activities
 - Coordinate training and teaching of existing programmes offered by the community outreach department
 - Other work as provided by the management
2. Developmental: In this role you will be expected to initiate new activities which will contribute to the development of your department.
 - Increase direct free patients
 - Work on monitoring other community outreach activities- CARE project etc..
 - Support the orientation of new camp organizers by providing them with the baseline information such as services and geographical information, population for the area concerned and secondary data in order to assist them in identifying potential areas and sponsors.
 - Improve quality of care provided to patients through the community outreach activities
 - Initiate, identify and provide training to camp organisers as well as others concerned on topics which will improve their effectiveness
 - Initiate, other outreach approaches like vision centres, community based referral etc.,

5. WORKING RELATIONSHIPS.

- The various stakeholders of community outreach programme including the people in the community, sponsors, volunteers, patients
- Liaison with funding agencies
- Other department staff as necessary

6. FREEDOM TO ACT (AUTHORITY)

- Expected to make decisions related to better project management

7. PROBLEM SOLVING

- Settle issues for smooth running of the project
- The challenge of settling into a role where other co-workers are more experienced and also older in age

Signatures

..... (Job holder) (Date)
..... (Administrator) (Date)

3. Outreach Organisers set up a screening eye camp or other outreach initiative each week. Once they have selected a location, they identify local sponsors, and work with them on a regular basis to plan all onsite elements of the outreach activity, from site selection to various logistical aspects, including publicity.

Duties of Outreach Organisers

- Make an annual outreach plan for a given area
- Determine outreach locations
- Find and contact sponsors
- Organise all aspects of outreach initiatives in cooperation with sponsors
- Arrange for or provide all necessary training to field workers and staff
- Write feedback and assessment reports
- Make sure that outreach activities run smoothly

Aravind Eye Hospital

Job Title: Camp Organizer

Working Hours:

Job Description - Camp Organizer

Department: Outreach department

Reports To: Manager - Outreach

Prime Job:

To plan and organize community outreach program in a defined area towards creating awareness in the community and clearing the backlog of blindness

Main Responsibilities:

1. Planning and Targeting
2. Taking care of pre-camp, camp day, post-camp and follow up activities in association with community based social service organisation (camp sponsor), clinical and non-clinical staff of Aravind Eye Care Systems.

3. To create awareness about eye diseases and facilities provided by Aravind Eye Care Systems.
4. To participate and help in Performance Appraisal activity.

Key Tasks

1. Planning & Targeting

- 1.1 Analyzing the strengths and weakness of the potential sponsors, population, prevalence of blindness, previous years experience to decide a target of cataract surgeries through certain number of camps in every year.
- 1.2 Drawing an action plan and present in annual plan meeting.
- 1.3 Ensuring micro level planning to compensate the decrease in the performance as per the proportionate target in the ensuing month.

2. Pre-camp, camp day and post-camp activities:

- 2.1 Identifying the right sponsor.
- 2.2 Motivating the sponsor and fixing the date for the camp.
- 2.3 Reporting to the camp manager regarding the camp fixing.
- 2.4 Giving information regarding camp through requisition form and send the confirmation letter through manager.
- 2.5 Assisting the camp sponsor for the camp planning and publicity.
- 2.6 Confirming the medical team and required materials needed for the camp.
- 2.7 On camp date making arrangements for the camp site and coordinate between sponsor, medical team and patients.
- 2.8 Arranging transportation to the camp site and ensuring safety of all the team members.
- 2.9 Arranging food facilities for the medical team as well as the patients.
- 2.10 Arranging food facility for the patients.
- 2.11 Informing the Camp Manger about the number of inpatients coming from the camp to make arrangements regarding accommodation and food.
- 2.12 Taking responsibility in bringing patient from camp site to the hospital.
- 2.13 Informing the sponsor about the arrival of the patients to the hospital.
- 2.14 Visit the patients in ward regarding their status of surgery.
- 2.15 Taking responsibility in discharging patients to their place through proper transportation.
- 2.16 Informing the sponsor about discharge and the name of pending patients.
- 2.17 Taking responsibility in informing & handing over the expired patient to their concerned family members & to the sponsor's during the stay at the hospital.
- 2.18 Informing the sponsor regarding review camps to be held at their camp site to make necessary arrangements.
- 2.19 Participating in the Sponsor's Day

3. Performance Appraisal

- 3.1 Attending camp office on every Monday to report the details of last week's camps and current weeks estimated workload.
- 3.2 Analyzing the factors which have influenced the outcome of previous week camp and present in the weekly meetings.
- 3.3 Responsible in making sure that the proportionate target is achieved every month.
- 3.4 Adhering to the revised eye camp policy.

4. Awareness Program

- 4.1 Taking responsibility in improving direct patients from the concerned Working area.

4.2 Helping the patients recommended by sponsor in giving them eye care at the base hospital.

Working Relationship:

Needs to work with staff in medical department, paramedical department, free hospital and camp hospital.

Freedom to Act:

- To choose the service area and decide the place they want to organize eye camps.
- To select potential sponsors and work with them to reach the maximum level of productivity.
- To introduce innovative ideas in awareness campaign.

Signatures

..... (Date)
(Camp Organiser)

..... (Date)
(Manager Outreach)

4. Information / Education / Communication (IEC) Experts are in charge of raising eye health awareness in surrounding communities in a variety of ways.

Duties

- Create and distribute IEC materials in surrounding communities
 - Arrange or give lectures about eye diseases, eye health and eye care
 - Conduct health education programmes
 - Train volunteers to give health education programmes
5. **Administrative Staff** ensure the daily functioning of outreach activities. They write reports and letters, and keep statistical records that are used for weekly evaluative meetings, research, and funding.

Duties

- Perform clerical work
- Deal with secretariate and communication tasks
- Generate reports
- Keep and update statistics

Aravind Eye Hospital

Job Title: Camp Admin Asst **Working Hours: 9 am to 6 pm**

Job Descriptions - Administrative Assistants

Location: Camp Office, Madurai Reports To: Senior Manager - Outreach

Department: Camp Office, Madurai

Prime Job: To ensure all the hospital based administrative activities related to Community Outreach Programme are carried out for smooth running of outreach activities. Generate the required internal and external reports. Assist the Manager in department administration, training programs etc.

Main Responsibilities:

- Camp Posting
- Submission of monthly performance reports
- Submission of
 - Camp Proposal
 - Camp Surgery Reports and
 - Follow-up Reports to funding organisation (DBCS)
- Updating and maintaining the claim, receipt and outstanding particulars periodically
- Communication to funding organisation
- Letter to sponsors as and when required
- Maintenance of statistics and accounts for each camp
- Coordinating training programs
- Respond the e-mails, letters, sponsors' feedback, complaints etc
- Sorting out the reports and letters for filing
- Facilitating the Manager and organizers in Annual plan and weekly meetings
- Outreach department calendar work

Key Tasks:

1. Camp Posting (Screening Camp, Review Camp, Refraction Camp, School Screening Camp, Diabetic Retinopathy Camp and Research Project Camps)

- Prepare the list of current week camps with necessary details (Date, Place, Departure and Expected Workload) and get the postings for Doctors, Paramedical Staff, Patients Counselors and Opticians (on every Wednesday for the next week camps).
- Get the final list of camp postings, enter in computer (there is a software which could be accessible in Intranet) and get the list on or before every Saturday.
- Give a copy of camp posting to all the Departments in Paying Section, Free Section, Camp Hospital and Hostel.
- Ensure it is effectively communicated to the people who are posted to eye camps.
- Make sure everybody is informed for next day camps on daily basis.
- Inform the team members, free hospital, camp hospital, vehicle department, stores regarding any cancellation or postponement of eye camps.
- Maintain a Register to enter the camp place and date for all the Doctors who have attended eye camps and update every week.
- Get the list of Doctors who have attended camps in the past and circulate to all the Doctors.
- Do necessary changes in camp posting list on weekly basis and file it for further reference.

2. Meeting Reports

- Preparing the statement regarding the details of camps held last week, outpatients and admissions brought from those camps and Post Camp Report.
- Preparing the weekly cumulative statistics in order to observe the five hospitals (Paying, Free-Direct and Camp) growth every week.
- Preparing the statement for the vision centers performance.

3. Submission of Reports to Funding Organisation

- Sending 15 days proposal regarding the camp fixed (I fortnight and II fortnight)
- Sending the Monthly Performance reports

4. Proposal to Funding Organisation

- Check the Camp Requisition forms are available with reference to Camp Proposal File and Collect the forms from the organizers concerned if it is not available on (every Monday) weekly basis.
- Collect all the details of proposed eye camps (date of camp, place, venue, taluk, District, Sponsor, Expected IP etc.,) and prepare a statement of proposed camps (Source is Camp Requisition form).
- Send application to hold eye camps with covering letter duly signed by Trust Secretary and the Medical Officer. It should be sent two weeks ahead of camps.

5. Claim Reports

- Collect Genderwise diagnosis details (OP break up) for every camp from Free section on weekly basis.
- Collect the list of operator patients and Genderwise surgery break-up of cataract, IOL and other surgeries from free section/computer department on weekly or fortnightly basis.
- Fill up the necessary details in claim reports and get signature from Camp Medical Officer and Trust Secretary.
- Those reports should be sent on every first and third week.
- Maintain a copy of those reports perfectly for future reference.
- Enter the necessary data in computer and update grant-in aid details

6. Follow-up Reports

- Collecting follow-up reports from the Free Hospital and prepare the statement of follow-up particulars.
- Send the follow-up reports duly signed by surgeon.
- Enter the follow up claim data in computer and maintain it.

7. Receipts

- Get a stamped receipt from Accounts department for every receipt.
- Enter the receipt particulars in computer then and there and send our official stamped receipt with a letter immediately.
- Cross check the receipt particulars with our claim reports and find it is tallied.
- Communicate the funding organisation if there is any difference in receipts immediately.
- Update Grant-in-aid Abstract statement, Campwise surgeries, Claim and Receipts for all the districts on monthly basis. It should be completed on every first week for the previous month as soon as it is dispatched.
- Update the Consolidated statement of claims made, receipts and outstanding particulars on every first week.
- Ensure the hospital authority is aware of outstanding data in each district.

8. Letter to Sponsors

- Handling correspondence with all camp sponsors regarding camp confirmation, execution and follow-up activities.
- Sending a performance report as and when required.

9. Accounts Maintenance

- Verification of the Camp Organizers TA-DA Bills with the Organizers Weekly Movement. Phone bills, Lodge Bills attached and Organizers Field Visit Form for every 15 days
- Update the camp expenses in the Accounts Note by entering the Meals Account, Glass Account, Cost incurred for patients transport.

10. Coordinating the programme

- Collecting the data for the CME, Annual Plan Meeting and Teleconference Meeting from all the base hospitals and co-ordinate the programme .
- Coordinating the programme for Paramedical Ophthalmic Assistants conducted yearly once
- Coordinating the Sponsor Day function which is conducted once in two years to appreciate the Camp Sponsors

11. Filing

- Put the file numbers in letters and file it. Manage the space for files and dispose the files as instructed by Camp Manager.
- Ensure the required number of forms (for report generation) is available in the department. Make indent on Fridays based on the requirement.

12. Preparing the Calendar for Camp Organizers

13. Yearly Statistics for Annual Reports

Working Relationship:

Needs to work with Camp Manager , Camp Organizers, Camp Medical Officer, Nursing Superintendent, Chief Refractionist, Counselling department, Staff in Free Hospital and Camp Hospital, EDP Section, Stores, Vehicle Coordinator.

Freedom to Act:

- In general correspondence
- Management and Communication of Camp posting
- Reports to funding organisation
- Providing periodicals statistics

Signature:

6. **Transport Coordinator** is responsible for all transportation for outreach staff and activities.

Duties

- Arrange the transportation of outreach teams, patients and equipment to and from sites
- Maintain all accounts related to this activity
- Manage vehicle schedules
- Arrange for vehicle maintenance

7. **Inpatients service co-ordinator** is responsible for planning and management of inpatient services from the point of admission up to discharge.

Duties

- Scheduling admission, surgery and discharge
- Co-ordination with outreach department staff, OT and Ward staff
- Arrange transport to discharge the patient
- Maintain the details of admission, operated, not operated, discharge and followup schedule
- Ensure patient centered care for clinical and non clinical services
- Maintain and report discharge accounts

JOB TITLE: Co-ordinator - Inpatients service

Job Description

DEPARTMENT: Camp Office

REPORTS TO: Camp Manager

1. Job Purpose

A Coordinator is responsible for the day- to-day activities of the camp Hospital and patient discharges. He / She should take lead of all other development functions. Coordinator participates in the developmental meetings and reports to Asst. Administrator – Free Hospital

II. Primary responsibilities

1. Plan ahead the manpower and other resources need with the anticipated patient admission which is prepared and issued from the camp office.
2. Keep constant touch with the camp office and camp organizers to plan and act better for the patient satisfaction in the camp Hospital
3. Initiate, discuss, recommend and implement the changes and system to manage the hospital activities
4. Develop and cultivate good relationships with the staff and the patients to assure patient satisfaction
5. Plan day -to -day activities to ensure the quality of work and the patient satisfaction
6. Fix the timings of the ward rounds and arrange the facilities in place at time
7. Build relationship with transport department, transport corporation for patient discharge
8. Manage the administration duties such as receiving 'suspense' for the discharge, submitting the discharge expenses, arranging buses with the help of concerned organizers for the discharge and good rapport with the sponsors.
9. Handle the telephonic and other mode of inquires visit, and clarifications from the sponsor side and patient families.
10. Prepare review and planning reports (e.g. Daily discharge report, pending case report, not operated cases report, patient admission report, doctors performance report, weekly planning etc.) And present in the camp meeting
11. Maintain clear and consistent communication between the free hospital and camp hospital for better coordination in scheduling surgeries and for specialty consultation
12. Development of the patient friendly atmosphere in the camp hospital and improve the satisfaction of the patients and the sponsors
13. Maintain a good rapport with the specialty clinics to examine the opinion cases and ensuring the safe return of patients the camp hospital
14. Informing the canteen people regarding the patient food in the camp hospital and also food packets for the stay camp patients during discharge
15. Ensuring the quality of food through tasting the food before serving the patients
16. Keeping the camp hospital clean and free from infection through ensuring proper house keeping and cleanliness in the campus. (During festival Holidays)
17. Coordinate with the Maintenance department for the proper functioning of electrical, Medical equipment like slit lamp, operating microscope, and air conditioning inside the theatre and other items in the camp hospital.
18. Collect the sponsors phone number and inform them after discharge of patients

19. Vehicle coordination between camp hospital and free hospital and from free to camp hospital on daily basis for post - op patients and specialty clinic opinion patient should be taken care.

III. Working Relationships:

- Collaborate with the Assistant Administrator – Free Hospital, Senior Manager – Outreach, Transport Manager, camp organizers and camp sponsors.
- Collaborate with the ward doctors, theatre sisters, counsellors, ward sisters and housekeepers.

IV. Problem solving

1. The incumbent will have to resolve any complaints from sponsors regarding service satisfactorily. Similarly respond feedback from medical and paramedical staff regarding the facilities and service offered to the patients.
2. Managing the crisis regarding absconding, injuries, or any morbidity in coordination with organizers, assistant administrator, PRO, camp sponsors.

V. Skills required

1. Interpersonal skills
2. Ability to supervise and motivate the staff.
3. Ability to handle and manage stressful situations while emergency occur
4. Report generation and presentation skills
5. Ability to think creatively
6. Ability to plan Strategically and Operationally
7. Ability to budget programs and understand the financial aspects of the camp patient management and relationship.
8. Proficient in computer software (word, Excel, Power point)

Signatures:

.....
(Job Holder)	(Date)
.....
Line Manager	(Date)

PARAMEDICAL OUTREACH STAFF, who can be trained at the base hospital, accompany and assist medical teams performing community outreach. In some outreach programmes, they work independently but with support from the base hospital.

8. Ophthalmic Assistants are in charge of moving and caring for patients through camps or other outreach venues. They perform several diagnostic procedures, ascertain whether patients need to see a doctor, and direct them to the appropriate service. Relieving doctors from paramedical duties helps ophthalmologists see the maximum number of patients in one day. (See Chapters 4 and 5 to learn more about the duties of paramedical staff in outreach activities.)

9. Patient Counsellors from the base hospital rotate to work in camps on a regular basis (weekly or biweekly, depending on staffing levels) or are stationed at vision centres, etc. Their role is to communicate with patients in the local language, usually on an individual basis. They serve as intermediaries between doctors and patients, informing and guiding patients through their decisions and treatment.

Duties

- Help people referred to the base hospital understand the treatment, length of stay, cost, prognosis, and plan for their rehabilitation
- Contribute to increasing the cataract surgical rate, or CSR (number of surgeries per year per million population) by reassuring and convincing those patients who are reluctant to accept the doctor's advice
- Perform some IEC duties

Role of Patient Counselor (PC) in Aravind's Outreach Services:

The patient counseling is an unavoidable station in a screening eye camp where at least 30 to 40% of outpatients served by a counselor (predominantly a female health worker with a knowledge of eye problems, eye care services and communication skills).

An effective patient counseling comprises simplified briefing on existing eye problems, right methods of treatment, surgical procedures, the place and price of service availability, empowering the patients and attendants to realize the consequences and to access the eye care services. In outreach scenario, the patient counselor provides eye health education, completing cataract admission procedure, counseling the patients those who need further intervention in specialty clinics in base hospital.

On camp day

Patients counseling takes place in 'station 6'. In the station 5 - final examination, the senior ophthalmologist refers the patients who need cataract surgery or eye glasses or further intervention in specialty clinics in base hospital to counseling station.

- Activity 1: Cataract patients are explained about the problem, the time and mode of transport to base hospital and back, basic instructions regarding admitting an attendant, visiting hours etc. She gets consent from the patient for accepting surgery and attaches the records of OP card, consent form, pre-op intra operative, post operative medication and discharge summary together.
- Activity 2: Advising to get the opinion/fitness certificate from the physician if the cataract patient has systemic conditions like asthma, hypertension, cardiac problems, diabetic etc.
- Activity 3: Counseling for the patients those who have specialty problems like glaucoma, retina, diabetic retinopathy, squint, neuro, orbit etc., to visit base hospital for further medical intervention in specialty clinics. A referral card is given to them and the details of referrals are registered separately for monitoring the rate of compliance.

On return to base hospital

- Activity 1: On the day of outreach review meeting (Mondays), the counselor submits the details of number of outpatients, advised for surgery, admitted for surgery, reasons for the drop out, age break up of outpatients, patients with systemic conditions and specialty problems with the help of outpatients' records and registers. It is collected by the admin assistants in camp office.
- Activity 2: PC submits the medical records to medical record department and registers to camp office. Other supplies and education materials are handed over to stores.
- Activity 3: The PC monitors the patients who are referred to specialty clinics for a week time and submits the acceptance details to camp office.

In-Patients Ward

- Activity 1: Counting and verification of admitted patients, time of arrival and vehicle number are noted. PC organizes the lot of patients for proper accommodation in the respective rooms.
- Activity 2: Counseling is done on pre-operative procedures, time and duration of surgery, post operative care and proposed schedule of discharge. PC also explains general instructions and what we expect from / patients for ensuring the quality of service.
- Activity 3: On the day of surgery, the PC assists the ward nurse to organize the lot for smooth flow of surgery schedule and getting them back to their wards. PC records the details of patients who are not operated and follow them up on subsequent days.

After Surgery

- Activity 1: In the evening, a day before discharge, the PC distributes the medicines to be applied for a month and explains the methods of application.
- Activity 2: Collects the details of date, time and place of follow up (after a month of surgery) from camp office and explains the details to all the patients. PC emphasizes the importance of follow up. It is also noted in discharge summary for their reference.
- Activity 3: Specific counseling is being done on 'not operated patients' and 'post operative waiting patients' separately. The details are recorded in the registers.

On the day of discharge

- Activity 1: PC segregates the patients as campwise and coordinates with IP service manager and ward staff for discharging the patients as per the schedule.
- Activity 2: PC notes the details of time of discharge, mode of travel, number of patients discharged, patients retained in the base hospital for further medication as advised by doctors.
- Activity 3: Updates the above details for each camp and helps the outreach staff to communicate the details to the community partner/sponsor who are answerable to the family members in the community.

The role of PC is inevitable in all the service points to provide eye health education, counseling, patients satisfaction and in generating relevant reports.

EXTERNAL HUMAN RESOURCE usually live or work in the community hosting the outreach event.

10. Sponsors support outreach events in their community, helping especially with financial support, publicity and volunteers on the day of the event. Their involvement contributes to the success and cost-effectiveness of the event they host. (See Chapter 4 Eye Camps for more information on the role and responsibilities of outreach sponsors.)

11. Fieldworkers are paid employees, usually recruited from the community or region in which they will work and then trained at the base hospital. They perform door-to-door surveys, provide community-based rehabilitation, and more. (See Chapter 5 Other Approaches to Outreach for more information.)

12. Village Volunteers play a key role in many outreach activities. Often pseudo-phakic motivators, they increase the number of patients who attend screening camps or get referred to vision centres. (See Chapter 6 for more information.)

Job Title: EYE HEALTH FIELD WORKER

Job Description

Department: Vision Centre

Reporting to: Outreach Manager and Hospital based VC Coordinator

Purpose:

- Plan various kinds of centre - based and community - based service promotional activities for the whole year and execute in coordination with VC staff and concerned area or VC i/c camp organizers.
- Ensure the objectives of Vision centre are achieved
- Ensure the uptake of VC services by the targeted population
- Follow up the patients who need surgery, Low vision aid, rehabilitation, specialty treatment etc.
- Develop and maintain cordial relationship with outreach department staff, project division staff and VC staff and liaison with local community
- Communication and submission of necessary reports to the departments

Responsibilities:

1. Outreach Activities

- To develop a detailed and appropriate action plan for different kinds of outreach activities in coordination with camp organiser and VC staff.
- To assist the Camp Organiser in terms of executing grass root level community mobilization techniques whenever outreach programmes are planned in and around the vision centres.
- To be accountable to execute a targeted number of outreach programmes for each centre as per the schedule in case of camp organiser not assigned those areas.
- To update the progress in outreach activities to the camp organiser and VC staff
- In vision centre service area, the patients arrival pattern is studied periodically to get an idea of penetration. The untapped villages have to be targeted by the field workers in terms of conducting awareness campaign, survey etc. with an aim of 'eye care to all' in the VC service area.

2. Follow up of Patients

- Category 1: The patients who need cataract surgery are referred to base hospital
- Category 2: The patients who need further intervention in the specialty clinics are referred to base hospital
- Category 3: The patients who are diagnosed with specialty problems like glaucoma, diabetic retinopathy, low vision are advised to visit the vision centre on recommended intervals as suggested by the consultant in the base hospital
- Category 4: Few patients with specialty problems from Vision centre area would have visited base hospital directly without an idea of existence of vision centre. They will have to have periodical follow up.
- Category 5: The patients who have irrecoverable blind problems are rehabilitated. They have to be monitored periodically
- The field worker should be given a list of patients as mentioned in 5 categories, and follow up can be done at the community level.

3. Develop and maintain baseline data about the Vision centre service area

- In principle, each VC should have a close association with local Physicians, Hospitals and Clinics, PHC, Medical shops, NGOs, Educational Institutions, SHGs, Industries and the local philanthropists in order to have community

ownership and strong referral network. Most of the information is collected in the beginning by the organizers and added in the VC calendar. Field worker should be aware of the information and he can update the details.

- The field worker has to develop a strong rapport with these groups and ensure this kind of relationship is helping to increase the uptake of VC services.

4. To do any other activity assigned from time to time as per the working requirement.

5. Report and Review:

- To submit weekly movement to VC on every Monday
- To submit weekly activity report to VC on every Monday for the previous week
- The submitted plan and activity report are subject to verification by the line manager.
- To attend monthly review meeting at base hospital along with required reports

6. Working Relationships:

- Collaborate with hospital based VC Co-ordinator, Camp organizer, Field supervisor, VC staff, CBR Coordinator, field workers of the adjoined vision centres and various stake holders in the community.

Signature:

Job holder

Date:

Line Manager

Date:

Appendix 3C: Eligibility Criteria for Outreach staff

DESIGNATION: MANAGER

Education and Eligibility:

- Management Studies in PG with managerial experience of 3 to 5 years
- Retired officers from Government or reputed concerns with management experience

Knowledge

- Geographical and demographical information
- Basic marketing principles
- Basic knowledge on 'planning' the given task
- Knowledge on various methods to evaluate output and outcome of an activity

Skill

- Capacity to understand the organizational culture and values
- Ability to understand the objectives of outreach programmes
- Skills on planning and target setting for outreach programmes
- Effective communication skills to transform the goals into actions through subordinates
- Initiate implementing best practices for achieving results
- Building the team and develop cordial relationship with all departments
- Develop and maintain cordial relationship with external stakeholders like sponsors, Government offices
- Being proactive to improve the productivity and quality of outreach
- Being a good moderator in handling issues
- Analytical skills
- Monitor the results of the programme as well as the customer (sponsors) satisfaction
- Able to organize special events like sponsors day etc.

DESIGNATION: ORGANIZER

Education and Eligibility

- Any Bachelor degree with field experience
- Degree with social work is preferable

Knowledge

- Basics on geographical structure (district – town Panchayat – taluk – block – village – hamlet) and population
- Knowledge on programme objectives and background
- Knowledge on planning and implementation strategies

Skill

- Ability to find and motivate potential sponsors
- Able to judge a sponsor's strength and weakness
- Capacity to plan and achieve the target
- Develop and maintain cordial relationship with all departments and community leaders capacity to assess the available resources and achieve the productivity
- Effective communication skills
- Skills on salesmanship qualities
- Time management

- Leadership skills as they lead the team
- Decision making skills especially on community based issues

DESIGNATION: CAMP ADMINISTRATIVE ASSISTANT

Education and Eligibility

- Any Bachelor degree with office management

Knowledge

- Able to operate computers
- Secretariat knowledge
- Office management practices
- Background information on programme activities and targets

Skills

- Able to list out the activities and prioritize them based on nature and importance
- Good communication skills
- Relationship with all departments internally and externally (DBCS...)
- Able to provide any information related to outreach programmes

DESIGNATION: IP SERVICES COORDINATOR (CAMP HOSPITAL)

Education and Eligibility

Any Bachelor degree

- Degree with social work is preferable
- Field experience in any NGO is preferable

Knowledge

- Knowledge on programme objectives and background
- Workflow in In-patients service delivery system
- Broad knowledge on common eye diseases and management

Skill

- Able to predict the volume of work and required resources
- Approach the patients with compassion
- Able to handle the patients queries and issues
- Effective communication skills
- Relationship with other departments and sponsors
- Time management in IP service delivery (admission, scheduling for surgery, support services like food, discharge)

FOCUS POINTS TO ORIENT CAMP ORGANIZER IN OUTREACH MANAGEMENT

Organization's Mission

1. What is the Mission statement of Aravind Eye Care System?
2. What is Aravind's Quality Policy?
3. List out Aravind's culture and values
4. Key objectives of Outreach from community perspective
5. Key objectives of Outreach from hospital perspective
6. Why the community prefers 'Aravind' – prioritize 3 features?

Magnitude of Blindness

7. What is the definition of Blindness?
8. What do you mean by prevalence of blindness?
9. What do you mean by Incidence of blindness?
10. What % of total population is in 50+ age group?

11. What % of total population is school going children age group?
12. What % of total population is in paediatric age?
13. What is the prevalence of blindness in India?
14. What is the prevalence of blindness in Tamil Nadu?
15. What is the % of blind due to cataract with reference to the recent survey?
16. What do you mean by total cataract burden?
17. What do you mean by CSR (Cataract Surgery Rate)?
18. How will you calculate CSR?
19. Why should we calculate CSR?
20. What is the average CSR in Tamil Nadu?
21. What is the average CSR in India?
22. What is CSC (Cataract Surgical Coverage)?
23. How many people need eye care intervention in 100 persons in community?
24. How many persons need to be operated for cataract in 100 persons in community?
25. How many outpatients need eye care in a given 100 persons in a camp?
26. How many people need to wear eye glasses in 100 persons in community?
27. What % of 40+ age group, needs eye glasses?
28. How many children have eye problems out of 100 children in a high school?
29. What is the main eye problem faced by school children?
30. What % of 30+ populations has diabetics?
31. What % of diabetic patients may have diabetic retinopathy?
32. How many people have glaucoma problem in 100 people in 30+ age group?

Performance

33. How many cataract surgeries were performed in Tamil Nadu by all in the recent fiscal year?
34. How many cataract surgeries were performed in Tamil Nadu by AEHs in the recent fiscal year?
35. What % of TN cataract surgeries has been performed by Govt in the recent fiscal year?
36. What % of our total surgeries are cataract surgeries?
37. What % of Aravind's total cataract surgeries performed through eye camps?
38. What do you mean by market share?
39. What is our market share in cataract surgeries in Tamil Nadu?
40. What is the purpose of calculating market share every year?
41. How many eye hospitals are conducting eye camps in Tamil Nadu?

Clinical

42. What is the cut off VA for cataract admission?
43. What do you mean by 6/60?
44. What is the cut off VA for low vision?
45. What you mean by irrecoverable blind?
46. What do you mean by traumatic cataract?
47. What are the systemic problems should be considered for cataract admission?
48. What do you mean by pseudophakic patient?
49. What is our cataract follow up rate?
50. What do you mean by endophthalmitis?
51. What is the purpose of doing 'duct test' (syringing) in our eye camp?
52. What is called 'tension' in the eye?

53. What should be a normal range of Intra Ocular Pressure?
54. What instrument we use to measure Intra Ocular Pressure in our camp?
55. What do you mean by Humphrey Field Analysis?
56. What is the purpose dilatation?
57. What duration of diabetic problem may start affecting retina?
58. What do you mean by FFA and OCT?
59. What do you mean by ROP? Which age group has to be screened for ROP?
60. What age group of myopic patients can undergo laser treatment?
61. Define PMT
62. What do you mean by Amblyopia?
63. What is the full technical name for 'madras eye'?
64. What % of collected eye balls is used for corneal transplant surgery?
65. What is the technical name for cornea transplantation?
66. What should be an acceptable 'specialty referral acceptance rate'?

Productivity

67. What are the top five qualities making a camp organizer to become a performer?
68. How to get more outpatients with eye defects in a camp?
69. Key advantages of involving local community in our camps
70. Define GIS
71. What are the benefits of GIS in outreach?
72. If there is no GIS software, how will you apply GIS concept for your planning?
73. Discuss the parameters to rank the camp – Excellent or Good or Fair or Poor?
74. What is the key challenge for an organizer to conduct successful eye camp?
75. What are the top most three reasons to make a camp successful?
76. What are the top most three reasons which affect camp productivity?
77. What is the purpose of conducting comprehensive eye camp?
78. What % of population (covered under publicity) can be targeted for outpatients?
79. List five 'Monday commandments' for a camp organizer
80. How will you calculate 'case finding cost' per cataract admission?

Vision Centres

81. Objective of starting a vision centre?
82. What is the population considered for starting a vision centre?
83. What is the cataract target per VC per year? What is the logic behind the target?
84. What % of VC OP is referred to base hospital for surgery or specialty services?
85. What is the budget for establishing a vision centre?
86. How many specialty camps and follow up visits are targeted for a VC per year?
87. Benefits of VC when we compare with eye screening camp(s) in a village?
88. What are the top most three reasons helping a VC to achieve its objectives?
89. What do you mean by financial viability of a VC?
90. How will you make a VC a financially viable model?

4. Eye Camps - A Vital Strategy for Reaching the Unreached

- Evolutions in Eye Camps
- Purposes of Eye Camps
- Types of Eye Camps
 - Screening or Diagnostic Eye Camps
 - Surgical Camps
 - Diabetic Retinopathy Screening Camps
 - Workplace-Based Screening Eye Camps
 - School children Screening Eye Camps
 - Paediatric Screening Eye Camps
- Steps Involved in Planning Eye Camps
 - Rapid Needs Assessment
- Pre-Camp Activities
 - Pre-Camp Schedule
 - Determining Camp Location
 - Selecting Camp Site
 - Choosing Date and Time
 - Predicting Size of the Camp
 - Predicting Personnel Needs
 - Predicting Equipment Needs
 - Predicting Furniture Needs
- Camp Day Activities
 - A Typical Day in an Eye Camp
 - Flow of a Screening Eye Camp
- Post-Camp Activities
- Camp Follow-up Activities
- Community participation in outreach
 - Role of Camp Sponsor
 - Camp Sponsor FAQs (frequently asked questions)
 - Role of Local Community
- Monitoring and Evaluation of Eye Camps
 - Regular Administrative Meetings
- Human Resource for Eye Camps
 - Job Descriptions
 - Role of Camp Organisers
 - Role of Volunteers
 - Role of Patient Counsellors
- Financing an Eye Camp
- Publicity for an Eye Camp
- Eye Camp Templates (Appendix 4)

INTRODUCTION - THE THREE EVOLUTIONS IN EYE CAMPS

The history of eye camps is interesting. We will see in this chapter how eye camps evolved over decades from surgical camps to comprehensive screening camps.

Eye camps started five decades ago as cataract screening camps and surgical camps with make shift arrangements.

Large rooms were converted into temporary surgical theatres temporary surgical theatres and patients were operated on in large numbers. This type of surgical camp was held in schools or marriage halls (called mandapams) which had basic amenities such as water, shelter, toilets and furniture. The surgeons used magnifying loops with somebody holding a torch light on the eye of the patients. Intracapsular cataract extraction (a technique by which the crystalline lens with whole bag is removed by incision) was performed. Patients were kept immobile for almost 10 days for the wound healing. Huge numbers of volunteers and social workers assisted the surgeons in the surgery camps, shifting the patients in an orderly way. In fact the conveyor belt system was initiated in surgical camps. Later operating microscopes were introduced, technique and skills evolved, and intraocular lenses were introduced. Later it was felt that having a sterile environment and asepsis in surgical camps was difficult. The optimal outcomes were not achieved. Surgeons were also not comfortable in the make-- shift arrangements of surgical camps. WHO also encouraged providers to phase out surgical camps and perform surgery for the screened cataract patients in the base hospital by transporting them. At the base hospital all investigations were done and the patients were given surgery in operation theatres that followed standard sterilisation protocol .The quality and standard of cataract surgery was improved and the outcome was better in this way. More and more organisations adopted this as the preferred method.

Surgical camps continue only in a few places (for example, the remote parts of Tibet) where the communities are very inaccessible and very far away from secondary level eye hospitals; it makes more sense (logistically and financially) to transport the clinical team to the people rather than the people to a base hospital. In these cases, the preferred strategy is for the team to perform eye surgeries in a local fixed health care facility, rather than temporarily setting up make shift operating theatres.

Another evolution in eye camps was cataract screening camps becoming comprehensive eye camps. The focus on cataract diversified into other avoidable blindness conditions like refractive errors, glaucoma, diabetic retinopathy and corneal blindness. Going into the community, the money and resources involved in screening only cataract patients was not cost effective. It was also important that other eye diseases were screened for, so that there was comprehensiveness in eye camps. Thus eye camps became holistic in the prevention and treatment of needless blindness. This was a move away from the narrow focus of outreach activities on one eye ailment (often cataract detection and treatment) to a wider focus on “quality eye care to all” by providing comprehensive screening services for everyone, regardless of their age or ailment.

I remember the days on 1970-73. We conducted 5 eye care programmes in Thanjavur District from June 72 – May 73 and operated 6,962 cataracts. In southern part of Tamilnadu alone we did 39,871 cataract operations in one year. With permanent facilities like base hospital in Madurai this can be easily increased to twofold or threefold

*- Dr.G.Venkataswamy,
March 1995*



Camps slowly evolved from addressing only the elderly population to serving all age groups. Because the eye disorders vary in different age groups, disorders are targeted in exclusive eye camps conducted for the specific groups. This ensures reaching out to all these groups with due attention.

This led to the concept of separate camps targeting different age groups.

- From 0 to 15 years (including 0 to 5 years),

The 0 to 5 years covers congenital cataracts, other congenital eye disorders, and blindness due to malnutrition such as xerophthalmia. The childhood eye disorders and refractive errors are screened in school screening camps from 6-15 yrs.

- 30- 50 years

For the age group 30 to 50 , the focus is on correcting refractive errors. A major component of prevention of blindness programme targets the adults and the middle aged (41 to 50 years) who have presbyopia. This target population are not aware of their refractive errors. At the refraction camps in any of the workplace, they are provided with corrective presbyopic glasses. This will improve the productivity of the employees in the workplaces.

- above 50 years

- Comprehensive camps

Comprehensive camps are designed to screen all kinds of common eye problems rather than cataracts alone with improved version of screening protocol in terms of examination procedure added with required instruments like tonometer .

A major breakthrough in community outreach is the awareness created by diabetic retinopathy screening camps for the target population of diabetics. When diabetic retinopathy is detected early, vision loss due to advanced diabetic retinopathy is preventable.

It is rightly said that in eyesight restoration, cataract surgery alone is not enough. What is needed is cataract surgery plus proper refractive correction.....So "why not place the glasses within the eyes during the operation?" is the demand of most eye camp patients.

- Dr. Arin Chatterjee, Chair of Mobile Eye Services, Christian Medical College and Hospital, Ludhiana, Punjab, India

Quality Eye Care to All - A Case in Point

At Aravind Eye Hospitals, this shift of approach from a narrow focus on finding cataract patients to more comprehensive outreach has meant several changes.

1. Aravind now organises screening camps for workplaces (targeting refractive errors in middle-aged adults), for school children at their schools, for children aged 0 to 5 or 6 in the community and for diabetic retinopathy.
2. Aravind ensures uniform distribution of these camps throughout the service area.
3. Aravind continues to work to reach more patients with other specialty problems during regular screening camps.

Comprehensive Screening Eye Camps by Aravind Eye Hospital, Madurai (April 2015 – March 2016)

Number of comprehensive eye screening eye camps by Aravind Eye Hospital, Madurai in 2015-16		
Outpatients in various age groups seen:		
0-15 yrs	3,987	4%
16-40 yrs	14,392	15%
41-50 yrs	18,317	19%

Above 50 yrs	57,819	61%
Total outpatients seen	94,515	100%
Cataract and Refraction services:		
Immature Cataract & % in OP	7,471	8%
Cataract advised & % in OP	35,014	37%
Admission & acceptance %	29,711	85%
Eyeglasses advised & % in OP	18,584	20%
Eyeglasses ordered & acceptance rate	15,398	83%

Specialty services:		
Diagnosed	Number	% in total OP
Glaucoma	1,292	1.4%
Retina	1,496	1.6%
Diabetic retinopathy	324	0.3%
Childhood blindness	776	0.8%
Cornea	1,412	1.5%
Orbit	821	0.9%
Neuro	560	0.6%
Uvea	83	0.1%
Others	2,100	2.2%
Specialty total and % in OP	8,864	9%

Compliance to specialty referral:		
Specialty cases	Referred*	Registered**
Glaucoma	1,034	696
Retina	1,232	840
Diabetic retinopathy	291	193
Childhood blindness	625	367
Cornea	1,130	740
Orbit	650	426
Neuro	544	413
Uvea	66	41
Others	1,615	1,029
Specialty total	7,187	4,745
% of referrals of the total diagnosis	81%	
Specialty referral acceptance rate		66 %

Our results emphasise the need for comprehensive screening in regular eye camps. If Aravind had focused only on cataract in the year 2015 - 2016, imagine the 15,398 persons would not have had their refractive errors corrected, 8,864 patients would not have had their other major eye problem diagnosed, and 4,745 patients who would not have visited the tertiary hospital for treatment or surgery. Hence it is our responsibility as an eye care service provider to take care of patients in the community who have any eye problem.

- R. Meenakshi Sundaram

** number of patients with speciality problems are referred by the ophthalmologist to visit base hospital for immediate intervention by specialist. ** Number of patients visited speciality clinics as recommended by ophthalmologist in the camp*

Advantages of this shift from cataract to comprehensive screening:

- It is the right direction for achieving the mission of VISION 2020 - The Right to Sight.
- It will increase health-seeking behaviour for all eye problems.

- Early detection of major eye problems or any kind of infection will help more patients maintain or restore their sight .
- The eye care institution will reach a wider market in the service area.

Challenges of this shift

- Getting new community stakeholders on board and gaining entry to conduct screening camps for employees, the diabetic community, students, children, etc.
- Possible decrease in cataract services as existing manpower is distributed to other types of camps.
- Increased need for coordination among camp organisers due to logistical challenges among all outreach programmes
- Ensuring that base hospital work is not overloaded by too many camps being held at the same time (must develop a coordinated schedule)
- Ensuring manpower with good training and knowledge in current technology

TYPES OF EYE CAMPS

1. Comprehensive Screening or Diagnostic Eye Camps

The clinical team (consisting of doctors and paramedicals) examines all patients for eye problems and treats minor ailments or refractive errors in the camp site with medication or eyeglasses. People who need surgery are referred (and in some outreach models, admitted and transported, through the courtesy of the camp sponsor) to the base hospital. No surgery is performed at the camp. This chapter focuses mainly on this type of eye camp.

See below for information on pre-camp planning, camp activities, post-camp responsibilities and follow-up.

Because people are so spread out, it's not feasible to build hospitals in the rural areas. The [surgical] eye camps are the only way to reach those people who otherwise aren't being served and would remain blind. For many people, getting to the eye camp is a real challenge. Some walk for several days and some travel on horseback for as long as a week. It's a challenge for us to get there, too, because we have to bring everything with us, such as surgical tools and supplies, microscopes, and generators because there's no electricity.

- Kunga Tashi, Seva Program Manager, Lhasa, Tibet

Comprehensive Screening Eye Camps by Aravind Eye Hospitals in 2015 - 2016

Number of camps conducted in all service areas	1,532
Number of outpatients examined	3,34,465
Number of outpatients who received eyeglasses	62,361
Number of patients transported to base hospital for cataract surgery (99% with IOL)	83,508
Number of patients transported to base hospital for other procedures	1,615

1.1. Surgical Eye Camps

After screening by the clinical team, the cataract patients are identified. After baseline investigations are performed patients are taken for cataract surgery in a makeshift operating theatre or, preferably, a local clinic or hospital facility. These camps constitute a technical and financial challenge in remote rural areas due to the lack of proper facilities. With great care and attention to details, they can still provide high quality outcomes^[4], but have been banned in India due to high complication rates compared with base hospital outcomes and are being phased out in most developing countries around the world.

In remote regions of Nepal, Tibet and Africa, surgical eye camps are held where the population is not dense enough to support the building of permanent eye care facilities.

In Cambodia, surgical eye camps are held not because of remoteness, but because there aren't enough eye surgeons. The objective of surgical eye camps there is to boost the volume of cataract surgeries by bringing in teams of eye doctors from neighbouring countries to work with their Cambodian counterparts.

Surgical eye camps are not ideal. Many eye care institutions and NGOs have moved away from this model wherever possible. For example, surgical eye camps require far more equipment and human resource than a screening eye camp, and enough material must be taken for the projected number of patients. If the actual volume of patients does not match the projected volume, these resources are underutilised. A lot of time must be spent to accurately plan and mobilise all the necessary resources: staff, equipment and consumable supplies.

Another drawback is that surgical eye camps are often not equipped to handle general or ocular emergencies or postoperative complications and infections. Furthermore, the quality of cataract surgery outcomes has improved drastically since the 1990s with IOL implantation, but this surgery relies on operating microscopes and biomicroscopy that would be difficult to shift to rural and remote villages. These disadvantages make screening eye camps with a base hospital approach more feasible in almost all parts of the world.

2. Diabetic Retinopathy Screening Camps

Diabetic retinopathy is damage to the small blood vessels in the retina (the thin light-sensitive membrane that covers the inside of the eye) caused by complications of diabetes (high blood glucose levels in people with poorly controlled diabetes).

According to the World Health Organization, 180 million people are affected by type 2 (formerly called adult-onset) diabetes worldwide, 41.9 million in India alone, the largest diabetic population of any nation in the world. These figures are expected to double by 2030. Various studies conducted in India show that 15-20% of the diabetic population develops diabetic retinopathy (DR).

The financial costs associated with visual impairment or blindness due to diabetic retinopathy (DR), both to the patient and to the health care system, are very high. In contrast, the cost of screening and preventing diabetic retinopathy is a fraction of that cost, around 1.2% of total health care costs for a person with diabetes. Because DR is initially symptomless, it is vital to detect it during routine screenings.

Diabetic retinopathy screening camps are just one prong of Aravind Eye Care System's three-pronged approach to DR outreach. (See Chapter 5 for more information on the other two prongs.) Diabetic retinopathy "camps" are often held in conjunction with general hospitals (diabetes clinics) and diabetic associations and include a large community education component. Because, screening people for this disease requires special medical expertise. DR screening camps specialise exclusively in the diagnosis and treatment of this disease. However, while the focus is on detecting diabetic retinopathy before it causes irreversible blindness (and this sometimes means detecting diabetes in patients who don't know they have it). Patients who suffer from other eye disorders will also be referred to the eye care institution, eye clinic or speciality ophthalmology practice.



Diabetic Retinopathy Screening Camps by Aravind Eye Hospitals in 2015 - 2016

Number of camps conducted exclusively focused on diabetes	375
Number of outpatients screened	42,280
Number of diabetics who attended	20,068
Number of patients identified with diabetic retinopathy	2,632

Patient counselling plays a major role in this camp. Diabetic patients need counselling to encourage them to have periodic check-ups. Patients with early stage diabetic retinopathy are counselled and given an appointment for a detailed examination by the specialists in the base hospital’s retina department. Patients with diabetic retinopathy at the severe stage are counselled and given an immediate appointment for detailed examination and laser treatment in the retina department.

Organising diabetic retinopathy screening camps is very similar to organising other screening camps. They differ mainly in the following ways:

- For a given number of expected outpatients, the ratio of expected diabetic patients will usually be higher than the ratio of cataract patients in a regular screening camp. If DR camps solicit diabetic populations in particular, about 80% of outpatients screened will have diabetes.
- Diabetic retinopathy screening camps require specialised medical experts – diabetes specialists and ophthalmologists specialised in retinal disorders – accompanied by specially trained paramedical teams.
- A specific set of diagnostic equipment is needed for diagnosing both diabetes and retinal disease.
- Patients move through a different set of screening stations than in other eye camps.
- Publicity content and information pamphlets focus specifically on diabetic retinopathy (see Appendix 5 for more information).
- Sponsors have specific additional responsibilities.

The sponsors’ additional responsibilities include:

- Arranging for lab technicians as well as blood strips for screening for diabetes.
- Involving local physicians to diagnose diabetes.
- Approaching diabetologist, health centre to refer known diabetic patients.

Overview of DR Screening Camp Operations

After arrival and registration, patients go through the following stations:

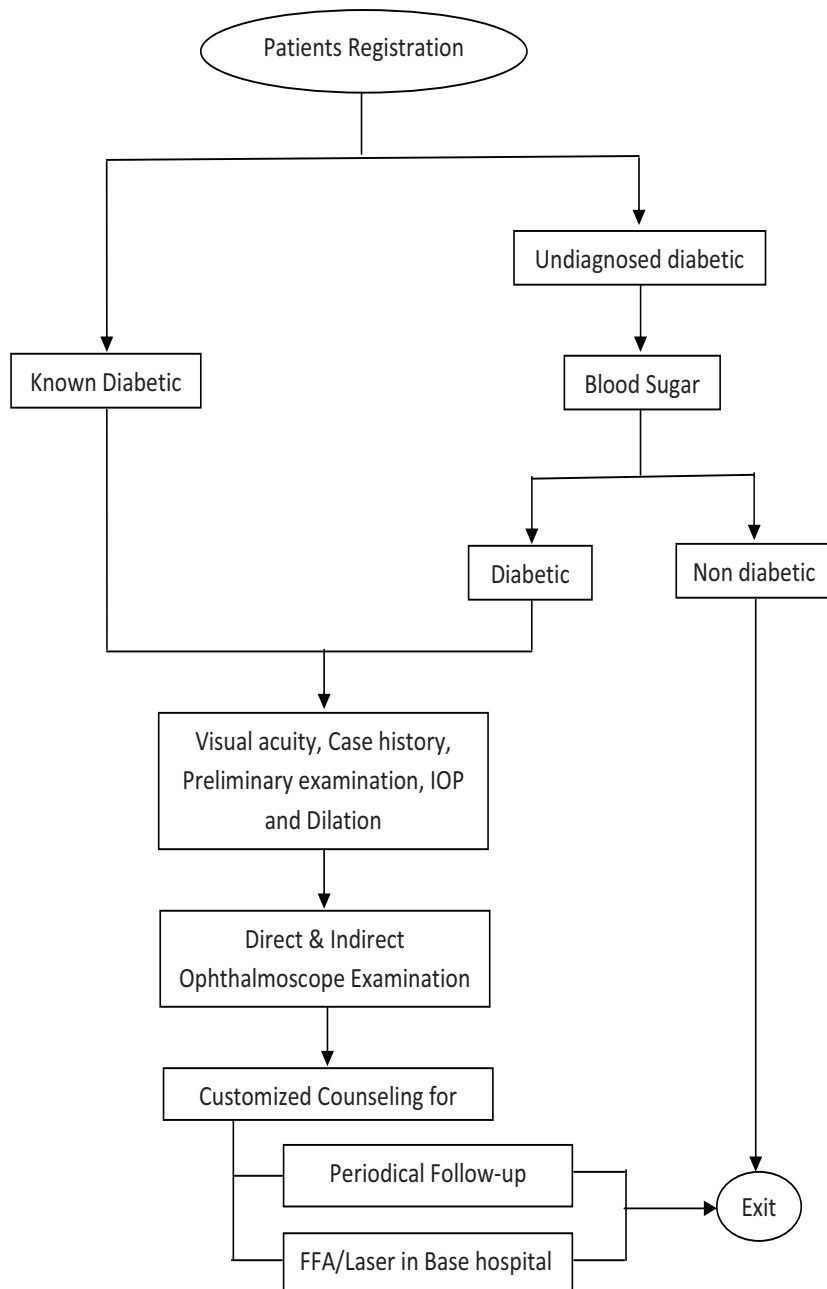
Diabetes screening

- Patients are screened for diabetes.
- Non-diabetic patients are generally not included for examination at the camp, and are referred to the eye care institution if any other treatment is necessary.

Physician’s advice

- Patients whose status remains uncertain are advised to have a Glucose Tolerance Test (GTT) performed to ascertain their status.

Screening Protocol in Diabetic Retinopathy Camps



- Diabetes patients are categorised as “known” or “newly identified” diabetics and sent to register to have their retinas examined.
- Borderline cases are also sent for registration.

Registration for diabetic retinopathy screening

- Camp staff enter diabetic and borderline diabetic patients into a separate register.
- Paramedical staff fill out individual patient cards that include:
 - patient’s age, weight and height
 - how long the patient has been known to have diabetes



- whether there is a family history of diabetes
- the patient's current treatment
- Patients carry these cards with them to the next station.

Preliminary vision testing

- This is performed by ophthalmic assistants, aided by volunteers, using vision charts, such as the Snellen chart (in the local language) and illiterate E- type charts in a well illuminated room.

Preliminary diagnostic examination

- This is performed in the same way as screening eye camp (see Camp Day Activities later in this chapter).

Intraocular pressure and dilation

- Ophthalmic assistants apply eye drops to dilate patients' eyes, and have them wait for the drops to take effect in a dimly lit room.
- In some cases, other ophthalmic assistants take patients' intraocular pressure (IOP).

Diabetic retinopathy screening

- Ophthalmologists examine patients' dilated eyes with indirect ophthalmoscopes. They work in dimly lit booths constructed out of dark cloth.
- Patients who show signs of retinopathy are then examined with an ophthalmoscope to confirm the presence of the disease.

Counselling

- Every diabetic patient leaves the camp with information concerning the possible effects of diabetes on the eyes, and the need for regular screening.
- Booklets and leaflets are distributed to disseminate awareness of the disease and to help each patient remember essential information.
- Borderline-diabetics are advised to get a GTT test, which is more accurate than an ordinary blood test.
- When patients are diagnosed with diabetic retinopathy, counsellors discuss the disease and treatment options with them in detail.
- Counsellors recommend a course of action - usually laser treatment - and tell patients where this service is available. If a patient wishes to, he or she can schedule an appointment at the hospital, which is then noted at the bottom of the patient card.
- Finally, camp staff collect the patients' cards with their medical records, tearing off the bottom part for the patients to keep as a reminder.
- Patients are told that if they present this card at the hospital on the appointed date, they will be treated, fed and accommodated for free (if sponsorship is available in that particular eye care institution).

Refractive errors (myopia, hypermetropia, astigmatism, presbyopia) result in an unfocused image falling on the retina. Uncorrected refractive errors, which affect persons of all ages and ethnic groups, are the main cause of vision impairment. They may result in loss of education and employment opportunities, lower productivity, and impaired quality of life. Services should focus on children, the poor and adults over the age of 50, and the correction provided must be affordable, of good quality and culturally acceptable.

- VISION 2020 - The Right to Sight

Developing Expertise: Training Medical and Paramedical Staff

Before conducting screening camps, it is necessary to create expertise in the area of diabetic retinopathy. Training seminars must be conducted and offered to professionals. General physicians and ophthalmologists require in depth medical training, paramedical staff need to know the basics about the disease, in order to operate diagnostic equipment and assist the screening process at camps. A typical training seminar for paramedicals covers the following:

- What is diabetes?
- Signs, symptoms, diagnosis and management of the disease.
- What is diabetic retinopathy?
- Risk factors, diagnosis and treatment of diabetic retinopathy.
- Task specific information.

Educating non-medical professionals such as patient counsellors, screening camp sponsors, administrators, and journalists about diabetic retinopathy is an important way of disseminating awareness about prevention and treatment of this disease.

See Chapter 5 for information about other diabetic retinopathy outreach initiatives.

3. Workplace-Based Screening Eye Camps

It is estimated that 153 million people in the world have a visual impairment due to uncorrected refractive errors (visual acuity <6/18 or <20/60 in the better eye). In an aging world, the magnitude of uncorrected presbyopia is high. Because this is a problem among working populations, refractive error camps can be held for the sole purpose of screening and dispensing eyeglasses to large numbers of patients at one time. Industries and other fields of work are prime targets for this type of outreach camp.

Workplace-Based Screening Eye Camps by Aravind Eye Hospitals in 2015 - 2016

Number of camps conducted in factories and other workplaces	205
Number of employees examined as outpatients	51,687
Number of employees who received a prescription for eyeglasses	16,578
Number of employees who received eyeglasses	13,835

Refractive error camps differ in the following ways:

- Refractive camps are usually held within workplaces, such as factories or offices, for a company's employees
- Sponsors of these camps tend to be the employer, therefore publicity is unnecessary
- Outreach organisers know ahead of time the exact number of employees and therefore the exact number of patients to be screened, personnel and equipment can be adjusted to camp needs
- The number of refractive error cases is predicted on the basis of the screened population's breakdown by age (it is estimated that 10 to 15% of those under the age of 40 will have refractive errors, versus 50 to 60% in a population that is over 40 years of age); a good rule to go by is that approximately 35 - 45% of employees will need eyeglasses
- Adequate manpower (refractionists or optometrists) and eyeglass dispensing equipment must be included in the planning for a refraction-focused eye camp (it is possible to estimate numbers fairly accurately because of the age of the fixed target group and the number of employees)
- Patients who suffer from non-refractive eye disorders are informed about eye care options and are referred either to a nearby comprehensive eye camp or to the base hospital (they are not directly admitted as inpatients, or counselled, at this stage)

4. School children Screening Eye Camps

Globally, uncorrected refractive error is the main cause of vision impairment in children aged 6-15 years and the prevalence of myopia (short-sightedness) is increasing dramatically among children. Outreach in schools (covered in more detail in Chapter 5 - Other Approaches to Outreach) concentrates on refractive error, which can lead to lack of academic success in school. Students with other eye ailments are also noted and referred to the base hospital.

School children Screening Eye Camps by Aravind Eye Hospitals in 2015 - 2016

Number of schools covered under this scheme	357
Number of teachers trained for a day to do preliminary assessment	3,328
Number of children screened by teacher	3,33,136
Number of children screened by medical team	64,093
Number of children confirmed with eye defects (about 80% received eyeglasses)	18,024

5. Paediatric Screening Eye Camps

Consider this: A child goes blind somewhere in the world every minute. Childhood blindness is preventable or treatable. Paediatric screening eye camps target babies and preschool-aged children. Parents are educated about eye safety, prevention (measles, harmful traditional eye remedies) and to detect eye defects (congenital or traumatic), childhood illnesses and nutritional deficiencies that can lead to blindness:

- Vitamin A deficiency
- Corneal scarring
- Congenital and traumatic cataract
- Congenital glaucoma and retinopathy of prematurity (ROP)
- Serious refractive errors

Paediatric Screening Eye Camps by Aravind Eye Hospitals in 2015 - 2016

Number of camps conducted in the community exclusively for children	104
Number of children examined	42,336
Number of children who received eyeglasses	460
Number of children identified with other eye defects	547

The process in a paediatric screening eye camp is quite similar to that of other screening camps. A major challenge of this type of camp is how to get more children with eye defects to attend the camps. One way is through greater eye health education, targeted at young parents. Another way is to work with primary health centres, children’s health centres, family physicians, paediatricians, maternity clinics and preschools.

AN OVERVIEW OF STEPS INVOLVED IN PLANNING EYE CAMPS

1. Determination of jurisdiction
 - hospital service area and camp organiser areas of jurisdiction are decided
2. Collection of baseline information
 - outreach manager and camp organiser must have an idea of service area population, prevalence and incidence of blindness, cataract surgical rate, etc.
3. Selection of potential locations for camps
 - camp organiser should select and suggest the places to conduct camps, based on the population and accessibility
4. Identification of potential sponsors / community partners
 - camp organiser must be able to identify community-based sponsors, such as social service organisations or large corporations
5. Motivating sponsors
 - camp organiser approaches potential sponsors, judges their capacity to conduct a camp based on their interest, financial situation, access to manpower, etc., and then works to motivate them to agree to sponsor a camp
6. Clarification of commitments on the part of the eye care institution and the sponsor community partner
 - the responsibilities of the sponsor are clearly stated in writing and agreed upon - publicity, camp site arrangements, hospitality for clinical team, volunteer support and food for patients - and the eye care institution's inputs are clearly outlined
7. Communication with sponsor (date and venue requirements)
 - based on the camp organiser's pre-planning, the outreach manager considers the availability of resources and the feasibility of running the camp, and communicates with the sponsor to confirm the date, time, venue and other requirements (publicity, volunteers, furniture, hospitality, patient mobilization for screening)
8. Planning of required manpower and logistics
 - outreach manager takes responsibility for scheduling the clinical team, arranging their transportation, organising the arrival of patients from the camp, providing their food and accommodation and ensuring that their clinical procedures and surgeries are scheduled (a cordial relationship with clinical and non-clinical coordinators in the hospital is essential for smooth logistical planning)
 - with the help of the sponsor, the camp organiser takes responsibility for arranging transportation for the patients referred to the base hospital (if a large number of inpatients is expected, batch wise admissions are planned based on the bed capacity).
9. Conducting of camp and case selection for surgery/treatment
 - camp organiser is responsible for orienting the volunteers to their tasks and the flow of the camp; briefing the clinical team on the camp location and venue, the sponsor's background and contributions, facilities available and expected workload; and ensuring that the camp runs smoothly
10. Transportation to base hospital (or other site for surgery)
 - camp organiser ensures that selected patients are transported to the eye hospital as soon as the screening camp is over
 - camp organiser also ensures the return transportation of operated patients to the camp venue

When we say "sponsor," we mean the local community partner who takes ownership of the outreach activity and takes care of all or some of the community-based preparations, including the major task of mobilising the community. Every camp is a little bit different. Some sponsors practically do everything, while others provide only financial support. Some can help with arrangements but not with funding. And in few remote places, there is no sponsor.

- R. Meenakshi Sundaram

- transportation must be planned and arranged in advance as the availability of transport has an impact on the productivity of camps and the uptake of surgery
11. Surgery, postoperative medication, discharge, follow-up
- outreach manager ensures that clinical service is provided according to the schedule, and is accountable for follow-up service at either the camp venue or the base hospital
 - the site of follow-up is determined by distance and number of inpatients: if the base hospital is close enough to the screening eye camp location and is accessible, the manager will decide to hold the follow-up at the hospital (this is quite convenient for the eye care provider); if the camp location is far away and the number of patients is high, then follow-up will be held at the camp venue
 - location of the follow-up must be clearly communicated to patients at the time of their discharge

Management support is an underlying factor in the success of eye camps. The outreach programmes of some eye hospitals do not reach their potential because of managers who do not perceive the value of outreach, viewing it instead as charitable work that is burdensome and expensive. But in fact, outreach is the keystone for the growth of Aravind Eye Hospitals. Dr. V saw it as an integral part of eye care, and our senior leadership still give it their full support.

- R. Meenakshi Sundaram

Rapid Needs Assessment for Starting Up Screening Eye Camps

- Staff available (outreach/camp organiser, medical/paramedical, transportation, secretarial)
 - Resources available (financial, office, communication, transportation, equipment)
 - Geographic areas to cover (reaching the unreached in unserved places; what radius or distance from the base hospital; what geographical target population)
 - Population and epidemiological statistics available
 - Screening only cataract? Other specific eye problem? Or all eye problems, including refractive error
 - Sponsors available (for financial support, publicity, volunteers, furniture set up, hospitality, transportation of inpatients)
 - Any preferred day(s) or season(s). (if yes, specify with rationale - see below Considerations When Scheduling an Eye Camp)
 - Organisational steps and strategies in place for successfully planning the camps
 - Implementation steps and strategies in place for successfully conducting the camps
 - Is management supportive? (ensure the support of administrators by educating them on the value of outreach to the eye care institution)
 - Guidelines for sponsors well communicated (use templates - see Appendix 4)
 - Cooperative planning with base hospital staff
 - Cost recovery from camp patients, sponsors, a funder, or a combination
 - Data collection and storage system in place for monitoring and evaluation
 - Other considerations
12. Report generation (internal / external)
- outreach manager is responsible for collecting all relevant data from all relevant staff (camp organisers, paramedicals, opticians, patient counsellors), generate final reports on each camp and summaries camps over specific periods of time. The manager must also send reports to various departments and senior management of the eye care institution, government agencies, the sponsors, donors, etc.

In small eye care institutions, one individual can take on the role of both outreach manager and camp organiser. For example, in some eye hospitals, the optometrist is given this role. It is advised, however, that outreach work should be coordinated by an administrative person.

The planning of eye camps entails a four-phase approach:

- Phase 1 - Pre-camp activities
- Phase 2 - Camp day activities
- Phase 3 - Post-camp activities
- Phase 4 - Follow-up activities

(See Appendix 8 for performance standards and standardised administrative and clinical protocols for eye camps).

PRE-CAMP ACTIVITIES

A pre-camp activities checklist ensures that every task is completed for every camp. See Appendix 4 for useful templates.

Pre-Camp Activities Checklist

- Identify target locations
- List potential sponsors
- Contact sponsors
- Assess sponsors’ viability
- Ascertain that sponsors understand their commitment
- Agree upon a suitable camp date and time
- Collaborate with sponsors to create a planning timeline
- Estimate camp size and its corresponding needs
- Select a camp venue (community building such as a school)
- Help sponsor design a publicity campaign
- Plan camp logistics
- Submit a proposal to a funding agency, if necessary
- Plan site facilities
- Order and gather all necessary equipment, supplies and medications in advance, including administrative forms
- Delegate catering arrangements (for personnel and inpatients) to sponsor
- Organise the transportation of equipment and personnel from and to the base hospital
- Plan accommodation, food and transportation for expected inpatients
- Schedule the surgery, discharge and follow-up of expected inpatients
- Update sponsor on base hospital activities related to the camp
- Attend weekly meetings at the base hospital to discuss all aspects of camp preparations
- Decide what data will be collected at camp and how it will be recorded

How long before camp?	To do
1 - 2 months	find sponsor, select location, fix date
3 - 4 weeks	select camp venue, decide on camp time and schedule, design publicity campaign
2 - 3 weeks	hold coordination meeting at base hospital
1 - 2 weeks	visit the camp venue, meet the sponsor, go over publicity and camp logistics
3 - 7 days	visual publicity campaign launched
1 - 3 days	audio publicity campaign launched

- Visit the camp venue ahead of time, to ensure that plans go smoothly
- Train sufficient volunteers for an effective publicity campaign and to help out on camp day (see Role of Volunteers, below)
- Prepare for clinical team and support staff for departure

Pre-Camp Base Hospital Meeting Agenda

- Reason for having selected the camp location?
- What population will be targeted?
- How many patients are expected?
- How many cataract, eye disease and refractive error cases are expected?
- How many surgery cases are expected?
- Does the camp have the capacity to handle this many patients? Compare available resources (consider sponsor's capacity) to expected need.
- Are special logistical needs taken care of (catering, transportation, equipment, needed furniture, etc.)?
- Does the clinical team's departure for camp need to happen a day ahead of time (if camp is distant), in which case, is accommodation arranged?
- Is sufficient personnel ready and available?
- What needs to be done to prepare the publicity campaign (posters, banners and flyers printed, audio announcements created, etc.) ?
- What local health, education and social services personnel in the target area should be contacted for further assistance for organising the camp, publicity and follow-up?
- What is the schedule for surgery, discharge and follow-up?

For eye care institutions just starting eye camps, it is helpful to hold a meeting at the base hospital approximately 1 to 2 weeks before the camp date, to inform the doctor(s) posted to that camp, camp organiser and hospital staff about the preliminary arrangements. A representative of the sponsoring agency may be updated about the arrangements made in the base hospital, as necessary.

Determining the Location of an Eye Camp – Need and Feasibility

Eye camp locations are determined based on both need and feasibility. The need is defined by census data, Government status reports and demographic studies that map the prevalence of eye disease per geographic area, all of which generally provide a good indication of where eye camps are most needed. Self-selection (when a village solicits an eye camp) is another way to determine need.



Successful camps are usually those centrally located in villages that are populated by at least 3,000 people and surrounded by another 10,000 to 20,000 people living in smaller villages and hamlets with road access. (Eye camps held in sparsely populated countries or regions will need to choose other criteria).

Feasibility is just as important as need. The key to successful camps rests almost entirely on having strong sponsors. Sponsors ensure the overall viability of camps, mainly because they ensure publicity and high turnout, and because they finance a large part of these ventures. In some cases, the sponsor is willing to provide or arrange for patient transportation between the surrounding villages and the site of the camp.

Camp locations are selected to target need as systematically as possible within the crucial constraint of strong sponsorship. In practice, eye camps are held where capable, enthusiastic and professionally-minded sponsors are found.

Selecting the Camp Site or Venue

Once a camp location is selected, proper site selection ensures that an eye camp will attract a maximum number of patients and operate to its full potential. For this, the situation of campsite and its physical accessibility, especially by public transportation, are important considerations. The use of small scale maps and GIS (Geographic Information Systems) when available, facilitates the site selection process. Still, sponsors with in-depth knowledge of the area are an unmatched tool at this stage of decision-making.

Preferable camp sites are usually school buildings, because there will be facilities already available which can be used for camp purpose. The school buildings should have good roofing, and be equipped with furniture, water, electricity and toilet facilities. The camp venue should include two rooms of at least 7 metres (25 feet) in width for checking vision. Electricity should be available, with at least two outlets (plug points), and two or three fans. It is advisable to have power backup or generators in case of local power shortages. Ensure that no other functions will be taking place at the building on the planned day of the camp. Contact (or have the sponsor contact) the necessary authorities well in advance to apply in the proper format for permission to use the building.

Choosing the Camp Date and Time with Care

The goal is to choose a suitable date at least one month in advance to allow for proper planning and publicity. Carefully consider what date is the most appropriate. Consult sponsors and other community members to become aware of local holidays, festivals, harvest periods and all other possible negative factors. Do not choose a date that is not comfortable for you. Make sure that the date works for the base hospital. Agree upon an auspicious date with the sponsors.

Selecting an appropriate time for the camp means ensuring that there will be no important activities in the area at the same time that could affect patient turnout. It also means



allowing enough time in the morning for the clinical team's travel from the base hospital and their set up. (If possible, have volunteers clean the venue and set up furniture the evening before) Camps last, on average, about six hours.

CONSIDERATIONS WHEN SCHEDULING AN EYE CAMP

- Spread camps out over the year to relieve congestion at the base hospital and to spread out the work of the camp organisers.
- Do not plan too many camps when the base hospital is experiencing its busiest time of the week, month or year.
- Do not compete with special holidays, festivals, harvest times, major sporting events, religious events, or elections.
- Climatic conditions can affect camp attendance (for example, the rainy season / hot summer).
- Keep in mind the schedules of potential partners (for example, schools and teachers are busiest at the beginning and end of the school year and during exam times; some industries might have busy times of the month or year).
- If possible, take advantage of special days such as United Nations World Health Days (for example, World Diabetes Day on November 14 for diabetic retinopathy screening camps).
- Workplace-based camps can be scheduled to avoid the busy times for other camps (for example, school screening camps can only be held when schools are in session and not possible during the holidays and exams).
- Schedule conferences and other CME (Continuing Medical Education) events before finalising camp dates, to avoid conflicts for clinical and other hospital staff.
- Long distance camps should preferably be conducted on Saturdays so that the clinical team has a day off following the camp and long trip home. If they are conducted on Sundays the staff may avail a day off in the working week depending on internal arrangements of manpower.
- Find out what camps or other outreach activities have been conducted in the proposed camp location in the past, their results and whether they might affect your proposed eye camp.
- A new strategy is to conduct regularly scheduled monthly or bimonthly camps in the same place, with the same sponsor or a different sponsor each time. This is to increase the productivity, reduce the cost of publicity, create awareness, and increase the surgery acceptance rate and follow-up rate.

Predicting the Size of the Camp

Predicting the size of an eye camp is an art and as such, becomes easier and more accurate with experience. Nevertheless, camp turnout rests consistently on a certain number of factors. These can serve as guidelines for predicting the size of any camp, in order to plan for personnel, equipment/supplies, and furniture needs. Because sponsors are in charge of publicity campaigns and are locally based, they are usually well placed to help estimate turnout.

Sometimes eye camps target specific groups. A company might arrange to have its personnel examined for a certain eye problem, such as refractive errors. In this case, the exact number of attendees can be ascertained. Alternatively, the population might be selected on the basis of age, or exposure to risk. More generally, eye camps try to attract as many people in a selected area as possible. The size of the targeted population will help in predicting expected turnout. (If a new hospital conducts an eye camp in an unfamiliar location, 1 - 2% of the population can be predicted to attend the camp, provided the publicity campaign effectively reaches

the targeted villages). The following chart is used by Aravind Eye Hospitals in a highly populated area and will have to be reconfigured for the population density of other countries or regions.

Camp Size	Small	Medium	Large	Very Large
Average Radius for Publicity	5 kilometres (3 miles)	5 - 10 km (3 - 6 miles)	10 - 15 km (6 - 9 miles)	15 - 20 km (9 - 12 miles)
Expected Outpatients	200 - 300	300 - 500	500 - 800	> 800
Expected Inpatients	40 - 60	60 - 100	100 - 150	> 150

Camp size is measured in terms of the number of expected outpatients and inpatients.

- Outpatients (OP) are all the people who are received and examined at an eye camp, whether or not they need treatment or surgery.
- Inpatients (IP) are those among the outpatients who were selected for surgery. Not all selected inpatients, however, turn up for surgery.

Factors Impacting Camp Turnout

1. Demographics

- population size in the targeted radius
- breakdown of population by age
- whether there is a high prevalence of eye disease in the district
- density of population

2. Publicity Campaign

- in depth coverage in an accessible radius and accessible venue
- local community partner's dedicated campaign
- reach and impact of publicity (how many people were reached, and how many responded with enthusiasm?)
- impact of other educational campaigns on eye health
- impact of past eye camps in same location or nearby (previous patient satisfaction will determine word-of-mouth publicity)

To increase the camp's efficiency, we extensively use paramedical personnel who are part of the clinical team from Aravind Eye Hospital. These ophthalmic assistants receive training in basic nursing, followed by intensive training from us in a specific area of ophthalmic care. At the camp, they perform preliminary screening and diagnostic tests. Their strategic use reduces the need for ophthalmologists.

- Dr. G. Natchiar, Director Emeritus, Aravind Eye Care System

It can be predicted that 10 to 25% of the outpatients will be admitted for cataract surgery, depending on the level of awareness in the community. If the publicity is very effective through a door-to-door approach with some kind of preliminary assessment made by clinical or trained personnel to identify people with eye ailments ahead of time, the expected number of cataract admissions can be scaled upto 50% of the outpatients. This kind of mobilisation can take place for camps located where ophthalmic technicians are specially posted.



Predicting Personnel Needs

		Small	Medium	Large
Expected Outpatients		200 - 300	300 - 500	500 - 800
Expected Inpatients		40 - 60	60 - 100	100 - 150
Doctors(Senior + Junior)		1+1	1+2	2+2
PMOAs	Preliminary vision	1	2	3
	Tension and Duct	1	2	3
	Refraction	1+1	2+1	3+2
Patient counsellor		1	1	1+1
Optician (sales and delivery)		1	1	2
Optical Technician (Edging & Finishing)		1	2	2
Camp organizer		1	1	1+1

Predicting Equipment Needs

Camp co-ordinator / Organisers should send order forms to the hospital stores or to the appropriate suppliers several days in advance. Before departure for a camp, the organiser should quickly run through a checklist of necessary materials to ensure that nothing is missing (See Annexure IV template for the detailed list).

The camp organizer will discuss with sponsors in detail the requirements of space for screening, furniture and volunteers. The following table gives an idea about requirements in order to ensure efficient management and smooth patient flow in the campsite:

CAMP DAY ACTIVITIES

Using a checklist of camp day activities ensures that every task is completed before, during and at the end of the camp. See Appendix 4 for useful templates..

Campsite requirement on Space, Furniture, Volunteers and other Supplies for 500 OPs

Steps to Screening	Space	Furniture	Volunteers
Registration	Space at the entrance of the school	2 Tables and 3 chairs	2
Preliminary vision test	A room with 20 x 15' space	2 long benches	1
Preliminary check up by Doctor	A room with 10 x 15' space with more waiting area	2 Tables, 2 Arm Chairs and 4 foldable chairs (& few benches for waiting)	1
Tension and duct examination	A mini hall with 15 x 15' space with waiting area	2 benches and 2 folding chairs	1
Refraction	A room with 20 feet distance with enough space for diala.	6 folding chairs and 5 benches for waiting	1
Final examination by doctor	Preliminary and Final can put together	Preliminary and Final can put together	1
B.P. Recording	A room with 10 x 8' space with more waiting area	1 Table and 2 chairs	
Counselling and Admission	An area with 10 x 10' space with more waiting area	2 Tables and 3 chairs (& few benches for waiting)	2
Optical dispensing service	A room with 20 x 15' space	3 Tables, 2 chairs and 6 benches	

Camp Day Activities Checklist

- Check that all the travel arrangements are complete so that the clinical team reaches the camp venue in time with all equipment, instruments, supplies (medicines, patient registers) and documents
- Communicate with sponsor(s) and volunteers about the camp arrangements
- Explain to the volunteers how they can help in the co-ordination of camp details. (for example, how to register patients and fill in outpatient and inpatient cards, how to manage inflow of patients, how to help with screening, etc.)
- Commence reception, screening and treatment of patients
- Register inpatients, and transport them to the base hospital
- Complete camp with the help of sponsor(s); volunteers can help in cleaning the camp site,



The materials, registers, brought from the base hospital are returned safely to the concerned authorities, There should be a system developed so that this process happens without any flaws.

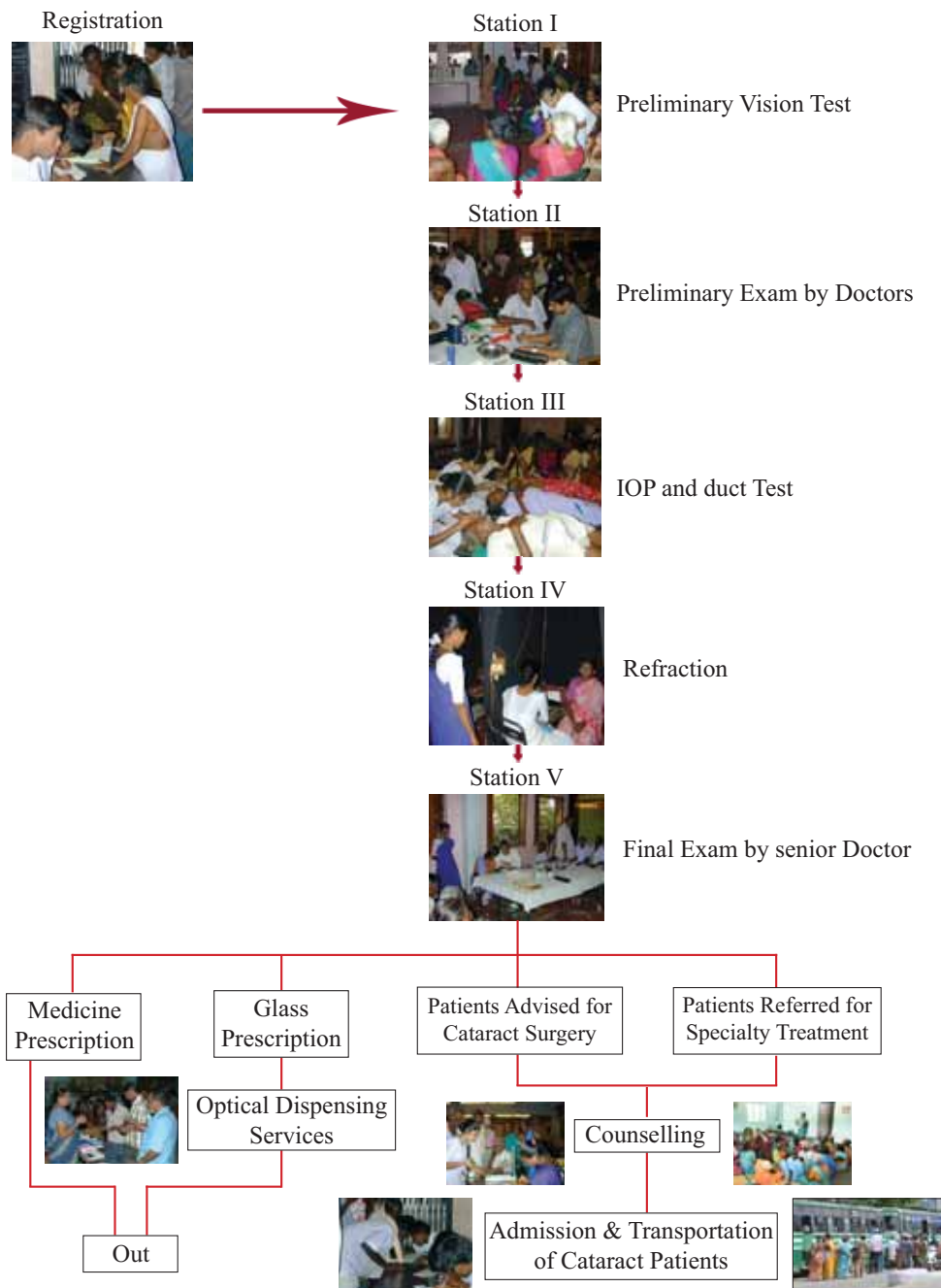
Schedule of a Typical Screening Camp Day

- Early morning, the camp organiser, clinical team (medical and paramedical staff) and driver(s) meet at the base hospital, load the van(s), and leave for the camp location.
- Upon arrival, the sponsor greets the hospital team and offers them breakfast if they haven't stopped along the way to eat.
- Hospital team, volunteers and sponsor start working to set up the camp, while patients begin to arrive.
- Patients are registered and moved through the camp.
- Inpatients are given an afternoon appointment time to leave for the base hospital.
- Hospital team breaks for lunch (after all outpatients have moved through the camp, if possible). Lunch is offered by the sponsor and served by volunteers from the village.
- After lunch, the admitted patients are loaded onto buses.
- Organiser communicates to the base hospital - the coordinator for inpatient services - the actual number of admissions and expected arrival time, so the hospital can get ready to receive them, feed them and start pre-op clinical and non-clinical procedures.
- Hospital team and inpatients return to the base hospital.
- Upon arrival, the hospital team unloads camp materials, and puts administrative forms in the appropriate places.
- Inpatients are checked into the hospital and provided with food and accommodation. Their appointment times are given to the appropriate section of the base hospital, so that they can be treated the next day and returned to their village after recovery (2 to 3 days later).

Patient arrival to camp venue (assisted or independent)

- Some patients might have transportation arranged for them from neighbouring communities by the sponsor - by bus, for instance.
- Volunteers direct patients to appropriate stations and queues upon their arrival.

PATIENTS FLOW IN A SCREENING EYE CAMP



Patient registration

- With guidance from camp organisers, local volunteers - usually teachers or students with legible handwriting - record patient details (name, age and address, etc.) in the case sheet.
- Patients are given outpatient cards, which are used throughout the patient’s examination, treatment and follow-up

Preliminary vision testing

- This is done by junior level ophthalmic assistants, aided by volunteers, using vision charts such as the Snellen chart (in the local language) and well illuminated illiterate E- type charts tested at 6 meters or 20 foot distance.



Preliminary diagnostic examination

- Junior doctors (ophthalmology residents or fellows) receive each patient with their case sheet with visual acuity recorded. The doctor then records the case history based on the patient's complaints.
- Junior doctors (in case of non-availability of doctors in small hospitals, a trained optometrist can deliver the role of doctor diagnostic camp) perform preliminary examination using a flashlight/torch and a direct ophthalmoscope to examine external eye defects as well as the fundus, which can also be viewed after dilation. (Patients are dilated with Tropicamide or Homide eye drops for fundus examination)
- They work in a dimly lit room with a desk, chairs and electrical outlets. In the absence of electricity, doctors can use battery-operated instruments.
- Clinical conditions such as external eye infections, vision loss caused by nutritional deficiency and incurable blindness are examined and treated.

In this system, the ophthalmologist is relieved of the mundane chores of performing all the necessary steps in patient examination by well-trained volunteers, ophthalmic assistants and residents. Thus, the care of patients is streamlined into an orderly, efficient flow that allows one senior ophthalmologist to treat hundreds of patients at a given camp.

-Dr.G.Natchiar

Tension and duct examination

- Intraocular pressure (tension) examination is performed on patients who are:
 - above the age of 40
 - fit for cataract surgery
 - showing signs of glaucoma
- Ophthalmic assistants administer topical anaesthetic drops and explains the procedures to patients. Benches are made available for patients waiting their turn.
- Ophthalmic assistants test their intraocular pressure using a Schiotz tonometer.
- Tonometer is cleaned after each screening.
- Nasolacrimal duct examination is performed on patients who are:
 - fit for cataract surgery
 - known to have a history of watering eyes or discharge
- Ophthalmic assistants gently irrigate the lower punctum and canaliculus to check the patency of nasolacrimal duct.

Refraction

- Refraction at the camp is performed in a simple, prefabricated, dark cubicle, which is equipped with one or more foldaway partitions (to create smaller cubicles), trial lens sets, lights and mirrors.





- Volunteers control the patient flow.
- Children and young adults with strong accommodation undergo cycloplegic refraction. This uses eye drops to prevent accommodation to find the exact refractive error.
- Well-trained ophthalmic assistants test patients for refractive errors.

Final examination

- Senior doctors evaluate the test findings, perform the final examination, review patient records, make the final diagnosis, and prescribe treatment. (Doctors can handle, at most, 100 outpatients over the predicted number).
- In a small camp, one doctor can do both the preliminary and the final examinations.
- Patients who have operable cataract (<6/60) are briefed and forwarded to counselling.
- Patients who have operable cataract but with systemic problems like diabetes, asthma, cardiovascular problems, or hypertension are advised to get a physician's opinion and then visit the base hospital for surgery, to avoid needless complications or emergencies.
- Patients who have refractive errors and need eyeglasses are briefed and forwarded to the optical dispensing area of the camp.

Guidelines for Doctors attending eye camps

- Community Outreach is the face of Aravind and Attitude towards patient is viewed carefully in the community. Please wear your badges and avoid prescribing expensive drugs in camps.
- If lens changes do not correspond to Visual Acuity, Refract, Dilate and do Fundus Examination and rule out a retinal pathology
- Do not deny patients coming with presbyopia for a Refraction and all required cases where patients need glasses have to be sent for refraction.
- Patients above 40 years should be checked for Tension unless contraindicated like eyes with congestion or corneal ulcers.
- Wherever possible please follow the preliminary and final stations in all camps and do not disturb the system followed regularly
- Take leadership for a camp team to develop cordial relationship with the local sponsor
- Do not admit patients with Hypertension more than 170/100-110mm/hg. PPBS of more than 250 in camps. The patients are advised to control the systemic problems and review for next camp or referred to free section of Aravind.
- For Bilateral immature cataracts presenting vision 6/60 or worser, and patients with one eye cataract and other eye Pseudophakic vision 6/24 or worser can be admitted. Also consider the occupation of the patients who require best visual acuity for example a driver with PSCC can be considered for surgery. Please make the best clinical judgement in every case you are admitting
- Do not forget to do a dilated fundus examination for known Diabetic patients and rule out a diabetic Retinopathy.
- All speciality cases referral has to be through the Counsellor, for documentation and follow-up. Please mention if urgent referral is required
- Dr.K.Ilango, Senior Medical Officer, Aravind - Madurai

- Patients who have been diagnosed with speciality problems such as glaucoma or diabetic retinopathy are briefed and forwarded to counselling to have the diagnosis further explained in detail, and are then instructed to visit the base hospital for further medical intervention.

Optical shop

- Patients advised to get eyeglasses can purchase ready-made spectacles, if available, and an optical technician fits the patients with the eyeglasses on the spot.
- Otherwise, the optician takes orders and then sends or distributes the eyeglasses a week later at the same camp venue.
- Offering optical dispensing services at the eye camp saves the patients money and time.

Guidelines for Patient counsellors attending eye camps

1. Systemic diseases patient awareness posters to be placed in campsite
2. Detailed careful preoperative history taking
 - High Blood Sugar
 - High BP
 - Chest Pain
 - Infective foot ulcer
 - Asthma attack
3. Restrict admission for uncontrolled diabetes
 - FBS > 150 mgs
 - RBS > 250 mgs
 - PPBS > 200 mgs
4. Restrict admission for uncontrolled hypertensive
 - >170/110 mm hg
 - Own medicine to be taken in the campsite
 - Repeat BP to be done before admitting the patient
5. Suspected Cardiac Problem
 - Past history of heart attack
 - Admission in ICU
 - Taking Tab. Isordil / Sorbitrate
 - Patient record book shows cardiac diagnosis
 - All known cardiac patients should bring an attendant
6. Severe asthmatic patient, should inform the camp in-charge doctor



7. Avoid infected foot ulcers / skin lesion
 - Pus discharge
 - Foul smelling discharge
8. All systemic patients should bring their own medicines and records to reduce waiting time
9. Sick patients should be shown to the camp doctor in-charge
10. Signature by the counsellor after admitting the patients
11. If patient has uncontrolled blood sugar or blood pressure, advise the patient to reduce blood sugar or blood pressure and get opinion from the physician before coming to another camp or base hospital. (Fitness certificate).
12. Ensure that complete address and mobile number are on the case sheets
13. Document the reasons for unwilling cases.
 - Sr.Indira, Patient Counsellor, Aravind - Madurai

Patient counselling and inpatient admission

- Patients advised for surgery are motivated by the counsellor to provide consent for surgery at the base hospital.
- For counselled patients who accept surgery, fill out their consent form, surgery card and discharge summary and attach these to the outpatient case sheet at the camp venue in order to reduce waiting time during admission. Patients are then transported to the base hospital for surgery.
- These patients also have their urine and blood pressure checked at the camp, to speed up pre-operative work at the hospital.
- Patients receive pre-operative care, surgery, postoperative care and follow-up, meals, medication and round-trip transportation, at free of charge or subsidised in most cases (covered by the camp sponsor, donors, and/or the base hospital's paying patients).

Transportation

- Inpatients are taken to the base hospital and outpatients are escorted back to their home village if their transportation to the camp was arranged.
- Patients with diminished vision and those accompanying them have been advised during the publicity campaign to bring a small travel bag, including any medications they are taking, in case a hospital stay of 2 to 3 days is necessary for them.

POST-CAMP ACTIVITIES

Using a checklist of post-camp activities ensures that every task is completed after the camp. (See Appendix 4 for useful templates).



Post-Camp Activities Checklist

- Admit inpatients into base hospital
- Inform doctors and paramedical staff of patients' preoperative needs
- Provide patients with accommodation and food
- Counsel patients at different stages of hospitalisation to cover all queries and needs
- Take camp records and data to base hospital administration for filing
- Prepare data for the weekly outreach department meeting

CAMP FOLLOW-UP ACTIVITIES

Using a checklist of camp follow-up activities ensures that every task is completed following the camp. (See Appendix 4 for useful templates.)

Camp Follow-up Checklist

- Write a thank-you letter to the sponsor(s) immediately, including the camp results report.
- Arrange follow-up appointments for inpatients, and communicate these information to the sponsor(s).
- Attend weekly outreach meeting with appropriate camp reports and statistics.
- Stay in touch with sponsors.
- Plan future outreach programmes in the same location and make a note in the calendar.
- Generate evaluative reports with camp statistics.
- Inform local Government officials, health officers, supporting NGOs and sponsors about camp performance, as per prescribed formats and about upcoming outreach programmes, to encourage their continued support and cooperation.
- Seek interdepartmental feedback in the base hospital on camp handling, coordination, and patient satisfaction (schedule meetings as needed).
- Publish meaningful articles and reports in local media, if they relay a positive message about outreach in eye care

Follow-up is absolutely necessary to ensure the best possible success rate. This includes medical follow-up for the operated or treated patients, as well as follow-up on the part of the camp organiser, especially in terms of his or her relationship with the sponsor.

One often forgotten aspect of follow-up is for organisers to invite sponsors to visit the base hospital to see the operated patients from the camp they sponsored, which also introduces them to the services and facilities of the eye care institution. Another aspect of follow-up is getting feedback (compliments, complaints and suggestions) from the camp sponsor and/or the inpatients.

The successes and challenges of an eye camp will help the camp organiser learn how to improve future camps, but only if monitoring and evaluation are built into the organiser's job and the eye care institution's organisational culture (see Chapter 8 - Monitoring and Evaluation). The results of each camp also contribute to successful advocacy for eye care and eye care funding. This is why regular outreach department meetings are so important. (See Eye Camp Performance Indicators in Chapter 8.)

Keeping track of camp data in a spread sheet format allows sorting and analysis by data category. By sorting admission data in descending order, each camp organiser can then determine which unproductive camps to delete in future, based on low

Each camp organiser's challenge is to further strengthen the good screening camps, and eliminate the unproductive ones that will never help us to achieve our targets. If, for example, an organiser is eliminating 15 camps out of an annual total of 65, he [or] she can then add specialty outreach programmes in addition to his [or] her regular screening camps.

- R. Meenakshi Sundaram

turnout (less than half the expected or average productivity or number of admitted patients).

Types of Sponsors

- Service clubs such as Lions, Rotary
- Prominent employers, such as factories, industries, businesses or corporate offices
- Cooperative societies or banks
- Religious and youth organisations
- Charitable groups, trust associations
- Schools, colleges and other educational institutions
- Voluntary agencies such as merchant or professional associations
- Local hospitals, health care centres and traditional healers
- Handicapped welfare associations
- Recreational clubs, fan clubs of cinema stars
- Local municipalities
- Political parties, politicians
- Village leaders
- Philanthropists

Role of Camp Sponsors

The local sponsor contributes time, money, energy and local knowledge to publicity efforts, selecting a camp venue (preferably a school building that is available for free on weekends or during school holidays), and making arrangements for hospitality and accommodation, if necessary. Medical staff posted at the camp should try to get to know the sponsor and cultivate a friendly relationship with him or her. This will serve to enhance the relationship between the sponsor, the community and the practice clinic or hospital.

Who can be a sponsor? Sponsors are local individuals, organisations, businesses, Governments, institutions or agencies that are willing and able to finance and actively participate in organising community outreach initiatives. Sponsors are usually rooted in the local community.

Why work with sponsors? Inviting sponsors to work with the eye care institution at the local level is an effective way of reaching large numbers of rural patients while keeping outreach costs as low as possible.

How are sponsors found? Generally, every location, even the smallest or most remote, has a potential sponsor. Finding sponsors is largely a matter of local



research and networking. Sometimes sponsors manifest themselves around a special occasion that they wish to honour, such as an anniversary, a festival, or a memorial service. More often, sponsors are looking to finance a worthy cause over a longer period of time. Even the patients who are satisfied with the service offered in the base hospital can be motivated to conduct eye camps in their own villages.

What is the best way to work with sponsors? Outreach camp organisers are responsible for providing sponsors with written guidelines on what is expected of them regarding such things as publicity, hospitality and site preparation. Sponsors and camp organisers exchange official letters of understanding and confirmation before collaborating. (See Appendix 4 for examples.) Camp organisers meet individually with each sponsor to establish a clear working relationship, with well-delineated mutual expectations.



What is the best way to convince potential sponsors to help an outreach activity?

To convince sponsors to finance and participate in an eye camp, outreach organisers must do their best to show the benefits to the community, to individual patients, to the eye care institution, and especially to themselves (the sponsors).

Key elements to highlight are:

- The high standing and good reputation of the base hospital and its doctors
- Statistics on eye care needs in the location so that the sponsor understands why this location was selected by the eye hospital.
- The simplicity and affordability of treatment, including surgery
- The direct benefits that accrue to the sponsor, such as good publicity, exposure in the region, a boosted reputation and good standing in the eyes of regional authorities
- Report good outreach experiences in that community in the past and the need for repeat eye camps to serve the remaining community.

What are some guidelines for selecting a sponsor?

- Is the sponsor committed to community service?
The sponsor or sponsoring organisation should be respected locally, and have a good rapport with the local community at large. Preferably, the sponsor will have a background in community involvement and participation.
- Does the sponsor have the necessary financial strength and viability?





Sponsors' capacity to share the responsibility of organising an outreach initiative depends upon their financial strength and viability. The sponsor should specifically be able to fully finance an expected set of costs. Their ability to cover certain additional expenses varies from case to case. Some will cover medicine, IOLs and eyeglass expenses, but more generally, they limit themselves to financing publicity, site facilities and hospitality (food for hospital personnel and inpatients and accommodation for hospital teams when they must stay overnight).

- Is the sponsor willing to collaborate and cooperate with others?
Because sponsors are often financially limited, working with several sponsors is common practice. In that case, one sponsor takes the lead role in organising logistics, while the others simply make a financial contribution without getting involved in the details of outreach organisation. Sponsors must also be willing to take guidance from the eye care institution's outreach staff, especially the camp organiser.

Camp Organiser Checklist for Dealing with Sponsors

- Contact the sponsor to discuss camp organisation procedures, to finalise the camp venue, date and time and to explicitly detail cost-sharing, on paper
- Report to the outreach office, providing the above information
- Send the sponsor a letter of confirmation and a detailed outreach plan with a list of specific requirements for the sponsor to complete
- Send the sponsor an illustration of patient flow and required space and a list of required furniture and volunteers
- Visit the site to see pre-camp arrangements and to guide the sponsor in finalising them
- Liaise constantly between the outreach office and the sponsor
- Arrange transportation for the hospital team

Sponsor Checklist

- After meeting with an outreach organiser, send the hospital a letter of confirmation
- Publicise the eye camp widely to attract as many patients as possible
- Arrange for a camp venue with suitable amenities (water, electricity, furniture, toilets, etc.)
- Provide food and accommodation if necessary, to hospital team
- Gather volunteers, either to receive training to assist hospital teams directly; or to help prepare and clean up the outreach site, arrange furniture, set up outreach equipment and user people
- Cover the cost of inpatients' food, transportation, and possibly some medical expenses, based on the need and demand



How to motivate sponsors and sustain their interest

Camp organisers and other outreach staff should encourage sponsors to renew their sponsorship regularly (every year or two). Sponsors' contributions must always be thoroughly recognised and commended by the hospital's highest level of management. Some ways of recognising sponsors include:

- Honours and congratulations at hospital and public events, at meetings, or in person
- Letters of thanks and appreciation
- Follow-up reports with statistics, pictures, cost-benefit analyses and overall evaluations

- Other hospital Communications
- Media coverage of the good deeds they made possible
- Occasional visits to sponsors, or staying in touch by telephone
- A separate event under the banner of “Sponsors Day” conducted at the base hospital to recognise their contribution (this happens at Aravind Eye Hospitals once every two years to sustain the interest of sponsors)

Role of Local Community

A high degree of community involvement and participation is the key to ensuring a successful eye camp. The sponsor should identify and work with other service-minded people or organisations in the community. Fully engaging the community can help reduce the cost of publicity and ensure a good turnout.

Outreach Department Staff Meetings - an example

At Aravind Eye Hospitals, outreach department staff meetings are held on the first day of each week (smaller eye care institutions might only need to meet monthly), to discuss the past and coming weeks’ camps and other outreach activities, as well as to bring monthly and yearly perspective to outreach activities. Regular meetings are crucial for ensuring the accountability of camp personnel to sponsors and patients. Staff meetings are a chance for camp organisers and other outreach workers to review and discuss successes and failures, to share information and to aim for improvements in their work, both long- and short-term.

Who attends regular outreach department meetings?

- Camp Medical Officer
- Outreach manager
- Camp organisers
- Camp counsellors
- Camp administrative staff
- Inpatient services coordinator
- Patient counsellors, when there are low acceptance rates (in admissions or specialty referrals) or low follow-up rates among operated patients

What is the format of regular camp meetings?

Reports are projected (to save paper) for all to read in a spreadsheet format, while essential information is related orally by camp organisers or patient counsellors. The meeting is conducted by the Camp Medical Officer (a senior medical officer is assigned for quality assurance), who comment on the reports systematically, signalling points of discussion and soliciting camp organisers’ feedback.



Village leaders and local politicians can use their influence to persuade patients to attend the camp and to encourage volunteers to help out. Local doctors who know people with eye problems can advise them to attend the camp. Teachers at all levels can encourage their students to identify potential patients, particularly in their own families. Religious leaders can talk about the importance of eye camps when people gather at religious congregations.

Camp Job Descriptions and Working Relationships

Camp Medical Officer

- Reports to base hospital management
- Conducts weekly meetings with outreach manager and camp organisers
- Assesses the success of camps and directs their improvement

Outreach Manager

- Reports to Camp Medical Officer
- Liaises with other hospital departments
- Coordinates camp organisers' activities
- Organises outreach activities in cooperation with clinical and non-clinical staff
- In a small eye care institution, can also serve as camp organiser

Camp Organisers

- Report to outreach manager
- Accountable to sponsors
- Contact sponsors and communicate with communities
- Can arrange and plan up to about 65 camps per year
- Coordinate logistics

Administrative Staff

- Reports to outreach manager and camp organisers
- Writes reports, keeps camp records
- Facilitates the ordering of required supplies and equipment
- Maintains statistical databases and helps prepare for weekly meetings
- Ensures effective internal and external communication

Sponsors

- Report to camp organisers
- Publicise camps and attract patients
- Provide hospitality for clinical team and food for inpatients
- Prepare camp site facilities
- Finance local inpatients' transportation and expenses while at the base hospital, based on need and demand

Vehicle Coordinators

- Report to camp organisers and outreach manager
- Arrange for transportation of hospital teams, patients and equipment to and from camps
- Maintain vehicles, and drive when necessary

While planning paediatric screening camps, camp organisers should work with local physicians, paediatricians, maternity clinics, primary health centres and midwives to mobilise children in the 0 to 6 years age group. Increased mobilisation of children with eye defects is more likely if the publicity campaign starts two weeks ahead of the camp.

For diabetic retinopathy camps, organisers should approach recognised hospitals to mobilise diabetic patients. Working with diabetes associations will also contribute to better attendance. The regular sponsor of the camp can

be encouraged to work with a general hospital or biochemistry lab for the benefit of undiagnosed diabetic patients who need testing and treatment.

MONITORING AND EVALUATION OF EYE CAMPS

Outreach departments must hold regular (weekly or monthly) meetings to discuss results of eye camps and to ensure accountability and continuous improvement. (See Chapter 8 for more information on monitoring and evaluating outreach programmes).

FINANCING AN EYE CAMP

Conducting a screening eye camp successfully can mean incurring sizable expense and potential sponsors should understand this before making a commitment. Camp organisers must be able to guide sponsors in these financial aspects, motivating them to collaborate with other individuals or organisations to share the costs if necessary. Camp organizers help to ensure community and volunteer involvement, which will reduce expenses while still getting a good turnout of patients.

The eye care institution covers the salary costs of all personnel, as well as the cost of transporting the clinical team to the camp site. The main costs in conducting an eye camp for the sponsor are:

- Publicity; Hospitality for hospital team
- Cost of lunch for admitted patients on day of the camp
- Transport of patients to and from the base hospital
- Any expenses of volunteers
- Miscellaneous costs (always include a contingency budget for unforeseen expenses)

These expectations could be different in different cultures. (See Appendix 4 for a sample budget to conduct an eye camp.)

Publicity Costs

- Number of posters printed x cost per poster + distribution cost
- Number of handbills printed x cost per 1000 handbills + distribution cost
- Number of banners x cost per banner + distribution cost
- Number of vehicles rented x cost per vehicle + audio equipment and production cost + payment to announcers (for audio announcements)



Clinical Team Hospitality

- Lunch and refreshments for the hospital team (7 to 25 members) on the day of camp
- Cost of accommodation if the hospital team must stay overnight before the camp

Food for Admitted Patients

- Cost of food per person x number of inpatients on camp day
- Cost of food x number of inpatients x number of inpatient days (if sponsor is covering the accommodation and food expenses at the base hospital for admitted patients)

Transportation of Patients

- Number of patients to be admitted (and those accompanying them) x travel expenses per person x both ways

Costs of Volunteers

- Number of volunteers x cost of hospitality per person during their pre-camp publicity and other preparatory work

Cost of Facility Rental

- If the venue is free or donated
- Sometimes the owner of the facility is motivated to participate in the service activity by providing the venue at no cost

Getting others to share the costs with the main sponsor will make the costs more manageable.

- Camps can be conducted jointly with other organisations or individuals. For example, a bank might be able to finance a camp but have inadequate manpower to offer volunteers, whereas a youth organisation might have the manpower but not the funds.
- Various organisations or companies can share the costs in exchange for advertising space on the poster and handbill.
- Involving the community can help reduce expenses while ensuring a good turnout

Because expenses often make it difficult to get a sponsor to agree to another camp, camp organisers should encourage sponsors to be cost conscious as much as possible.

- Quality of the posters can be decided depending on resources available.
- They can conduct their camp on a weekend (Saturday or Sunday). School buildings are usually available on weekends at low or no cost, and clinical staff are relatively free of hospital work on those days.

- The camp organiser should monitor and advise the sponsors so that no money is spent unnecessarily on such things as elaborate camp inaugural functions, gifts, etc.

PUBLICITY FOR EYE CAMPS

Camps are an important and integral part of the marketing strategy for increasing an eye care institution's patient volume. But if the eye camps themselves are not well publicised, this strategy will fail. (See Chapter 6 on Marketing and Promotion for more information.)



Successful publicity is planned ahead of time by the sponsor, with assistance from the camp organiser, and is typically implemented three to seven days before the camp. This time frame might differ for different types of eye camps, or in different cultures and settings.

The sponsor derives a great deal of benefit from their involvement with the eye care institution, as the publicity can include their name, logo and contact information. In addition to the goodwill and good reputation they will receive for their philanthropic contribution to the eye camp.

Why Publicise Eye Camps?

- Publicity is a means of generating demand for eye camps.
- High patient turn over maximises the benefits, efficiencies and cost-effectiveness of community outreach initiatives.
- Publicity creates health awareness in a community and is an end unto itself.

What Media are Typically Used to Publicise Eye Camps?

Print and visual media

- Letters to village development committees, schools, health posts, etc.
- Handbills
- Wall posters
- Cloth banners
- Newspaper advertisements
- Publicity boards
- Cinema slides (still images shown in movie theatres)

Audiovisual media

- Cinema and television spots (short video clips)
- Microphone / loudspeaker announcements (on foot, or from moving vehicles)
- Radio advertisements
- Dum Dum Drumming (a message about the eye camp conveyed by beating drums in the traditional manner)
- Word of mouth publicity spread by influential locals
- Internet, email and text messages using cell phones.

Referral network

- Request major schools in the camp location and nearby villages to announce the camp details so that the students can ask their parents to attend the camp





- Request local village leaders and religious leaders to spread the message as much as possible
- Communicate with other sponsors who are used to conducting camps in the same area or nearby locations and request that they refer people who would benefit from the camp
- Communicate with beneficiaries of previous camps, requesting that they come to the next eye camp and refer or bring their neighbours

How to Ensure the Full Effect of Publicity

- Specify the camp date, place and time very clearly.
- Include the name and/or logo of both the sponsor and the eye care institution (giving prominence to the sponsor).

When faced with the common problem of low admissions in eye camps, we used GIS to publicise the camp. Using GIS helped us target clusters in various villages and we saw a 30 per cent jump in attendance.

- R.D.Thulasiraj, Executive Director, Lions Aravind Institute of Community Ophthalmology

Camp Level Publicity Planning



Use of GIS to List Villages and Target Population and Villages in Radius of 10 kms around Devathanapatty, Theni District, India

Villages in radius of 10 kms to Devathanapatty, Theni District

No.	Name of the village	Resi house	Total popln.	Male	Female	Boys under 6 yrs	Girls under 6 yrs
1	Keelavadagarai	1,204	5,207	2,658	2,549	410	372
2	Silvarpatty	1,347	6,039	3,073	2,966	455	403
3	Kamatchipuram	459	2,013	1,109	904	118	101
4	Melmangalam	1,659	6,982	3,523	3,459	489	457
5	Jeyamangalam	3,676	16,151	8,346	7,805	1,232	1,042
6	D.Vadipatty	132	592	305	287	53	28
7	Pudukottai	439	1,930	993	937	156	137
8	Devadanapatty	3,968	17,905	9,096	8,809	1,282	1,200
9	Genguvarpatty	3,687	15,732	7,943	7,789	1,219	1,030
10	Parambikadu	126	554	270	284	49	32
11	Poolathur	814	3,229	1,629	1,600	256	207
	Total	17,511	76,334	38,945	37,389	5,718	5,009

Publicity Coverage - A Case in Point

The village of Velliankundram, located five kilometres from a screening eye camp held outside of Madurai, India, was surveyed to study the effectiveness of the publicity and social marketing techniques used. The survey showed that in the village population of 1,100 people, there were 102 eyes with cataract (56 people with vision less than 6/60). Only 16 people in that population had been operated for cataract - less than 30% coverage of potential cataract patients. The surprising thing is that no one from Velliankundram had attended the nearby screening camp because they did not know about it. The publicity had not reached their village, a mere five kilometres from the camp location.

- Distribute flyers (printed notices) door-to-door, inside newspapers, at the same time as audio announcements, and in places where people meet in large numbers.
- Place posters strategically, at important street junctions, on village information boards, in places of social or religious gathering, near marketplaces, etc.
- Hang banners over major transportation routes one week to three days before a camp.
- Pre-record audio announcements to ensure their audibility, clarity and consistency. Again, ensure that the camp date, place and time are very clear.

What Area Should Be Covered?

Try to reach every village and hamlet within a three to five kilometre radius of the camp site. A good publicity campaign can reach 8,000 to 25,000 people. (These numbers might change in a less densely populated region).

Use of Geographical Information System (GIS) for Publicity Coverage

GIS is a computer system for capturing, storing, checking, integrating, manipulating, analysing and displaying data related to positions on the Earth's surface. It can be used to plan and execute an effective publicity campaign because it will show, for example, all the villages in a certain radius of the camp location, with other related information such as population, number of households, and accessibility by road. The data can be discussed with the sponsor and a publicity plan can be developed to cover all the villages on a specific route on a specific day. GIS guarantees density of publicity coverage if it is used appropriately.

How Far in Advance Should an Eye Camp Be Publicised?

Small eye camps should be publicised starting at least two to three days before the scheduled camp date. Medium and large eye camps should be publicised starting a full week or more before the scheduled date. Publicity efforts should increase two days before the camp to remind people. Again, these suggestions need to be adapted in different regions and cultures.

CONCLUSION

This chapter has outlined how to plan, conduct and follow up an outreach eye camp. Please see Appendix 4 for useful templates and Appendix 8 for standardised protocols for eye camps.

The next chapter will highlight other forms of outreach in eye care, especially vision centres.

My students simply worked flat out in the last one week. The sponsor provided us transportation to cover over 100 driving miles. Our "propaganda" was effected through handbills, wall posters and travelling megaphone announcements. Last Thursday night, they were mounting publicity posters on every public bus. We couldn't do it earlier because buses in this town are all scrubbed and cleaned every Wednesday night.

- A school teacher who organised marketing for a screening camp in Dindigul, India

Appendix 4A: Outreach Calendar Content

A page of suggested contents helps the outreach department to develop a comprehensive outreach calendar.

Appendix 4B: Appeal to the Community Partners

A model letter which helps the outreach staff to develop an appeal to be submitted to community based Social Service Organizations, NGOs, Schools, Industries, Corporate sectors, Community leaders. This is a kind of gaining entry in the process of community participation.

Appendix 4C: Organizers' Weekly Movement

It facilitates the outreach manager to monitor outreach field worker/organizers' movement.

Appendix 4D: Application for Comprehensive eye screening camp

Appendix 4E: Application for Diabetic Retinopathy screening camp

Appendix 4F: Application for Workplace eye screening camp

Appendix 4G: Application for School children screening camp

Appendix 4H: Application for Paediatric eye screening camp

Organizer in the base hospital makes this requisition to Outreach dept. as soon as they propose a date in consultation with Community Partners (sponsors of the camps) to initiate outreach activities. This is to give a complete profile of the proposed camp, sponsor, workload etc.

Appendix 4I: Planning Outreach Workload

This is to predict the outreach workload for any period (preferably for any week) and plan the resources and related logistics.

Appendix 4J: Indent for eye screening camps

An indent form helps the hospital to standardize the required clinical and non-clinical supplies, consumables, instruments and equipments in order to perform a complete diagnosis in the camp for an estimated number of outpatients.

Appendix 4K: Camp Posting

It helps to develop camp posting schedule for the required human resources and to communicate everyone about their posting for camps.

Appendix 4L: Model of handbill for publicity for all types of camps

To standardize the content for effective communication in order to get the specific target segment (people with eye problems) for eye screening.

Appendix 4M: Budget to conduct an eye camp

Helps the outreach staff to be familiar with various areas of expenditure incurred to conduct an eye camp. The areas of expenditure are shared among the stakeholders.

Appendix 4N: Admission-Surgery-Discharge Schedule

Helps to plan accommodation, HR, supplies and other resources and support services for surgery, discharge and followup for the predicted workload and OT-Ward related logistics.

Appendix 4O: Patient Identity Card

To be used by the outpatients for subsequent visits to base hospital. It can be referred by Medical Record Department staff to trace out the outpatient card.

Appendix 4P: Specialty Referral Card

To help a patient who attends the camp with specialty eye problem like Glaucoma to visit the base hospital for approaching key contact persons and for further intervention in specialty clinics.

Appendix 4Q: Outpatients Record

It is used in all stages of eye examination in a camp to collect baseline information, case history and recording complaints and diagnosis details

Appendix 4R: Preoperative Record for Admitted patients

Appendix 4S: IOL Surgery Record

Appendix 4T: Post operative & Follow up Record

Appendix 4U: Consent Form

These records are used in counseling cum admission stage in a camp. They are attached with OP record for all the admitted patients. It helps to improve the quality of Medical record system, collect relevant clinical data, in research initiatives and also helps to manage medico-legal issues.

Appendix 4V: Statement of “patients advised but not admitted”

To record the details of patients identified with operable cataract but not admitted for surgery due to ‘systemic problems’ or ‘unwilling’ for surgery

Appendix 4W: Letter of gratitude to the Sponsors

A model letter helps the outreach manager to frame a content to express gratitude to the sponsors/community partners for their contribution in eye camps.

Outreach Calendar Contents		Page No.
Broad Overview:		
1	Brief note on Vision 2020	
2	Brief note on National level and State level eye care programmes	
3	District/Area wise population and estimated blindness in the service area	
4	State level and District level CSR details	
Hospital level information:		
5	History of performance by Base Hospital and Outreach department	
6	Profile of the hospital, Core functions and achievements	
Outreach department level information:		
7	Profile on Outreach department and Outreach service area	
8	Geographical and demographical information for outreach programme	
9	Outreach Policy 2015	
10	Annual Outreach Planning Meeting proceedings	
11	Overall Outreach performance in the previous year based on Parameters	
12	Target Summary for the (next) year.....	
13	Guidelines to conduct a successful eye camp (Procedures and requirements)	
14	Patient Flow in a Comprehensive Screening Eye Camp	
15	Model hand bill for Camp Marketing	
16	Standard list of clinical and non-clinical supplies for screening camps	
17	Budget to conduct an eye camp	
18	Allowances/Per diem eligibility for Camp Organizers	
Individual organizer level information:		
19	Camp Organizer's Profile and the individual's service area	
20	Suggested list of potential villages for conducting eye screening camps	
21	Outreach Performance in the past and target and action plan for the next year	
22	10 Commandments for an Organizer (On duty in headquarters)	
23	New Sponsors/Community supporters identified by the individual organizer	
24	Organizer's remarks on significant success or failures (Experiences)	
General information:		
25	One page calendar for the previous year, current year and next year	
26	Festivals, Holidays and Prominent days in the year	
REPORTS on Screening Camps: (to be updated on completion of each camp):		
27	Comprehensive Screening Camp	
28	Workplace Camp Performance	
29	School Children Screening Performance	
30	Diabetic Retinopathy Camp	
31	Paediatric Screening Camp	
32	Monthly (cumulative) Report by Individual Organizer (to be updated by end of every month)	
Field visit report for the month		Page No.
33	January	
34	February	
35	March	
36	April	
37	May	
38	June	
Field visit report for the month		Page No.
39	July	
40	August	
41	September	
42	October	
43	November	
44	December	

Note: This is the content page of Outreach calendar can be developed for each organizer every year. This is a kind of business plan for the organizer as well as outreach department. It is used as a planning guide, work manual and helps to record and refer performance details.

Appendix – 4B

Sirs,

Sub: Corporate Social Responsibility - A proposal to conduct an eye screening camp - regarding

Greetings from Aravind!

Our Eye Hospital is one of the renowned organizations in this region, engaged in community eye care services. We conduct free eye screening camps throughout the year and perform a number of 80,000 eye surgeries either at no cost to the patient. In a community, at least 20% of them need eye care intervention for any eye problem.

Our medical team is fully equipped with necessary manpower and other support services to identify eye problems like Cataract, Glaucoma, Diabetic Retinopathy, Childhood blindness, Refractive errors, Orbit problems etc. Our camp is a great opportunity to identify those problems at the earlier stage and take necessary treatment in time to regain or retain the vision.

Loss of sight can be the greatest tragedy next to death. Yet hundreds of thousands of people in the world are suffering from blindness. Participation by the community is the urgent cry to help poor blind people. We conduct eye screening camps in association with community based service organizations or philanthropists like you. Please join hands. This sort of joint venture helps to achieve the mission against needless blindness.

On receipt of your kind response, our organizer will meet you in person at your convenience. We look forward your kindness.

Yours sincerely,

R.Meenakshi Sundaram
Senior Manager – Outreach

Sirs,

Sub: Corporate Social Responsibility - conducting free eye screening for diabetic patients to identify Diabetic Retinopathy – regarding

Greetings from Aravind

There is no doubt that cataract is the main cause of blindness and we have successfully created awareness in the community in terms of organizing free eye screening camps throughout the year. In the recent years, we noticed that blindness due to other causes has been increasing rapidly. For instance, diabetes is one of the major health problems in the community which leads blindness in the form of 'Diabetic Retinopathy'. The prolong duration of diabetes is the high risk factor for Diabetic Retinopathy.

It is estimated that around 6-10% of the Indian population is having diabetes due to various reasons such as;

- Rapid urbanization & stress
- Faulty nutrition
- High fat
- Changing life styles
- Excess food intake
- Refined food
- Aging population
- Calorie dense
- Limited physical activity

It is proven that about 10 to 20 % of the diabetic patients may have diabetic retinopathy problems. Delayed diagnosis may cause loss of sight without major symptoms. We here by request your club/ hospital to conduct eye screening camp exclusively for diabetic patients to diagnose diabetic retinopathy. We also appreciate if you could kindly arrange diabetes detection for undiagnosed diabetic people. Your efforts and participation can help the diabetic patients to diagnose diabetic retinopathy in the earlier stage and take appropriate care in the right time to restore their sight.

Our camp organizer Mr..... (Contact no) will visit you on receipt of your kind response, to discuss the details regarding the conduction of Diabetic Retinopathy screening camp.

Thanking you,
Yours sincerely,

R.Meenakshi Sundaram
Senior Manager – Outreach

Sirs,

Sub: Corporate Social Responsibility - free eye screening camp for your employees – regarding

Greetings from Aravind

As per the survey, people who are blind or visually impaired due to Refractive Errors are rapidly increasing now. We organize free eye screening camps for the employees those who are working in different kind of workplaces like yours to eradicate such a needless blindness.

It is estimated that at least 40% of the employees in the age group between 30 and 50 may develop either long sight or short sight problems due to age or genetic reason. They will find it difficult to work better without proper vision. We are conducting screening eye camps in industries and organizations like you.

During the camp, we do a comprehensive eye examination for the benefit of employees. Those who need eye glasses to correct their refractive error can buy a pair of eye glasses at affordable price in the screening camp venue itself. Our medical team is equipped with Optical Dispensing Unit to provide an opportunity for the employees' convenience. Our camp organizer will have a follow up visit to a month after the screening camp to get the feedback from personnel manager or welfare officer in order to ensure the staffs' satisfaction and their quality of work.

We wish to conduct the same kind of camp in your organization with your kind co-operation. Our organizer Mr..... (Contact no.) will visit and discuss in detail about the camp arrangements. We are looking forward to hear from you.

Thanking you,
Yours sincerely,

R.Meenakshi Sundaram
Senior Manager – Outreach

School Children Eye Screening Camp:

Dear Sir,

Sub: Free eye examination for school children – Teachers training on - regarding

We have been implementing the Programme “School Children Screening for eye disorders” for more than 20 years for the detection and treatment of eye problems like Refractive Errors, Squint, Vitamin A deficiency and etc.

It is estimated that around 5% of the children are having visual defects, mostly refractive errors, which could be corrected by a pair of glasses. If not detected and treated in time, these children will be giving poor performance in their studies; many of them may even give up their studies as a result of poor performance in the examinations.

In this programme, we train all the class Teachers who spend at least 6 hours a day with the children. The duration of training is an hour and 30 minutes. The trained Teachers play an effective role for screening children and refer them for further treatment. This envisages a two stage screening first by Teachers and then by Ophthalmologist.

Major steps for the successful implementation of school children screening programme:

Step 1: Short term Training for Teachers:

All class Teachers (at least 80%) can attend a brief orientation for 90 minutes. In continuation of the discussion with you sir, we have confirmed the date to conduct a short term training from 4 pm. Aravind will take care of conduction of this training programme. **This short term training will be useful to all the Teachers to identify the children with defective vision within a week time. Since all the Teachers are trained, each one can easily focus his/her own class students in a couple of days.** By following this method, the entire process including medical team screening can be completed in 2 weeks.

- 2 -

Step. 2 : Preliminary Assessment by Trained Teachers :

On the day of training, the teachers will be given training materials and necessary documents to record the basic information for the students who have defective vision. Once all the students screened by teachers, a mutually convenient date for comprehensive eye examination by the medical team will be finalized and conducted within 2 weeks from the date of training. The teachers may kindly send a note to the parents of the children identified with defects, about 2 days prior to camp by Ophthalmologists. Parent may be requested to be present on the camp day and there may be a need to pay a nominal amount for the eye glasses (Rs.50/- per spectacle) to sense the value and grab their ownership.

Step 3 : Final Examination by Ophthalmologists:

1. Finally the camp will be conducted by our medical team within the school campus only for the children identified with defects.
2. The children (approximately 4 to 5% of the school strength) may need eye glasses to correct their refractive errors. Eye glasses will be issued at a deeply subsidized price.
3. Few children (around 1% of the school strength) may be advised to visit base hospital for further medical intervention by the specialists.

“Your co-operation would be of great help for the growing children with visual defects for a successful scholastic career”

Thanking you,
Yours sincerely,

R.Meenakshi Sundaram
Senior Manager – Outreach

Sirs,

Sub: Corporate Social Responsibility - Conducting free eye screening camp for children – regarding

Greetings from Aravind

The World Health Organization, Geneva has started a global initiative called VISION 2020: THE RIGHT FOR SIGHT with an aim of eradicating the preventable blindness by the year 2020 through out the world. It has identified the Aravind Eye Hospital as one of the NGOs to take active part in this program to reduce the blindness rate.

As per the world survey, Childhood blindness is rapidly increasing. In India about 2 % of the children are having refractive errors. Besides, more than 300,000 children are blind due to various eye problems. 40% of the childhood blindness can either be avoided or treated if it is identified in the initial stage. Pathetic condition is 50 to 60% of those children will die before the age of 1 or 2. Early identification of visual defects in children will help them to see the world. Aravind Eye hospital is organizing free eye screening camps for the children in the age of 0 – 6 to eradicate such a needless blindness.

During the camp, our Pediatric ophthalmic team will do comprehensive eye examination. Children identified with refractive error will be prescribed for eye glasses. The children with specialty problems, congenital eye problems will be referred to base hospital for further medical intervention in paediatric department. Unlike adults, if a child is left untreated in the community, it is going to be blind for the rest of its long life.

We wish to conduct a paediatric eye screening camp with your support and co-operation. Our organizer Mr.....will discuss in detail about the camp arrangements. We are looking forward your kind response.

Thanking you,
Yours sincerely,

R.Meenakshi Sundaram
Senior Manager – Outreach

Appendix 4C

Department of Outreach		Camp Organisers' weekly movement for the week ending:						
Organiser	Dates	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Organizers name 1	Places to be visited Purpose of visit							
Organizers name 2	Places to be visited Purpose of visit							
Organizers name 3	Places to be visited Purpose of visit							
Organizers name 4	Places to be visited Purpose of visit							
Organizers name 5	Places to be visited Purpose of visit							
Organizers name 6	Places to be visited Purpose of visit							

Purpose of the visit: CF - Camp Fixing, CA - Camp Arrangement, CP - Camp Publicity, CD - Camp Discharge, YV - Vision Center Visit, OM - Outreach Meeting, PW - Project Work, HQ - Office work and OD - On duty

Note: Outreach manager helps the field staff to develop this weekly movement in relation to the proposed action plan. It helps the outreach team to plan the work schedule and monitor the progress in activities. The field staff should report on return to headquarters so that the manager will look after necessary communication and followup the preparation based on the report.

Department of Outreach
Application for conducting Comprehensive Eye Screening Camp

Place of Camp		Date		Day	
Duration of camp		Venue			Dep.time

Community Partners (Sponsors of the camp)			
Addressed to:		Copy to:	
Mobile:		Mobile:	
E-mail:		E-mail:	

Sponsoring Details (Refer below and specify)	
1.Provision of camp venue with facilities 2. Cost of publicity materials 3. Publicity campaign 4.Volunteers 5. Hospitality for the medical team 6.Food & Transport for cataract patients 7.Donation to the hospital 8. Others..	

Geographical and Demographical information			
Panchayat union		Population Coverage	
Taluk		Population of the camp village	
District		Coverage in radius	Villages
Distance from Hd.Qrts.			Population covered
Route particulars from Hd.Qrts.			

Projected Outcome			
Expected Outpatients		Exp.Cat.admission & % in OP	
		Exp.Glasses & % in OP	
		Exp.Sply.& % in OP	

Past experience in the same location (either by same sponsor or different)					
Date	Name of the (Sponsor) Partner	Actual Outpts.	Cataract Admission	Glasses Ordered	Remarks by the Orgr. For success / failure

Specific demand for Manpower / materials etc.	
--	--

Date:

Signature of Organizer:

Appendix 4E

Department of Outreach			
Application for Diabetic Retinopathy (D.R.) Screening Camp			
Type of Diabetic Retinopathy Screening Camp	Part of Regular Screening camp	(Along with Cat.and Refractive error screening)	
	Diabetic screening & DR screening	(Known and Undiagnosed Diabetic centered care)	
	Exclusively for Diabetic patients	(Only for known diabetic patients)	
Date		Day Sat	Venue
Place		District	Distance
Route particulars from the base hospital			
Camp Organizer		Name of the Patient Counselor	
Type of camp location	Urban (City/Town)	Semi-urban (Taluk, Town Panchayat)	Rural (Panchayat / Village)
Community Partner 1:	Awareness Campaign		
Name, Address and contact Number for communication:			
Role and Responsibilities committed by the PARTNER (Give the sponsor details for publicity)			
Community Partner 2:	Diabetic screening		
Name, Address and contact Number for communication:			
Role and Responsibilities committed by the PARTNER (Give the sponsor details for diagnosing blood sugar)			
Community Partner 3:	Diabetic referral		
Name, Address and contact Number for communication:			
Role and Responsibilities committed by the PARTNER (Give the sponsor details for mobilizing diabetic patients)			
Target for this camp	Outpatients	Diabetic	Diab.Ret.
		% in OP	% in Diab.
Camp organizer's specific note on referrals (if there is any)			

Organizer Signature

Department of Outreach

Application for Eye Screening for Employees in Industries

Employer particulars	Addressed to:	Copy to (if necessary):
Name of the organisation		
Contact key person		
Designation		
Address 1		
Address 2		
District		
State		
Office phone with code		
Mobile		
E-mail		

Nature of the work of the target group	
--	--

Proposed Date and Duration		Departure at Hospital	
----------------------------	--	-----------------------	--

Screening location	
--------------------	--

Route details from base hospital (accessibility)	
--	--

Total strength of employees in the organisation	Total	
	<40 yrs	
	>40 yrs	

If we had conducted eye screening camp in the past, the details (no of staff examined in the respective age group):	Total	
	<40 yrs	
	>40 yrs	

Agreement on delivery of spectacles to the employees (tick in the box)	By Management	
	By Self	
	Others	

Proposed Follow up date	
-------------------------	--

Follow up action to be taken if any	
-------------------------------------	--

Date:

Name and Signature of Camp Organizer

Appendix 4G

Department of Outreach				
Application for School Children Screening Camp				
Name of the School and the Community Partner (if there is an association for training / screening / spectacles)	School Authority		Community Partner	
Contact person				
Address for communication				
Village / Place of the school				
District				
State				
Contact phone number				
E-mail address				
Standard and type of the school (please tick)	Primary school	Middle school	High school	Hr.Secondary
	Government	Government Aided		Private
Coordinator amongst the trained teachers for update (completion of pre-screening, date of screening etc.)	Name			
	Mobile			
Total strength of school		Trainees and date of training		
Trained teachers to children ratio		Location of training		
No.of children identified with eye defects as reported by Teachers and % in total strength				
Final examination by Medical team from base hospital				
Date, day, duration and departure at base hospital				
Camp organizer's note on;				
Cost of spectacles				
Sponsor for spectacles				
Proposed date of follow up				
(others)				

Organizer's Name and Signature

Department of Outreach					
Application for Paediatric Eye Screening Camp					
Camp date		Day		Place	
Block/Taluk		District		Distance	
Population of the village		Expected OP		Departure at hospital	
Route particulars					
				Camp Organizer	

Community Partners		
Organization / Local NGO		
Key person		
Address 1		
Address 2		
Place		
District		
State		
Mobile		
E-mail		

Community partners committed for; (sponsor details)

Details of Publicity campaign (Regular and Specific methods to mobilize defective children):

Other (health oriented) Community Partners for referring children with eye defects:	
Paediatrician	
Physician	
Clinic/Hospital	
Primary Health Centers	
Children Welfare Centers	
Health oriented NGOs	
Others 1.	
Others 2.	

Date:

Signature of Camp Organizer

Department of Outreach

Performance in each type of camp can be maintained in the following design preferably in a spread sheet. It will help to maintain the data for key parameters like productivity, acceptance rate etc. Data can be added once the camp is over. The sheet can help to analyse the performance for place wise or organizer wise index.

I. Comprehensive eye screening camps with predicted workload for the week ending:

S.No	Date	Day	Place	Organizer	District	Sponsor (community partner)	Pre camp Experience			Prediction for this week			Date & Place of Follow up
							OP	Cat admission	Eye Glasses	Exp OP	Cat admission	Exp. Glasses	
Total for the current week/ month										0	0	0	

*Prediction: Cataract admission 20% of OP, Eye glasses 20% of OP - if we register 80% of OP in 40+ age group

II. Diabetic Retinopathy Screening Camps with predicted workload for the week ending:

No.	Camp date	Day	Place of Camp	Community partner 1 (for promotion)	Community partner 2 (Collaborated with Physician/ clinic for diab. referrals)	District	Organiser	Exp. OP	Expected Diab.	Diab. Ret.
Total for the current week/ month								0	0	0

*Prediction: Diabetic attendance should be at least 60% of OP and Diabetic retinopathy would be 10 to 15% of diabetic

III. Work place eye screening Camps with predicted workload for the week ending:

No.	Camp date	Day	Place of Camp	District	Organiser	Name and location of the Employer	Employees to be seen			Glass Prescription			Glasses orders
							<40 yrs.	>40 yrs.	Total	< 40 yrs.	>40 yrs.	Total	
Total for the current week/ month							0	0	0	0	0	0	0

*Prediction: 10% in <40 and at least 50% in 40+ may need eye glasses in a workplace.

IV. School Children Screening Camps with predicted workload for the week ending:

No.	Camp date	Name of the School and Location	Sponsor for Eye Glasses	District	Organiser	Students Strength	No. of Teachers Trained	Children with eye defects identified by Teachers & % to strength	Exp. Children for Screening
Total for the current week/ month						0	0	0 %	0

*Prediction: Trained Teachers conduct vision screening and able to identify the children with vision problems which is around 10% of the strength.

V. Paediatric Eye Screening Camps with predicted workload for the week ending:

No	Date	Day	Place	Organiser	District	Partner 1	Partner 2	Exp. OP	Predicted d
Total for the current week/ month								0	

*Prediction: The number of children with eye defects depends the involvement of (associated with) local paediatrician and health centres involvement

Indent form for Eye Screening Camps

Date of Camp:		Exp. OP:	
Place of Camp:		Name of Sr.MLOP i/c camp:	

Form - A

S.No	Name of the supplies	Required Quantity				Issued Quantity	Returned Quantity
		<300	300-500	500-800	800-1500		
1	OP Record Camp	300	600	1000	2000		
2	Identity Card Camp	300	600	1000	2000		
3	Post Operative Record	75	150	300	500		
4	Pre Operative Record	75	150	300	500		
5	IOL Discharge Summary Card	75	150	300	500		
6	Declaration Card Camp	75	150	300	500		
7	Continuation Card free	100	200	300	400		
8	Notice About F.H	25	25	50	50		
9	Cataract Surgery Record	5	5	5	10		
10	Cataract Discharge Summary Card	5	5	5	10		
11	Stay Pass Camp	5	5	10	10		
12	Drug Pad F.H	3	5	10	10		
13	Glass pad F.H	1	2	4	7		
14	Paper Pin Box	1	1	2	2		
15	Tin Tag	1	1	2	2		
16	Cell big	2	4	8	16		
17	Cell medium	2	2	2	2		
18	Stapler	2	2	2	3		
19	Stapler Pin	1	2	2	2		
20	Punching Machine Single Hole	1	1	2	2		
21	Soap	1	1	3	3		
22	Match box	1	1	1	1		
23	OP Register Camp	2	2	3	4		
24	Rope (6 metres)	2	2	2	2		
25	Bed sheet	1	2	3	4		
26	Stickers - Surgery Review	30	40	60	80		
27	Stickers - Diabetic	30	40	60	80		
28	Stickers - Cardiac	30	40	60	80		
29	Stickers - Asthmatic	30	40	60	80		
30	Stickers - Hypertensive	30	40	60	80		
31	Stickers - One Eyed	30	40	60	80		
32	Stickers - Duct partially free	30	40	60	80		
33	Stickers - Plain Small	30	40	60	80		
34	Special Case Card for Systemic	15	25	40	75		
35	Fee Recommendation Card	5	5	5	5		

Requested by: (Name & Signature)	Authorized by:
Issued by: (Name & Signature)	Received by:

Remarks by the Stores i/c (who has delivered the things and taken returned items: (please mention the details if there is any item missed, broken or need repairing etc.)

Stores Department

Indent form for Screening Camps

Date of Camp:		Exp. OP:		Exp. IP:	
---------------	--	----------	--	----------	--

Place of Camp:		Name of Sr.MLOP i/c camp:	
----------------	--	---------------------------	--

Instruments, Equipments & Electrical Items Form - B

S.No	Name of the supplies	Required Quantity				Issued Quantity	Condition at the time of Issue	Returned Quantity	Condition at the time of Return
		<300	300-500	500-800	800-1500				
1	Tonometer with Tonometer chart	1	2	3	4				
2	Cell Torch	3	3	3	4				
3	Electric Torch	4	5	7	10				
4	B.P Apparatus	1	2	3	3				
5	Sthethos cope	1	2	3	3				
6	Switch board	1	2	2	3				
7	Station Number Chart (Full Chart)	7	7	7	7				
8	Wiper Jar (Big / Small)	1	1	1	2				
9	Syringe Box (Big / Small)	1	1	1	2				
10	Basin	2	2	1	3				
11	Medicine Tray	1	2	2	3				
12	Trunk Box	1	1	1	1				
13	Lock & Key	1	1	1	2				
14	Guidelines for selection & admission								

Authorized by: (Name & Signature)

Name & Signature of the person who issued the things	<input type="text"/>	Name & Signature of the person who received and returned the things	<input type="text"/>
	<input type="text"/>		<input type="text"/>

Remarks by the Stores i/c (who has delivered the things and taken returned items: (please mention the details if there is any item missed, broken or need repairing etc.)

Remarks by the MLOP who has received and returned the things: (please mention the details if there is any item missed, broken or need repairing etc.)

Stores Department

Date of Camp: Exp. OP: Exp. IP:

Place of Camp: Name of Sr.Refr. i/c camp:

Refraction items for Screening Camps **Form - C**

S.No	ITEM NAME	REQUIRED QTY				ISSUED QTY	RETURNED QTY
		<300	300-500	500-800	800-1500		
1	Trial set	2	3	4	5		
2	Trial Frame	2	3	4	5		
3	Streak Retinoscopy	2	3	4	5		
4	Torch (Pen)	2	3	4	5		
5	Torch cell (for Retinoscopy) Extra Fitting	1	1	1	2		
6	Snellen chart	8	12	16	20		
7	Cubicle set with cloth	2	3	4	5		
8	SwitchBoard - big	1	2	2	2		
9	Switch board-small	2	3	4	5		
10	Wire with holder and bulb	3	4	5	6		
11	Wire for extension (6 meters)	1	1	2	2		
12	Stapler with pin	2	3	4	5		
13	Multi Pin Hole set						
14	IPD Ruler						
15	Near Vision chart						

For Follow up Camps		Upto 100 IP	Upto 200 IP	Upto 500 IP	>500 IP	Issued	Returned
1	Review case sheets	Respective camp(s)					
2	Mini Trial set	1	2	3	4		
3	Trial frame	1	2	3	4		
4	Torch with cell	1	1	2	3		
5	Streak Retinoscopy with cell	1	2	3	4		
6	Medicine prescription pad	1	2	4	5		
7	Glass prescription pad	1	1	2	3		
8	Tropicamide drops (for dilation)	1	2	3	4		
9	Antibiotic drops	1	2	3	4		
10	Dexoren-S(steroid)	1	2	3	4		

Authorised & issued by: Received & returned by:

Remarks by the Stores i/c (who has delivered the things and taken returned items: (please mention the details if there is any item missed, broken or need repairing etc.)

Remarks by the Refractionist who has received and returned the things: (please mention the details if there is any item missed, broken or need repairing etc.)

Stores Department
Indent form for Screening Camps

Date of Camp:		Exp. OP:		Exp. IP:	
Place of Camp:		Name of Sr.MLOP i/c camp:			

Medicines & Antiseptics **Form - D**

S.No	ITEM NAME	REQUIRED QTY				ISSUED QTY	RETURNED QTY
		<300	300-500	500-800	800-1500		
1	Tropicamide Plain (E/D)	3	4	4	8		
2	Tropicamide Plus (E/D)	3	4	6	8		
3	Homide (E/D)	2	2	2	2		
4	Cyclopent	1	1	2	3		
5	Lignocaine 4%	2	3	4	7		
6	Antibiotic Drops	3	4	5	8		
7	Zoxan Oinment	1	1	2	3		
8	Betnesol	1	1	2	2		
9	Timolal 0.5%	1	1	2	2		
10	Pilocorp 2%	1	1	2	2		
11	Steroid Oinment	1	1	2	2		
12	Atropine Ointment	1	1	2	2		
13	Saline bottle	1	1	1	2		
14	Syringe 2 ml.	2	4	6	8		
15	Needle 26 G	2	2	4	4		
16	Dettol	30ml	30ml	60ml	60ml		
17	Spirit	30ml	30ml	60ml	60ml		
18							
19							

Name & Signature of the person who issued the medicines		Name & Signature of the person who received and returned the things	

Remarks by the Stores i/c (who has delivered the things and taken returned items: (please mention the details if there is any item missed, damaged etc.)

Remarks by the MLOP who has received and returned the things: (please mention the details if there is any item missed, damaged etc.)

Note This indent form has been designed for a comprehensive eye screening camp different volume of outpatient registration. Specific supplies for speciality camps can be indented based on the requirement.

Appendix 4K

Department of Outreach

Camp Posting for the week ending on:

Comprehensive Eye Screening Camp										
No.	Date & Day	Camp Place Exp.OP & Departure	Organiser	Preliminary Vision	Case history	IOP Test and Lacrimal Duct	Refraction	Counselling	Optical dispensing	Doctors
1										
2										
3										
4										
5										
Cataract Surgery Follow up Camp										
1										
2										
Workplace Eye Screening Camp										
1										
2										
Diabetic Retinopathy Screening Camp										
1										
School Children Screening Camp										
1										
2										
Paediatric Eye Screening Camp										
1										

Note: This template helps to plan the required manpower and inform all the personnel about the camp posting. This posting can be prepared for a period of week/month based on the number of outreach visits.

Appendix 4L

Name of the Community partner (Sponsors),
Name of the Hospital and Name of the Donor

Jointly conduct

Free Comprehensive Eye Screening Camp

Date & Day:

Time/duration:

Venue & Place:

Eye Examination by the Team from (Hospital Name)

Cataract: *Patients Identified with Cataract will be taken to base hospital on the same day for cataract Surgery. Intraocular lens, Surgery, medicine, Food, Accommodation & transport will be provided free of cost. These patients will be dropped back in their same place two days after surgery. Post operative follow-up will be done in the same camp place after a month.*

Diabetics: *Diabetic patients may loss their sight due to diabetic retinopathy. Check your eyes.*

Glaucoma: *40+ may get this problem without any notable symptoms. Check your eyes if you are 40+ and identify glaucoma in the early stage. Retention may be possible. The vision lost cannot be regained. Check your eyes.*

Pediatric Eye Problems: *Children with the symptoms of watering in the eye, Congenital eye problems, Squint, visual impairment and Night Blindness will be screened in this camp.*

Refractive errors: *Spectacles will be available at the campsite itself at the subsidized rate for those who have Near vision, Distance vision and short sight.*

Kind attention for cataract patients: *Patients suffering from Hypertension, Asthma, Diabetics and cardiac problems may kindly consult a physician and attend the camp with the fitness certificate for cataract surgery.*

All the patients are requested to produce their identity proof in the registration.

Use this opportunity! Save your sight!!

<i>Name of the Community partner (Sponsors), Physician/Diabetologist Name of the Lab and Name of the Eye Hospital</i>
Jointly conduct
Free Diabetic Screening & Diabetic Retinopathy Screening Camp
Date & Day: Time/duration: Venue & Place:
This camp is exclusively for Diabetic patients!!!
For whom; Known diabetic, People in the age of 40, having symptoms of Excessive thirst ,Tingling sensations in feet and fingers, Excess Hunger, Frequent Urination, Irritability, Frequent infections, Blurred vision, Skin itching
<u>Why this camp?</u>
<ul style="list-style-type: none">❖ Diabetics will affect the eye especially Retina❖ Longevity of Diabetic will lead Retinopathy❖ Diabetic Retinopathy is symptomless and affect the vision❖ DR can be identified only through a comprehensive eye screening by the specialist.❖ Laser Treatment can help moderately
<u>Benefits of attending this camp!</u>
<ul style="list-style-type: none">❖ Free screening to diagnose Diabetes❖ Comprehensive eye screening for Diabetic patients.❖ Counseling and health education to the Diabetic patients❖ Laser treatment to the Retinopathy patients at subsidized cost
Diabetes is not a sweet! It is bitter for your Vision!!

<i>Name of the Employer/Industry/Workplace and Name of the Hospital</i>
Jointly conduct Free Eye Screening Camp For Employees
Date & Day: Time/duration: Venue & Place:
<hr/> <ul style="list-style-type: none">• Comprehensive checkup for all eye problems• Spectacles will be provided at affordable cost• Spectacles will be delivered on the spot for your convenience <hr/>
We care your vision You care your Quality and Productivity Use this Special Opportunity
Sample for school camp
<i>Name of the School and Name of the Hospital</i>
Jointly conduct Eye Screening for our School Children
Dear Children
Have you been identified with eye defects by our Teachers?
A medical team from Aravind Eye Hospital is visiting to conduct final examination by Ophthalmologist and paramedical staff
Inform your parent and bring them on day at am
Glasses will be available at affordable price You are requested to attend with out fail
Check Your Vision! Care your Education!!

*Name of the Community partner (Sponsors), Paediatrician/Health Centre
and Name of the Eye Hospital*

Jointly conduct

**Free Paediatric Eye Screening Camp
for the children between 0 and 15 years**

Date & Day:

Time/duration:

Venue & Place:

In this camp;

Children in the age group of 0 to 6 with the symptoms of watering in the eye, congenital cataract, Squint, Congenital Glaucoma, Night Blindness and other eye problems will be screened and they will be guided to appropriate treatment

Do your children have the following Symptoms?

- Face difficulties in reading?
- Watch Television sitting closely?
- Face difficulty in seeing light?
- Blink their eyes more often,
- Watering in the eye, redness?
- Pain in fore head, Headache during noontime,
- Chalazion, continuous discharge in the eye, wet eyes
- Frequently hitting things kept in the floor while walking
- Perceiving and complaining of Blurred vision or 2 images
- Squint eyes

**Mothers to bring their Children with the above symptoms
Earlier diagnosis can help your children eye sight**

Children sight is in the Mother's hands

Estimated Cost to conduct an eye screening camp - Aravind's Experience

Expenditure Heads	Small Camp (Rs. In INR)		Medium Camp		Large Camp (over night stay)	
A. Community based Expenses by a Partner	(OP:200-300 IP:40-60)		(OP:400-600 IP:60 - 100)		(OP:700-1000 IP:100 - 200)	
Cost of handbills (500 per 1000 Bills)	1,500		3,000		7,500	
Cost of Posters (@Rs.15)	1,500		3,000		3,000	
Cost of Flex banner (@Rs.500)	500		1,000		1,500	
Mic announcement (Rs.2000 - 2500/ day)	4,400		6,600		10,000	
Publicity execution cost (200 / Labour)	800		1,200		2,800	
Total Cost of Promotion	8,700	61%	14,800	67%	24,800	59%
Lunch packets for cataract patients on camp day (as they wait for admission and transport to base hospital) (Rs.30 per pt.)	1,800	13%	2,250	10%	4,500	11%
Medical team Food expenses (Rs.90/ time)	2,700	19%	3,600	16%	6,750	26%
Medical team Stay expenses (1000 / room)	-		-		4,000	
Miscellaneous (Volunteers, Refreshment, Sanitation)	1,000	7%	1,500	7%	2,000	5%
Cost of Campaign and hospitality in INR	14,200	100%	22,150	100%	42,050	100%
Budget in US\$ (@66)	215		336		637	
B. HR and Transport cost by Hospital						
Manpower cost (actual salary for the staffs who attended eye camp) (Team strength 10, 15, 20)	3400	55%	5000	52%	12000	58%
Transport for the medical team (depends the distance they travel) (Distance range: 40, 70, 200 Kms)	1500	24%	1700	18%	4500	22%
Medical team refreshment cost (Snacks and Coffee - Both ways - @50 per person)			1000	10%	1250	6%
Field visit by organizer (3 visits) (Cost of Manpower, Transport and Food)	1300	21%	2000	21%	2900	14%
Total Cost (A and B) in INR	6,200	100%	9,700	100%	20,650	100%
Budget in US\$ (@66) (for HR and Transport)	94		147		313	
Total Cost in INR	20,400		31,850		62,700	
Total Budget in US\$ (@66)	309		483		950	
Case Finding Cost per Cataract in INR	408		425		418	
Case (Cataract) Finding Cost in US\$ (@66)	6.2		6.4		6.3	
Avg number of Cataract Admissions (denominator)	50		75		150	

Note: updated in April 2016

Appendix 4N

Department of Outreach

Camp admission, Operation and discharge planning for the week ending

S. No.	Place of Camp	Camp code	District	Organizer Name	Counselor incharge	Admission date	Kms from Camp Site	Expected arrival Date& Time	Accomodation details	Exp. Admission	Actual admission	Anticipated Surgery date	Discharge date	Transport details	Followup date
Col 1	Col 2	Col 3	Col 4	Col 5	Col 6	Col 7	Col 8	Col 9	Col 10	Col 11	Col 12	Col 13	Col 14	Col 15	Col 16
1															
2															
3															
4															
5															
6															
7															
8															
9															
Total															

The outreach manager and organizers can help the Inpatient service team to plan HR, supplies, support services for planning the entire logistics from the stage of admission till they are sent back. The organizer or the counsellor is responsible to communicate the followup details to all the patients. This statement can be prepared (expect the column 12) a week ahead and shared with the team members.

Appendix 4O

Aravind Eye Hospital - Madurai			
Eye Screening Camp			
Out Patients Identity Card			
OP No.		Date:	
Name			
Place :			
Note:	Patient keeps this card and brings to the hospital for subsequent visits		

Appendix 4P

Aravind Outreach Programme			
Referral card For Specialty Eye Problems			
Camp Date		OP NO	
Place of camp			
Name of the			
You have been diagnosed with specialty problem. You are requested to meet the counselor Ms in Room No at Aravind Eye Hospital, Free section on date,.....Day			
Referred to : Glaucoma/ Retina/ Cornea/ Orbit/ Neuro/ Uvea/ Others			
Aravind Eye Hospital (Free Section) Anna Nagar, Madurai - 625 020 Bus Route : 3, 5, 77 Stop : Aravind Eye Hospital (Sunday Hoilday)			

Appendix 4Q

Right Eye	Left Eye	Vision without glasses
		Vision with glasses
		Intraocular Pressure
		Lacrimal passage
B.P.		Blood Sugar
Fundus		

Aravind Eye Hospital - Free Section		Camp Record	
Outpatient details		NON:	
O.P.No.		I.P.No.	
Date:		Room No.	
Camp Place			
Name:		Age:	
Address:		Sex: M/F	
Complaints			
	Right Eye	Left Eye	
Diagnosis			
Diagnostic Code No.			
Lids			
Conjunctiva			
Cornea			
Anterior Chamber			
Iris			
Pupil			
Lens			
Ocular Movements			
HYPERTENSIVE	ONE EYE		ALLERGICTO
CARDIAC	DIABETIC		
CARDIAC	DIABETIC		

Appendix 4R

AEH Free Section

Preoperative Record		Camp-Free	Direct-Free	
Name :		Age:	M	F
MR No.		IP No:		

Admitted for:		Eye to be operated	One eyed	
Cataract extn.only	<input type="checkbox"/>	Right	<input type="checkbox"/>	Yes
Cat+IOL	<input type="checkbox"/>	Left	<input type="checkbox"/>	No
Others:				

Diagnosis	RE	LE	Associated conditions	RE	LE
Immature	<input type="checkbox"/>	<input type="checkbox"/>	Corneal Disease	<input type="checkbox"/>	<input type="checkbox"/>
Mature	<input type="checkbox"/>	<input type="checkbox"/>	High Myopia	<input type="checkbox"/>	<input type="checkbox"/>
Hypermature	<input type="checkbox"/>	<input type="checkbox"/>	Lens induced glaucoma	<input type="checkbox"/>	<input type="checkbox"/>
Nuclear	<input type="checkbox"/>	<input type="checkbox"/>	Post. Synechiae	<input type="checkbox"/>	<input type="checkbox"/>
PSCC	<input type="checkbox"/>	<input type="checkbox"/>	PXF	<input type="checkbox"/>	<input type="checkbox"/>
Traumatic	<input type="checkbox"/>	<input type="checkbox"/>	Retinal pathology	<input type="checkbox"/>	<input type="checkbox"/>
Complicated	<input type="checkbox"/>	<input type="checkbox"/>	Shalow AC	<input type="checkbox"/>	<input type="checkbox"/>
Congenital	<input type="checkbox"/>	<input type="checkbox"/>	Subluxated lens	<input type="checkbox"/>	<input type="checkbox"/>
Aphakia	<input type="checkbox"/>	<input type="checkbox"/>	Pupil NS, RL	<input type="checkbox"/>	<input type="checkbox"/>
Pseudophakia	<input type="checkbox"/>	<input type="checkbox"/>	Sluggish	<input type="checkbox"/>	<input type="checkbox"/>
			RAPD	<input type="checkbox"/>	<input type="checkbox"/>

Vision RE Unaided:		LE Unaided:	
Aided:		Aided:	

K - reading			
Axial length			
IOL Power AC		PI-convex	
Bi-convex			

Systemic Illness

Diabetes	<input type="checkbox"/>	Hypertension	BP:	
Asthma	<input type="checkbox"/>	Cardia	U.Sugar:	

Special Instructions:	
-----------------------	--

Appendix 4S

IOL Surgery Record

Eye: Right Eye Left Eye

Anaesthesia: LA / GA Given by:

Operative Notes: Date:

Surgeon: Theatre:

Asst.Nurse: Case No.

Section	Corneal	Limbal	Tunnel
Extraction	ECCE	Manual Phaco	Phaco
Capsulotomy	Canopener		Capsulorhexis
Iridectomy	NIL	PI	SI ST

IOL In the bag <input type="checkbox"/> Sulcus <input type="checkbox"/> AC <input type="checkbox"/>	IOL Sticker
--	-------------

Sutures	Sutureless	Interrupted	Continuous
Nylon/Silk	8 - 0 9 - 0	10 - 0	Nos.

PC rent Z.Dialysis Vit.Dist DM Strip

At which step: Vitrectomy:

Nucleus delivery	<input type="checkbox"/> Nil	<input type="checkbox"/>	Positive Pressure
Irrigation aspiration	<input type="checkbox"/> Automated	<input type="checkbox"/>	Premature entry
IOL Implantation	<input type="checkbox"/> Week sponge	<input type="checkbox"/>	Iridodialysis

Others:

Remarks:

Appendix 4T

Aravind - Free Section:
Post Operative Record

IP No.

Name: MR No.

	6 Hours	Day 1	Day 2	Day 3
NORMAL				
Wound	Wound Leak			
	Broken Sutures			
	Iris Prolapse			
	Iris incarceration			
	Capsular tag/Vit. in the Wound			
Suture infection				
Cornea	Striate Keratitis			
	Corneal Edema			
	DM strip (less than 1/3 / > 1/3)			
Ant Chamber	Shallow AC			
	Hyphema (<3 mm / >3 mm)			
	Cortex (Mini/Significant)			
	Iritis (Cells 1+, 2+, 3+, 4+)			
	Fibrous uveitis (F.M.)			
	Severe uveitis with hypopyon			
Vitreous in AC				
Irregular Pupil				
IOL	In bag / Sulcus			
	Haptic in AC			
	Decentered IOL			
	Dislocated into vitreous			
PC Rent / Z. Dialysis				
Treatment	Antibiotics			
	Steroids			
	Timolol			
	Diamox			
	Dilation			
Vision Unaided <input type="text"/> with PH <input type="text"/>				

AEH - Free Section

Follow up Record

Visit Date	1st	2nd	3rd
NORMAL			
Wound	Wound Infection		
	Gape		
	Iris Prolapse		
Cornea	Corneal Edema		
	DM strip		
	Bullous Keratopathy		
Ant Chamber	Iritis (Cells 1+, 2+, 3+, 4+)		
	Severe uveitis with hypopyon		
	Fibrous uveitis (F.M.)		
	Vitreous in AC		
	Epinucleus / Cortex in AC		
Irregular Pupil			
Post Synechiae			
IOL	In bag / Sulcus		
	Decentered IOL		
	Pupillary capture		
	Dislocated IOL		
	Haptic in AC		
PCO Mild / Significant			
Fundus	Normal		
	Diabetic Retinopathy		
	ARMD		
	Vitreous Haemorrhage		
	CME		
	Glaucoma		
Optic atrophy			
Others			
Vision Unaided <input type="text"/>			
PH / Aided <input type="text"/>			
Causes for VA < 6/36 <input type="text"/>			

Appendix 4U

Aravind - Community Outreach	
Consent by the Admitted Patient	
OP No.	<input type="text"/>
Date of Camp	<input type="text"/>
Place of Camp	<input type="text"/>
Patient Name:	<input type="text"/>
H/o, W/o, S/o, D/o	<input type="text"/>
Village:	<input type="text"/>
Town/District:	<input type="text"/>
Advised for:	<input type="text"/>
Date of Admission:	<input type="text"/>
Place of surgery:	<input type="text"/>
<p>I do understand and agree to undergo surgery as explained by Doctor. I am very conscious and I do not come under any pressure. I assure you to cooperate with the team and you are not accountable if I leave the hospital at my own without informing your hospital staff.</p>	
Witness:	Signature or Thumb impression of the patient
	Patient counselled by;

Appendix 4V

Details of 'Not Admitted for Surgery' - in the camps held for the week ending:

	Camp 1	Camp 2	Camp 3	Camp 4	Camp 5
Date of camp					
Place of camp					
Doctor i/c camp					
Camp Organizer					
Patient Counselor					
Outpatients seen					
Advised for Surgery					
Admitted					
Not Admitted					
Clinical Reasons:					
Cardiac problems					
Asthma					
Blood Pressure					
Diabetic					
Others:					
Personal reasons:					
Willing to walkin					
Family commitment					
Engaged in work					
Fear					
Others:					

Signature:

Patient Counselor _____

(Prepared by)

Camp Organiser _____

(Accepted by)

Note: In a camp, the patient counsellor (PC) is accountable to persuade the patients who need surgery. The PC has to record the reasons for the dropout for each camp and handover to the outreach manager. This process will help to improve the quality of counselling and enable the outreach team to reduce the dropout over a period of time.

Appendix – 4W

Sirs,

Sub: Free eye camp conducted at _____ on _____ - expression of gratitude – regarding _____

Kindly accept our sincere thanks for having conducted an eye camp in association with our hospital and the hospitality extended to our team. In our eye camp held at on, our medical team has screened ____ patients. Of the total outpatients,

1. patients have been diagnosed with cataract problem
2. patients have been advised for cataract surgery
3. **patients admitted for cataract surgery**
4. persons have been identified with refractive error
5. persons have been prescribed for eye glasses
6. **persons have ordered/received eye glasses**
- 7..... **patients have been diagnosed with specialty problem**

**Your organization
has helped
...patients to
restore eye sight!**

Out of ... patients screened, (Sl.No.1+4+7) patients (.... %) have been identified with various eye problems and they have been advised for surgery/eye glasses/medication. This is for your kind information. We once again thank you for having come forward to help the poor blind people in the community. It has been an opportunity for examining their eyes and restoring their eye sight.

In order to improve the quality of our services, we would like to know your feedback in the attached format (Appendix 8G). Please share with us.

We look forward your continuous co-operation in future also.

Thanking you,
Yours sincerely,

R.Meenakshi Sundaram
Senior Manager – Outreach

Sirs,

Sub: Diabetic retinopathy screening camp conducted at _____ on _____ – regarding

Kindly accept our sincere thanks for having conducted a Diabetic Retinopathy screening camp in association with our hospital at (Place) on (date).

Our medical team has screened outpatients
.....patients were known diabetics
.....patients were identified with diabetes
.....patients were diagnosed with Diabetic Retinopathy
.....Patients were counseled and referred to base hospital for Laser treatment

This is to share the details of beneficiaries through our camp.

You have helped ... diabetic patients to diagnose Diabetic Retinopathy to prevent loss of sight!

We are looking forward your continuous co-operation in future also.

Thanking you,
Yours sincerely,

R.Meenakshi Sundaram
Senior Manager – Outreach

Sirs,

Sub: Eye Screening camp conducted in your office/factory premises on _____ for the benefit of your employees – regarding

On behalf of our organization and your staff, we thank you very much for having come forward to conduct an eye screening camp for the benefit of your staff members at your premises on You have clearly communicated the staff to know the importance of eye examination and to make this opportunity to improve their vision and quality of work in their profession. The camp was well organized and the staffs have enthusiastically participated to check their eyes.

We would like to share the details of output in this camp;

- We have screened employees
- employees were advised for eye glasses to correct their refractive error
- employees have ordered eye glasses
- employees were identified with other eye problems and counseled them for necessary treatment

We also thank you for the hospitality extended to our medical team. Your efforts under the concept of Corporate Social Responsibility will be highly appreciated by everyone who has been benefitted through this camp.

We are looking forward your kind co-operation in the years to come.

Thanking you,
Yours sincerely,

R.Meenakshi Sundaram
Senior Manager – Outreach

Sirs/Madam,

Sub: School Children Eye Screening camp at your school on _____ - regarding

Thank you very much for having given us an opportunity to screen your children for eye problems. It was very good experience for us to conduct one day training programme for your teachers on On successful completion of preliminary screening by the trained teachers, our medical team has visited your school to conduct final screening camp for the defective children on where many of the parents have also participated.

We furnish below the particulars for your kind reference, record and follow up:

The total number of children screened by the trained teachers:	-
Children suspected with eye defects by trained teachers:	-
Children confirmed with eye defects by medical team:	-
Children advised for eye glasses to correct refractive errors:	-
Children got spectacles as prescribed by medical team:	-
Children having eye defects other than refractive errors:	-
Children advised to visit base hospital for further screening:	-

We hope the children advised to visit base hospital will visit our Paediatric department with their parents for further medical intervention or treatment. It is our sincere gratitude to everyone who has played a vital role in this programme which has helped us to improve the vision and quality of education for the children.

We are looking forward to continue this joint venture in the years to come.

Thanking you,
Yours sincerely,

R.Meenakshi Sundaram
Senior Manager – Outreach

Sirs,

Sub: Free eye camp for children conducted at _____ on _____ – regarding

Kindly accept our sincere thanks for having conducted a pediatric eye camp in association with our hospital to benefit the children those who have eye defects and any kind of congenital eye problems. In our Pediatric eye camp held at on , our medical team has screened children. Of the total children screened ... children were identified with refractive error and children were prescribed for eye glasses.

We have also identified children with other eye problems like congenital cataract, glaucoma, squint, amblyopic, etc. and they have been advised for appropriate medication This is for your kind information. Once again thank you for having come forward to create awareness on eye problems especially childhood blindness in the community. You have helped children to diagnose eye problems in early stage and to restore their vision. We also appreciate your kind hospitality extended to our medical team.

We are looking forward the same kind of initiative and co-operation in future also.

Thanking you,
Yours sincerely,

R.Meenakshi Sundaram
Senior Manager – Outreach

5. Vision Centres and Other Emerging Approaches to Outreach in Eye Care

INTRODUCTION

Screening eye camps take eye care services to the doorstep of communities in low-income areas. However, the utilisation of these services remains quite low in outreach camps³³. Only 7% of the population who need eye care services utilise eye screening camps. Offering comprehensive eye care to all, requires other approaches beyond eye camps.

Furthermore, eye camps do not develop proactive health-seeking behaviour in the people they serve. Other methods of outreach must be implemented in order to increase the public's awareness of eye disease and its prevention and treatment, as well as available rehabilitation services for the incurably blind.

Dr. Clare Gilbert¹⁴ suggests that those working in primary eye care (which includes the diagnosis and treatment of common eye diseases and the identification, treatment and referral of individuals with treatable causes of blindness) would benefit from learning the principles of primary health care: accessibility; public participation; health promotion; appropriate skills and technology for new and evolving realities; and intersectoral cooperation. Yet the majority of eye care providers still focus mainly on secondary (for example, cataract surgery) and tertiary (speciality) eye care while reduction of blindness and ocular morbidity will only be possible by effective implementation of comprehensive and easily accessible primary eye care services.

Another important issue to keep in mind when planning new outreach services is the dramatic demographic transition that is occurring. The prospective doubling of the world's elderly population will mean a steep increase in lifestyle-related diseases such as hypertension and diabetes, which will have a direct impact on the need for tertiary eye care services. As eye care institutions continue to struggle to meet the needs of those with cataract and refractive errors (and two million new cases of blindness each year), they must also increasingly plan for and focus on high quality, fully accessible speciality care in glaucoma and retina vitreous services – areas in which many patients present in end stages – as well as paediatric ophthalmology..

New and improved approaches of outreach in eye care must be strategic, functional, value-added, sustainable and realistic. Innovation is needed to create scalable and replicable models of outreach, to optimise resource utilisation, to allow remote diagnostics and eye care delivery, and to increase access to eye care and dramatically reduce its cost for the largely underserved populations in many developing countries.

Aravind Eye Care System now has experience with several new outreach initiatives designed to:

- Ensure comprehensive eye care
- Mobilise the target community, increasing their sense of ownership
- Increase awareness of both eye care and eye care service providers
- Improve accessibility to services
- Improve quality of care for the “unreached” by creating more permanent eye care centres.

Patient behaviour needs to change. Patients have become accustomed to eye care being brought to their doorsteps and are, therefore, reluctant to seek care on their own or as needed. This behaviour must be altered both for the patients' well-being and to move towards a more sustainable care model.

- Ross School of Business,
University of Michigan

The principles of primary health care (that is, fair distribution, community involvement, focus on prevention, appropriate technology, a multi-sectorial approach) should all apply in primary eye care.

- Dr. Clare Gilbert, MD M.Sc.
FRCOphth

The decline in mortality rates in older age groups has resulted in a population with more and more people aged 65 and over; the decline in fertility rates contributes to an even greater increase in the proportion of the population who are elderly. As the world's population increases and as a greater proportion survives into late adulthood, so the number of people with visual loss will inexorably rise. Given the success of programmes in combating the most common causes of blindness (infectious diseases and malnutrition) which generally affect the young, and the projected demographic shift, age-related eye disease will become increasingly prevalent.

- Sheila West and Alfred Sommer, *Prevention of blindness and priorities for the future, Bulletin of the World Health Organization, 2001 [17]*

- Increase patient flow
- Reduce the primary care load at the base hospital (which will maximise capacity utilisation and increase efficiency while simultaneously increasing access to care)
- Increase the number of speciality and surgery patients (to meet all the targets of VISION 2020 and to better leverage resources of the base hospital)
- Improve the ratio of paying and subsidised patients (versus patients who receive their eye care for free), to ensure financial sustainability
- Enable the eye care institution to make an impact, even in a competitive environment
- Develop structure and capacity for future growth

Growing Outreach at Aravind Eye Hospitals - An example

Throughout Aravind's existence, it has focused predominantly on increasing its reach by guiding rural patients to base hospitals. Today it has expanded that strategy by piloting growth models in the hope of creating a comprehensive eye care "hub and spoke" system. The main growth models are:

- vision centres
- community centres
- CARE (Creating Access for Rural Eyecare) initiatives

Each of these models creates greater means for patient care, access and awareness; however, they differ in the areas of operations, services, and costs. Traditional outreach approaches will continue to be implemented.

Aravind Eye Care System is in a unique position (due to operational efficiency, willingness to take on risk, external supports and the Indian environment) in which financial considerations are less of a constraint in the growth process. Nevertheless, to sustain system-wide growth, new outreach models must show financial viability and sustainability. Balancing the eye care institution's need for affordable demand generation (patient acquisition) with continuing compassion for the patients who need affordable (and increasingly complex) eye care is the 21st century challenge for ophthalmic outreach programmes.

Some of the alternative approaches to outreach described in this chapter were experimental. Each country, culture, region or eye care institution must find its own successful combination of strategic approaches, learning from the best practices of others.

We acknowledge students, faculty and staff of the Ross School of Business at the University of Michigan, USA for their contributions to this chapter. ^[18]

VISION CENTRES

Vision centres are small, permanent facilities set up to extend eye care service delivery to remote and rural communities, with the objective of increasing the uptake of comprehensive primary eye care. Through innovative internet-based information technology (IT), vision centres provide easy and affordable online access to ophthalmologists stationed at the eye care institution's base hospital. A number of vision centres now exist in India and they are a proven replicable model for outreach in highly populated rural areas. (In some parts of the world, vision centres are called community eye centres, not to be confused with Aravind's model of community eye centres - see below).

The goals of vision centres are:

- To increase the uptake of eye care services among the rural masses

- To create telemedicine links between communities and the nearest base hospital
- To offer permanently available comprehensive primary eye care to the targeted population
- To create awareness of and educate the target community about general health especially eye health problem
- To establish a population-based eye care surveillance system

Barriers to eye care that are addressed by permanent community-based facilities such as vision centres include:

- Lack of awareness about eye health and eye care services
- Fear of treatment for conditions such as cataract
- Lack of attendant to accompany the patient to the base hospital
- Costs involved in travelling to a tertiary eye hospital situated in cities, even for minor eye problems.
- The cost of seeking treatment for poor vision outweighs the benefits

Vision centre work takes place at three levels: activities at the centre itself, support activities at the base hospital, and community-level activities.

1. Vision Centre Activities

- Active screening for
 - Cataract
 - Refractive errors
 - Squint and other external eye diseases
- Basic eye care services for
 - Conjunctivitis
 - Corneal abrasion and corneal ulcer
 - Trauma
 - Foreign bodies
- Telemedicine consultations, with an ophthalmologist stationed at the base hospital
- Referral services to the base hospital
- Health education for patients
- Follow-up and compliance
- Population-based eye care surveillance system

2. Base hospital activities:

- Providing the technology and infrastructure for eye care practitioners to consult and interact with patients at the vision centre via internet
- Monitoring the vision centre performance and quality of service
- Keeping a database on treatment offered and follow-up to be done
- Regular visits to vision centre and provide support
- Sharing the feed back with the centre staff for improvement
- Joint meeting of vision centres at the base hospital to review performance
- CME for vision centre staff

3. Community level (outreach) activities

- Screening programmes
 - Paediatric screening camps
 - School children screening camps
 - Workplace-based screening for workers in businesses and industries
 - Diabetic retinopathy screenings

The aim ultimately should be to train an ophthalmic technician to provide a comprehensive eye care service through a (small) vision centre for each 50,000 population. This certainly demands a major effort to develop training programmes throughout the world.

- Dr. Gullapalli N. Rao

To address these challenges, Aravind Eye Care System developed the concept of rural vision centres – primary eye clinics in rural areas – where patients can be remotely diagnosed by doctors via high-speed wireless video conferencing, get prescription glasses, eye drops and blood tests, be referred to a hospital (if surgery is needed) and receive post-operative care.

- Nancy Singh, Eye in the Sky, Express Healthcare

Community ownership is important for sustaining the activities of the vision centre and hence village volunteers are identified and trained to create a link between the community and the centre.

- R. Meenakshi Sundaram

- Screening self-help group members (see section later in this chapter) and involving them in promoting eye care
- Promotion of eye care services through IEC (Information, Education, Communication)
- Display of permanent information boards regarding eye care services available
- General health and eye health education and promotion campaigns
- Eye care promotion activities at local fairs and festivals
- Household surveys to ascertain eye care need in the community and to refer patients
- Compliance monitoring
- Networking with other health care NGOs
- Training programmes for village volunteers (see section later in this chapter)
- Community-based rehabilitation for the incurably blind and those with low vision (see section later in this chapter)

Involving the Local Community in Vision Centres

Aravind's vision centre is run by an ophthalmic technician with the help of ophthalmic nurse to cater a population of 50,000. It serves the people throughout the week except Sundays to ensure eye care is accessible and available at the door step of the community.

The main challenge is to involve the local community from the moment of identifying the location for a vision centre until the uptake of eye care services is scaled up. We have done a lot of work to get community leaders to take ownership of the problem of blindness in their area and to sensitise them as to how the vision centre facility can be used by the community. Vision centres are involved in many kinds of service promotional activities such as school children screening camps, or eye health education for women's gatherings or employee groups of any industry. We use the anniversary of vision centres as an opportunity to conduct similar kinds of programmes. We also arrange public meetings where one of our ophthalmologists - preferably the one who is in charge of the vision centre - interacts with the community. This kind of association with the community ... is the backbone of the success of our vision centres.

- Mohammed Gowth, Faculty LAICO

Added-value benefits from setting up a vision centre:

- Epidemiological surveys
- Health information databank



- Change in eye health-seeking behaviour
- Contribution to economic status of the community
- Training opportunities for various categories of eye care personnel
- Reputation and image building of the eye care institution

How the Vision Centre Works

People who come to a vision centre for examination are requested to pay a small registration fee, and then their name and address are registered. If patients present with refractive errors or any other eye complaints, their weight, height and visual acuity are recorded. For patients above the age of 40, tear duct syringing, intraocular pressure measurement and blood pressure tests are also conducted.

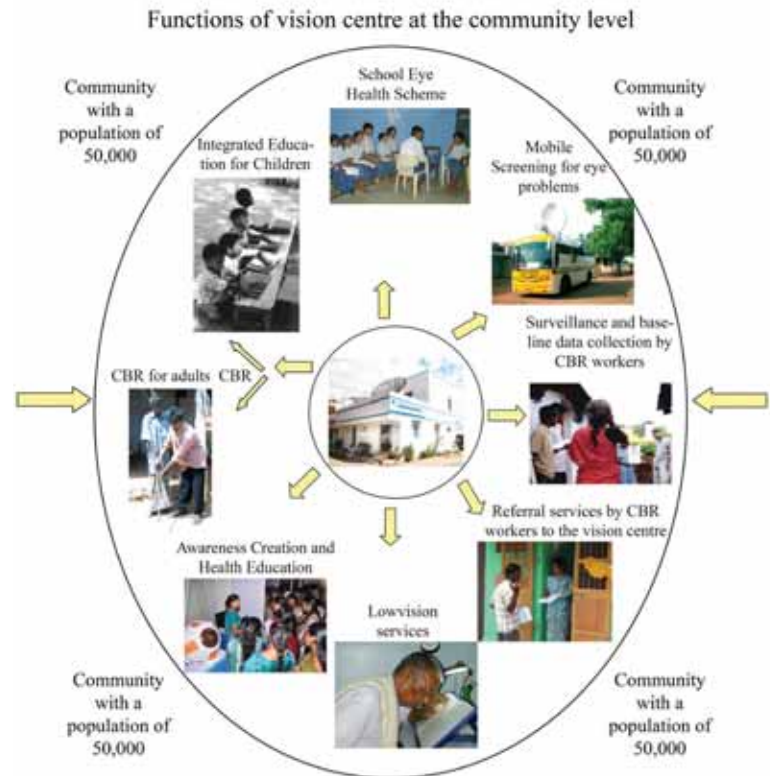
Patients are examined first by the vision centre's trained ophthalmic technician, and web-camera (a specially adapted digital camera) images are taken and transmitted to the base hospital through a wireless internet network. The doctor in the base hospital conducts a real time eye examination with the slit lamp, converses with the patients and/or gives an opinion about the fundus image. This real time consultation is possible with adequate bandwidth and the availability of dedicated software, which captures the data in the system. Based on the recommendation of the doctor, the technician in the vision centre gives the treatment or refers the patient to the base hospital. Treatment that can be given at the vision centre is then advised by the paramedical staff. If the problem is severe, the patient is referred to the base hospital for further treatment.

Services offered at vision centres include:

- Eye examination, including refraction and screening of blinding eye problems like glaucoma and diabetic retinopathy.
- Dispensing of medications and eyeglasses
- Care for simple ocular emergencies
- Referral for cataract surgery
- Testing for diabetes with blood sugar examination.
- Diabetic retinopathy diagnosis, referral for treatment and follow-up
- Diagnosis and follow-up for glaucoma patients
- Rehabilitation for the incurably blind and those with low vision

Vision Centre Staffing

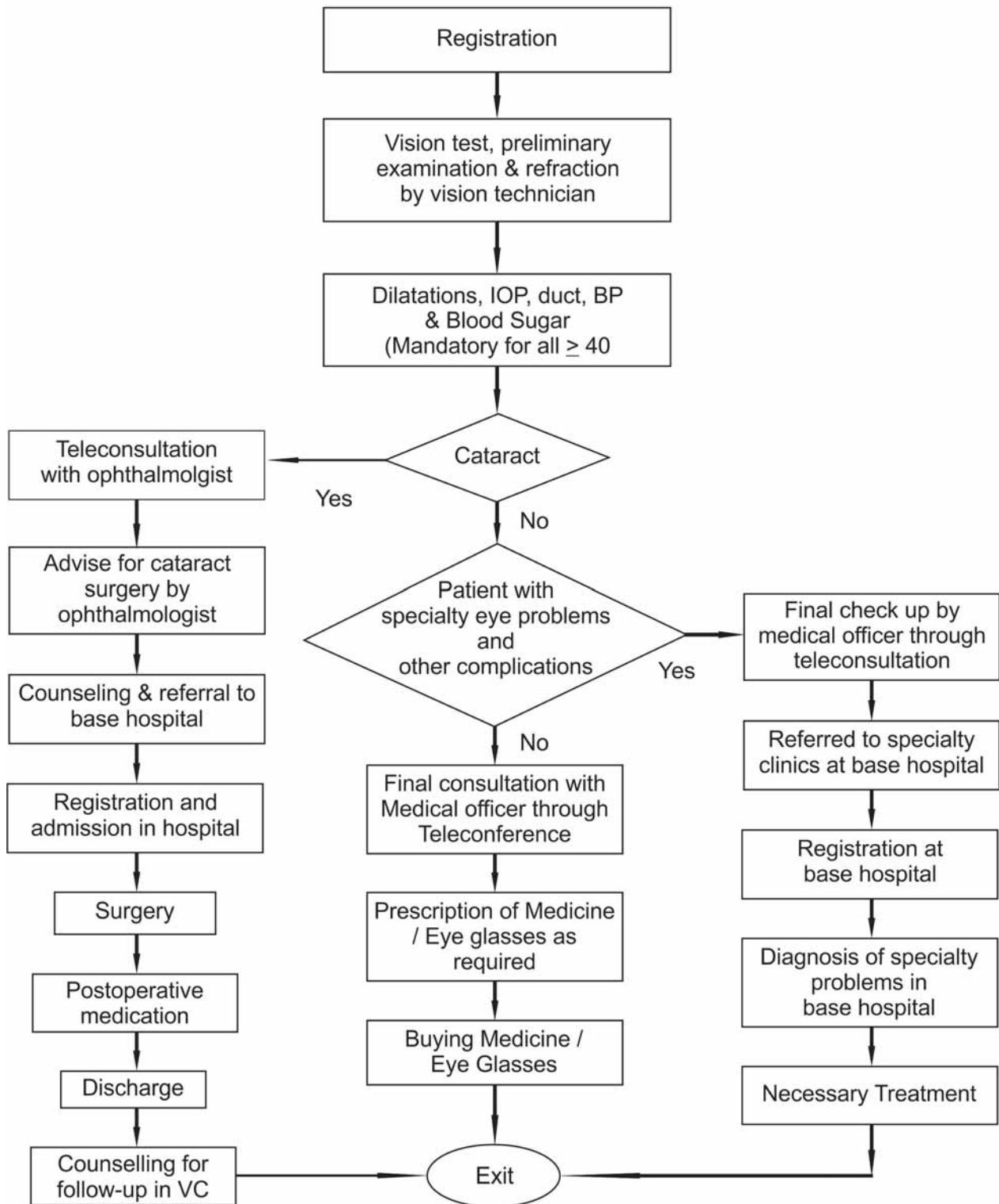
Human resource requirements for a vision centre include personnel at the base hospital and at the vision centre, as well as volunteers. The following is the staffing used at Aravind's vision centres.



Normally, a lot of administrative expertise is required to run a clinic. But the advantage with these centres is that the local technician manages to run it after some training. It also solves the problem of manpower crunch.

- R.D.Thulasiraj

Work flow in Vision Centre



1. Vision Centre staff

Vision Centre Technician - A mid-level ophthalmic assistant who has received comprehensive training in refraction and IT does visual acuity measurement, slit lamp examination, fundus examination, refraction testing, measurement of intraocular pressure and blood pressure, dispenses eyeglasses and offers general health counselling to the patients.

Vision Centre Coordinator - A mid-level ophthalmic assistant who has received comprehensive training in counselling and administration handles medical records entry, registration of patients, accounts, report generation and stock management; sells eyeglasses; counsels patients about eye diseases and the treatment; and refers patients to the base hospital for further treatment when necessary.



2. Base hospital staffing

- Ophthalmologist (who serves as the vision centre's Medical Officer/clinical supervisor)
- Support Staff
 - Area Camp Organiser (stationed at the base hospital) serves as field supervisor
 - Nursing superintendent from base hospital to monitor and support, depute staff in case of vision centre technicians absence or leave from base hospital.
 - IT Network Administrator for technical support
- Administrative Personnel at Base Hospital
 - Programme Coordinator (the one who takes care of outreach in the base hospital)
 - Admin. Assistant

3. Community level manpower

- Field-work supervisor (can supervise a cluster of vision centres together)
- Eye health field-worker
- Volunteers from the local village community

Since vision centres rely heavily (and constantly) on volunteer motivation for their marketing and publicity, and to keep this motivation high as well as sustainable, these volunteers should be periodically recognised and celebrated in the community for their services.

- R. Meenakshi Sundaram

A Support System for Sustainable Quality Eye Care in an Aravind Vision Centre - A Case in Point

1. The base hospital has developed a leadership team for each vision centre to maintain the quality of service as well as service promotion.
2. The outreach department in the base hospital designates a camp organiser to take care of promotional activities, public awareness campaigns and schoolchildren screening camps in the vision centre area.
3. The base hospital delegates a Medical Officer to take care of a vision centre. The Medical Officer visits every month on a fixed day to ensure that quality is maintained through accuracy in diagnosis, screening of postoperative cases, follow-up of specialty cases, etc.
4. Staff members from the medical records department, housekeeping, instruments maintenance lab and stores (stockroom / supplies) make visits to help the vision centre team ensure a high standard in administration and maintenance.

Thanks to Dr.G. Natchiar, Director Emeritus, Aravind Eye Care System, India for having developed the concept of leadership teams for vision centres



Vision Centre Infrastructure

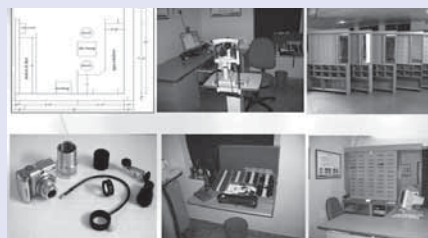
In the Aravind model, vision centres are located in a radius of 60 kilometres from a base hospital and in high traffic areas with a catchment population of 50,000 to 70,000. They are accessible via public transportation by people of villages within a 10-kilometre radius. The needed building is a 300 square foot facility (usually rented) with running water and electricity. Lack of ophthalmic service in the area is one of the criteria for choosing the target village. Setting up the vision centre where the community gathers for their day-to-day needs (the main market area, for example) is ideal for ensuring accessibility and walk-in traffic. Rural Internet connectivity with good bandwidth should be available, which makes the tele-consultation with

ophthalmologist at the base hospital possible. Vision centres are equipped with ophthalmic and other equipment to enable basic eye examinations and refraction by a trained technician. This includes:

- Streak retinoscope
- Slit lamp with 78D-90D lens
- Direct ophthalmoscope
- Schiottz tonometer
- Basic steriliser
- Blood pressure apparatus
- Glucometer
- Applanation tonometer
- Vision charts and Refraction trial sets
- Grinding and edging kit and machine for optical dispensing (see section later in this chapter)
- Computer with accessories for telemedicine (webcam, modem, speakers, installed software to capture patient information) and telephone
- Digital camera and adapters for digital retinal imaging
- Internet connectivity to enable real-time interaction with ophthalmologists at the base hospital
- Furniture as required
- UPS / Generator (for power outages)

The Role of Standardisation in Ensuring Quality Eye Care

Aravind has established 57 vision centres as on August 2016 where the requirements are standardised. Items include space, supplies, instruments, equipment, furniture, staffing, staff training, cost of services, operating manuals, information booklets, medical records, software, reporting system, awareness programmes, and posters about common eye problems. This kind of standardisation helps to maintain the quality of eye care in a rural community and keeps costs low.



Standardisation of layout, space, supplies, equipments, furniture

Information Technology and Telemedicine

What makes vision centres work is the internet technology that enables patients in rural areas to be remotely diagnosed by ophthalmologists at the base hospital. Via high-speed video-conferencing, doctors can consult with hundreds of rural patients in a day, providing high quality eye care while eliminating the need for patients to travel to the hospital (unless more advanced treatment is needed).

The information technology (IT) requires a long distance high-bandwidth, point-to-point wireless network between the vision centre and the base hospital. The Aravind Tele-Ophthalmology Network is successful because researchers modified the wireless software (normally, wireless internet is designed for short distance communication) – specifically the Wi-Fi Media Access Control (MAC) protocol. The end result is a wireless network that can handle high-speed communications over distances as great as 40 miles at speeds about 10 times faster than dial-up speeds and which carry 100 times as far as standard Wi-Fi technology.

Although a novelty, the telemedicine service is mainly a support mechanism for the supervising paramedics. It should be offered only to those patients who really need to speak with or be “seen” by a doctor; this reduces patient visit duration and also keeps base hospital doctors free for more urgent duties.

Financial Sustainability of Vision Centres

Aravind recommends that vision centres reach financial self-sufficiency by the end of the second year of operation, if not sooner. Several strategies can contribute to reaching the goal of 100 percent cost recovery

1. The services provided to vision centre patients are not free of charge. Patients are charged a nominal registration fee for their examination. They must then pay for any necessary medicines or eyeglasses. Income from the registration fees, consultations, lab tests, and sales of eyeglasses and medicines helps each centre move towards financial sustainability. Patients are also responsible for
 - Transportation to and from the base hospital, if referred
 - A minimum surgical charge at the free hospital
 - Food during their hospital stay

The initial modest registration fee is good for the first three months or the next three visits, whichever comes first. The initial registration fee at the base hospital is partly covered by the vision centre registration, and patients referred from vision centres receive preferential treatment when they arrive at the base hospital. This leads to a sense of ownership and loyalty amongst patients.

2. Volume of patients is important – more patients mean more revenue to maintain the vision centre. Demand generation is one of the roles of outreach in eye care (see Chapter 1). Just as a vision centre refers patients to the base hospital, so community screening events and field workers generate patients for the vision centre and increase the uptake of its services. Aravind's vision centres serve 10 to 20 outpatients or more per day, with a maximum capacity of about 50 OPs. They refer 10% of their patients to the base hospital, and sell several pairs of eyeglasses per day.
3. Vision centres can be optimised by installing lens-grinding capability (see later in this chapter). Instead of sending orders for eyeglasses to the base hospital each day for delivery the next day, setting up a small optical shop in the vision centre reduces dependency

The vision centre is nothing but a permanent primary eye care facility, which as a concept is a wise old one. At Aravind, we introduced advanced information technology to link each vision centre with the nearest base hospital in order to improve the quality of diagnosis and the sharing of details and images. We are still learning and scaling up the model, which is highly replicable in any part of the developing world.

*- Dr.P.Namperumalsamy,
Chairman Emeritus, Aravind
Eye Care System, India*

The payback time after setting up an Aravind vision centre is one year, largely because the new networking infrastructure requires no annual subscription fees or ongoing maintenance costs.

*- Mr.Ganesh Babu, Senior
IT Manager, Aravind Eye
Hospital*



on the base hospital, eliminates the daily cost of shipping eyeglasses between the two institutions, and offers patients the convenience of same day service while increasing revenues. This leads to loyalty from satisfied patients.

4. It is important to find ways to keep start-up costs as well as monthly expenses low while still ensuring high quality eye care.

(a) Start-up investment for a vision centre:

- Building renovation, furniture and inventory (standardisation and buying in bulk lowers costs)
- Ophthalmic equipment (bulk purchase can reduce costs from dealers)
- IT and connectivity (use in-house expertise, when possible)
- Training (use mid-level, experienced staff who already have necessary skills and confidence)

(b) Monthly recurring expenses:

- Human resources - salaries for vision centre technician, coordinator, and paid community field worker (when possible, choose staff who live nearby, to reduce their work-related expenses)
- Maintenance costs - rent, telephone, cleaning, other incidental expenses
- Supplies (buy in bulk through central stores at the base hospital to receive discounts)

The Economic Impacts of Vision Centres on Patients - A Case in Point

It has been estimated by Aravind Eye Care System that a trip to a local vision centre costs only one-third to one-half as much as a trip into the city to visit the eye care institution's base hospital. Patients save money on transportation and other expenses, as well as lost wages. It takes far less travel time and waiting time to visit the local vision centre compared to visiting the base hospital. Furthermore, fewer patients need attendants because the vision centre is located close to home. Even when attendants are needed, they also save money on transportation, other expenses and lost wages. Rural patients get better access to quality eye care at a dramatically reduced cost.

Aravind's Vision Centres
capital cost

Activities	Cost per VC	
	INR	USD
Equipments	4,26,450	6,561
Opticals	22,000	338
Connectivity	1,32,560	2,039
Others	5,365	83
Set up cost	1,15,915	1,783
Furnitures	1,04,480	1,607
Total	8,06,770	12,412

	No	Transport	Other Expenses	Lost Wages	Total
If the patient visits base hospital					
Patient	1	50	120	200	370
Patient attendant	1	50	120	200	370
Total		100	240	400	740
If the patient visits Vision Centre					
Patient	1	20	40	100	160
Patient attendant	0.5	10	20	50	80
Total		30	60	150	240

INR saved per patient – Rs.500

INR Saved for 5,000 patients – Rs.2.5 Million

US\$ Saved per patient – US\$ 7.6 for 5,000 patients – US\$ 38,000

Monitoring and Evaluation

Aravind recommends that vision centres' performance in terms of reaching the needy people, staff and infrastructure utilisation, uptake of eye care services should be monitored periodically and evaluated based on well-designed parameters (Refer Appendix 5B,C and D).

Conclusion

Aravind Eye Care System's research is showing that permanent eye care facilities in rural areas motivate people to seek earlier treatment for vision problems, allowing them to reintegrate back into the workforce instead of becoming visually impaired. This new pattern of proactively seeking eye care before it is too late, makes the role of vision centres even more crucial in an eye care institution's mix of outreach initiatives.

COMMUNITY EYE CENTRES

Community Eye Centres offer a permanent access point for comprehensive primary (non-surgical) eye care, in an under-served suburban or semi-urban setting 30 to 60 kilometres from a base hospital. At present Community Centres in South India are placed in areas with a population of approximately 250,000 with public transport that extends 20 kilometres into the surrounding area whereas a vision centre serves a population of 50,000 in a radius of 5 kilometers. These settings can be different in different parts of the world.

The community eye centre model is intended to replace local eye camps and to manage primary eye care in order to enable the base hospital to focus on secondary and tertiary care.

The main difference between a community eye centre and vision centres (besides its bigger size of about 1000 square feet) is the presence of a full-time ophthalmologist in the community eye centre. The staff consists of one doctor, five paramedics (two senior ophthalmic assistants and three juniors) and one paramedically trained receptionist. The medical team travels daily from the base hospital (those who live nearby come directly from home). Community eye centres rely on the eye care institution's outreach staff (especially the area camp organiser) to provide local knowledge and to oversee marketing and outreach efforts. (A community centre manager or receptionist drawn from the local community could also take on this responsibility).

A community eye centre has all the personnel and equipment necessary for comprehensive primary eye care and offers an expanded range of services:

Aravind started Outreach Programme as a key strategy to serve the community at their doorstep, but it served only 7% of the eye care needs. So an alternative strategy was identified and this leads to the genesis of Vision Centres. These centres increased the foot falls of the eye care needers to 70% in a period of 3 years. Modern information technology effectively facilitates the quality care at the door steps of the rural population.

- R.D.Thulasiraj



Personal investment [of community members] in health results in preventative practices, patient compliance and ownership, and ultimately, better overall health. Through many years of access to free eye camps, patients have become passive and do not seek care unless providers arrive in their backyards. Community centres, on the other hand, require patients to “walk in” to access care. In addition, the nominal fee that is charged in community centres engages patients in the decisions and actions surrounding healthcare.

- Ross School of Business,
University of Michigan

- Lab services (urine, blood sugar)
- Optical shop with onsite production and same day delivery for glass lenses (plastic lenses will take some time as they are dispensed from the base hospital)
- Medical shop
- Mutual referral service with local health care providers
- Daily referral and transport of patients who require surgical intervention using hospital van
- Surgery or treatment follow-up

Each centre runs a series of outreach initiatives every year. At Aravind, these are developed by the outreach department at the base hospital. The area camp organiser coordinates CARE initiatives (see later in this chapter) and other activities that promote eye care service, in association with local community leaders, NGOs, philanthropists, and self-help groups (see later in this chapter). The area camp organiser is also assigned a target of outreach activities such as diabetic retinopathy screenings, workplace screenings, school screenings, and paediatric screenings. These outreach initiatives form a large part of the community eye centre’s marketing and publicity. Marketing can also take advantage of patient referral programmes. Community eye centres offer permanent space that can be used for a variety of community programmes, serving to increase awareness of eye health while reinforcing the centre’s status as a member of the community.

Community eye centres can be optimised by extending doctor rotations to two months to deepen their experience on site and to increase continuity of care for patients. Employing cross-trained paramedical staff (or one well-trained local paramedic) fills in gaps in rotational staff experience. Both of these changes lead to improved quality of service provided to the patients by ensuring that the staff is knowledgeable about community eye centre operations as well as the local community.

At Aravind’s community eye centres, costs that patients must cover are:

- Registration fee, which is valid either for three months or three additional visits, whichever comes first
- Eyeglasses and medications
- Minimum surgical charge at the free hospital, towards their IOL and other consumables (patients receive priority service when they arrive at the base hospital)
- Food during hospital stay



The community centre refers 10% of its patients to the base hospital – those who need cataract surgery or treatment in speciality services. Community centre patients can seek care at the free hospital; however the centre’s counselling staff encourages patients to go to the paying hospital if they are able to pay.

The cost of running a community eye centre is significantly higher than that of running a vision centre. The start-up cost of a community eye centre in South India is well above that of the smaller vision centre, but the community centre can handle upto 100 patients per day while the vision centre handles

30 to 50. The community centre employs a larger staff and requires a larger amount of space in order to perform its comprehensive services. The community centre provides a higher level of care and this is reflected in the registration fee, which also serves to offset higher operational costs.

TELEMEDICINE/WEBCAM AND INTERNET KIOSK-BASED REFERRALS

In developing nations, speciality eye care is available in most urban areas, but not in rural areas where the need for speciality eye care is even greater. Telemedicine has the potential to make eye care services accessible to everyone, wherever the telecommunications technologies (cellular/mobile telephones, satellite television and/or internet services) can reach. Telemedicine works in ophthalmology because ophthalmic diseases are often diagnosed by viewing still images.

Aravind Eye Care System launched its Tele-Ophthalmology Network (ATN) in 2002 along with Orbis International and Acumen Fund, USA. Since then, a telemedicine link has been established linking Aravind's satellite hospitals. This technology increases collaboration between all the hospitals, community centres, vision centres and managed eye care hospitals, and is used to overcome the issues of distance and inadequate specialist availability in the various primary care centres.

Aravind also uses this network to enhance the skills of ophthalmologists. By collaborating with various leading eye institutes such as Wilmer Eye Institute of Johns Hopkins University, Cornell University and Columbia University for education, training and research, Aravind doctors can interact and share their experiences with colleagues and experts around the world.

Innovative use of emergent wireless internet technology is allowing eye care institutions to take their services into the rural villages that need it most. Taking advantage of India's technology boom, Aravind has adapted "Wildnet" (Wi-Fi over long distance network) technology for use in:

- Rural vision centres, where doctors at the base hospital provide tele-consultations via webcam and refer patients to the hospital if surgery or further care is necessary
- Internet kiosks, where eye photos are taken by trained kiosk workers using webcams and sent by e-mail to doctors at the base hospital, who respond by e-mail to the patients

To start an internet kiosk with webcam outreach programme, the following steps are helpful:

- Locate remote villages and sponsors who are willing to participate in the project.
- Send technicians to verify or install wireless or traditional internet connections (for example, WLL – Wireless Local Loop).
- Provide training at the base hospital to the internet kiosk workers.
- Designate ophthalmologists to monitor the scanned patients in regular shifts.
- Coordinate connection times with trained internet kiosk staff.
- Publicise the scheme abundantly, with the help of local sponsors.
- Screen patients using the webcam and internet technology and refer them for appropriate treatment.

Telemedicine is a method by which a patient can be examined, investigated, monitored and treated, with the patient and the doctor located at different places. Tele is a Greek word meaning "distance" and Mederi is a Latin word meaning "to heal." A major goal of telemedicine is to eliminate unnecessary travelling. Acquisition, storage, display, processing and transfer of images represent the basis of telemedicine.

*- Dr.K.Ganapathy,
Neurosurgeon, Apollo
Hospitals, Chennai*

Tele-ophthalmology is breaking the distance barriers. It's a system that electronically transports a consulting physician from a medical centre to a site at a distant facility where his/her expertise is required.

*- Dr.Kim,
Chief Medical Officer,
Aravind Eye Hospital,
Madurai*



We have frequent discussions with our counterparts in Baltimore and New York through this facility. Further, we also interact with our doctors in branch hospitals. This helps our budding ophthalmologists at Aravind interact with the world-renowned experts at the other end thus enriching their knowledge and skills.

- Dr. Kim

- Provide patients who need hospitalisation with a hospital appointment and contact person, and help them arrange for transportation.

Internet kiosk workers are trained in much the same way as village volunteers (see below). They attend an additional training module on how to greet patients who come to the kiosk, how to photograph their eyes with webcam equipment and how to report to base hospital doctors.

CARE (CREATING ACCESS FOR RURAL EYE CARE) INITIATIVES

CARE initiatives are designed as an outreach approach that will motivate patients to seek eye care on their own. CARE projects operate differently from more permanent models of outreach (vision centres, community eye centres). They do not provide permanency but they do offer a high level of individualised service through household survey efforts.

One model is for a CARE team, consisting of a CARE coordinator (who, after one month of training, engages village leaders, recruits and manages field workers, and oversees project expansion) and five or six field workers, to work 10 to 60 kilometres out from a base hospital. Field workers are chosen for their extensive local knowledge and deep community relationships. Each field worker will cover 3,000 households annually (200 to 300 per month) and when finished with his or her local area, will then pair up with another field worker or volunteer who is familiar with a new region. The target survey area is a population size of 15,000 - 35,000 per field worker. The field workers are provided with a transportation stipend or a bicycle to aid them in their door-to-door visits. Field technology support such as a handheld computer (personal digital assistant) assists with data collection, sharing and storage. Some CARE projects could be linked to local schools and internet kiosks to extend information access.

Field workers can encourage community participation by motivating enthusiastic villagers to become volunteers during the village mapping, vision examination and follow-up. Entire villages are mapped, showing the location of households, empty houses and landmarks such as schools, hospitals, and temples. Once mapping is done, villages are divided into zones to be covered by the field workers individually. Targets are set based on the number of houses in a zone and the achievement of these targets is monitored by the field supervisor/community worker on a regular basis.

At each household, the field worker examines all available family members for eye problems. Three to six months after motivating members of a household who



need care, the field worker will follow up to see if care was sought and if not, to determine the reason for hesitancy.

Reaching Into the Community with Fieldworkers - A Case in Point

The approach of reaching right into the community through a link of health workers has been successfully demonstrated in other health areas. One illustrative success story comes from the Gadchiroli district in India where SEARCH (Society for Education, Action, and Research in Community Health) trains village level workers to apply a package of low-cost, low-technology interventions for the care of mothers and newborn babies. Research into the effectiveness of this approach showed an almost 50 per cent reduction in neonatal mortality among isolated, rural villagers.

- Victoria Francis, Former Editor, Community Eye Health Journal, International Centre for Eye Health

Field workers receive minimal training, which limits them to only providing extremely basic flashlight/torch and eye chart exams. However, they play an active role in the community as health counsellors and educators. From these eye exams, the CARE worker can tell whether or not the visual acuity of the patient is impaired and if it is, the patient is referred to the vision centre, community eye centre, or base hospital for a full exam. Patients with any sort of eye problem, whether it be redness, refractive error, or need for surgery, are all referred. The field worker motivates the patients through education and the use of a referral card that entitles the patient to swift service at the eye care institution.

The field worker's visit to the patient's home is completely free of charge, as are the brochures and any other information the field worker provides. Patients who do choose to go for eye care will be responsible for covering:

- Registration fee
- Return transportation
- Eyeglasses and medications
- Minimum surgical charge at the free hospital
- Food during hospital stay

The CARE project is designed to encourage patients to be responsible for seeking and paying for their own eye care and does not provide any complimentary service beyond the initial home visit. The project does recognise that most of the motivated patients will have a low ability to pay and patients are not necessarily encouraged to seek care at the paying hospital.

The CARE project can be optimised by being expanded to run out of any facility belonging to the eye care institution. CARE can be managed effectively out of vision centres and community centres and can motivate patients to seek care at these models, as well as at the base hospital. Indeed, CARE initiatives could prove to be a powerful marketing tool.

COMMUNITY-BASED REFERRAL PROGRAMMES

Community-based referral systems make it easy, satisfying and sometimes profitable for patients to refer others to their eye care institution. A patient-to-patient referral programme raises awareness of eye health, increases access to eye care services and introduces direct (paying) patients to the eye hospital.

One community-based referral system involves giving referral programme motivation cards to patients at registration, asking them to give these cards to

I am working as a mechanic in Tamilnadu Transport Corporation. I am in fond of helping poor people especially physically and visually disabled persons in the community. After my work, I am used to visit orphanages in Madurai on daily basis to help the children. I financially help some blind students for their education. I am used to attend general health check up camps and eye screening camps in and around Madurai since 2000. I mobilize the patients with eye problems to eye camp. In the camps, I help the medical team members for smooth flow of patients in terms of assisting in registration, queue forming, escorting the patients, counseling the patients for treatment or surgery. I have joyfully attended 315 Aravind camps as on August 2016

- Mr. Balu,
A venerable volunteer in
Madurai City

family members, friends and neighbours. Volunteers, self-help group members, and CARE field workers are also provided with referral cards to distribute in their communities.

This programme increases word-of-mouth marketing, generates enthusiasm, reduces new patient's fear and hesitancy, and allows volunteers and patients to "see" their tangible impact on community eye care. It entails low investment, low start-up cost, and few resources, and can even be used as a staff recruiting mechanism.

Patients who visit the eye care institution with a referral card receive proper guidance, priority service, an possible and discounts for deserving people for surgery and treatment.

Another community-based referral programme is based on forging links between local health care providers and the eye care institution to build a reciprocal referral relationship with these physicians. This is accomplished through a system-wide initiative to integrate the eye care institution into the medical community.

Local medical personnel are invited to visit the base hospital (or outreach centre) and familiarise themselves with the facilities and services offered.

Doctors at the base hospital always extend the professional courtesy of sending a follow-up letter to the referring physician, describing the patient's condition and any resolution or planned steps to be taken. This builds a relationship with the local medical community that generates word-of-mouth marketing for the eye care institution, which provides a small but steady stream of new patients. General practitioners can make the care and services they offer their patients more comprehensive. They can also allay patient fear and hesitancy because of their familiarity with and confidence in the eye care institution. This programme requires low investment, low start-up cost, and very few resources.

Village Volunteers

Potential cataract patients are often reluctant to come forward to undergo surgery, even when it is offered free. In India, over two-thirds of the population live in villages so small that there are no local voluntary organisations to organise eye camps. It is neither cost effective nor feasible to hold outreach events in these places. Many developing countries face similar challenging problems. As an alternative strategy, health care volunteers in these villages can be trained to screen people for operable cataract and refractive error and to motivate them to accept cataract surgery or an appointment at the base hospital, vision centre or community eye centre for refraction and eyeglasses.

In neighbouring or somewhat larger villages, various voluntary organisations are identified. Their projects may be religious, social or educational. These groups are motivated to help identify those villagers with cataracts as they do their projects. This is the kind of 'WIN-WIN' situation where everyone gets their task achieved.

Extending Outreach with Volunteers - An example

Aravind Eye Hospital in Theni, India conducted a one-week training programme in primary eye care for the field staff of a non-governmental organisation (NGO) providing services to patients with leprosy and tuberculosis. The strategy was to enhance eye care services to the community by partnering with this NGO. After training, the field staff identified people with eye problems in their communities, and the eye hospital in Theni then provided necessary eye care services.

These willing volunteers, along with “pseudophakic motivators,” are trained in the base hospital for one or two days in anatomy and physiology of the eye, how cataract is formed and treated, how to identify people with cataract and measure their visual acuity, and how to motivate them to accept cataract surgery. They attend lectures on the following topics:

- Ocular anatomy
- Visual acuity
- Cataract formation
- Visual disability
- Patients’ reluctance to accept surgery
- Health education techniques

Cataract diagnosis is made simple for volunteers by a three-criteria test:

1. Visual acuity less than 3/60 (20/400)
2. White pupil
3. Pupillary reaction to light

The volunteers undergo hands-on clinical training and learn to measure visual acuity, to detect cataracts and to assess patients’ suitability for surgery. Finally, volunteers are tested under the supervision of an ophthalmologist and ophthalmic assistants.

To confirm their training, volunteers must examine approximately 100 people over 40 years of age in their village and identify approximately 8 to 12 twelve operable cataract cases. They can do this by visiting households door-to-door, or by examining people at social functions. Ophthalmic assistants are then sent from the base hospital to the village to confirm the trainee volunteers’ diagnoses.

On completion of training, the volunteers can continue to examine individuals and participate in local community outreach programmes. They can visit households, screen children in schools, or participate in screening eye camps.

Throughout this outreach initiative, an ophthalmic assistant (OA) from the base hospital (also called an eye health worker in this programme) visits the village according to a schedule, mutually arranged at the time of training. The volunteer presents the cataract patients identified, the OA examines them and confirms who are suitable for surgery, motivates the confirmed patients, and transports them to the base hospital. At the hospital, the patients are examined by the eye surgeon and suitable cases are operated upon. In small and remote villages where the density of population is low, this programme helps create awareness about eye health and eye care and increases the surgical acceptance rate.

Since the diagnostic accuracy of the eye health workers (OAs) is better than 95%, there are very few instances where patients travel unnecessarily. The combination of using village-level volunteers and a hospital-based (but travelling) eye health worker seems to be a viable way of reaching all villages while increasing hospital utilisation.

There are a few barriers and drawbacks to implementing this approach to outreach:

- Finding committed volunteers -pseudophakic motivators (those who have already experienced successful cataract surgery) is very effective, but it is difficult to identify motivated pseudophakic persons in every village who are willing to do

My brother Sethupathy was a teacher in Gandhi Niketan School, T.Kallupatti, Madurai District. He had worked as a motivator in the community whenever his school had organized a series of eye camps with Aravind Eye Hospital. It inspired me and I got stimulated in identifying patients with eye problems and facilitating for necessary treatment. Almost for 20 years, I have been working as a motivator not only in my village but also a big surroundings from where I am mobilizing at least 50 patients for Cataract surgery per month either to the monthly camp being held at T.Kallupatti on every last Saturday or to the base hospital at Madurai directly. This kind of service gives me a mental satisfaction, recognition in the community and a link with eye care professionals in Aravind Eye Hospital, Madurai. I also believe that my service will give a healthy life to my generation.

– Mr. Rathina Sabapathy, a long standing motivator in Santhaiyur, Madurai District, Tamilnadu

this work on a voluntary basis; many are happy to be passive supporters but are reluctant to make an active physical effort to seek and motivate those with cataract blindness.

- It is expensive to hire an eye health worker in every village. Hiring one worker to visit several villages doesn't elicit community participation, since a community-based resource person is a key factor in encouraging community involvement. A community-based volunteer is vital.
- If village populations have been treated by an ophthalmologist in eye camps, there might be resistance to referral by a village volunteer or visiting ophthalmic assistant/eye health worker.
- People with glaucoma or posterior segment pathology tend to go undetected, which can result in permanent eye damage and blindness.
- Because volunteers are not receiving any remuneration, their interest and participation might be short-lived, requiring continued training of new volunteers.

Village volunteers also play a key role in larger communities where screening eye camps are held. While their input varies according to need, their tasks can include registering patients, ushering them through the camp, sterilising equipment, helping with set-up and take-down, or serving food to hospital teams.

Because they are a source of eye health education, the involvement of village volunteers ensures that most patients who need care will actually come to the eye camp for screening, or the base hospital for surgery or follow-up. A satisfied community will generally play a significant role in marketing future camps and in increasing patient turnout.

Through this programme, the remotest villages and villages with populations of less than 100 can be covered with efficiency and cost effectiveness. Valuable ophthalmic manpower can be spared and utilised for other spheres of ophthalmic work.

This strategy raises awareness in the community about the potential for regaining lost vision through cataract surgery. It provides an opportunity for better postoperative follow-up, especially if a community doctor is involved in the programme. It increases the accountability of the surgical team and motivates them to maintain high quality surgical outcomes.

If the volunteer force remains permanent, they can be used to evaluate the impact of the programme and the prevalence of blindness in their community. Permanent volunteers can also serve as a referral source for people with other eye problems. Some have even been trained to deliver rudimentary primary eye care services.



VILLAGE VOLUNTEERS - A CASE IN POINT

Mode of Approach	Surgical Coverage %
Control group	28.4
Mass media	46.2
Screening eye camp	48.9
House to house visit by OA/eye health worker	55.2
House to house visit by aphakic motivator	67.7

The evaluation of various strategies for motivating the cataract blind to accept surgery shows that a community-based approach with personal contact yielded the highest surgical coverage of cataract patients when combined with free transportation and food.

In this study, pseudophakics from the village or trained eye health workers worked at the community level, screening patients house to house and personally motivating those who were blind due to cataract. Surgical coverage rate went up as high as 67% when the cataract patients were offered free transportation and food. This is comparable to the results of the programmes in South America is aim create “Cataract Free Zones.”

The mass or “impersonal” approaches such as the screening eye camp or market mass media proved to be more effective in generating greater awareness. However, personal contact with the cataract blind results in better acceptance of cataract surgery. Providing free transportation and food seems to reduce most of the economic barriers and is very effective when combined with direct personal contact with the cataract blind.

- Quality Cataract Surgery Series, Community Outreach Initiatives Module

Self-Help Groups

The term “self-help groups” has different meanings in different countries. In this context, the term refers to voluntarily self-organised groups of low-income people, usually women and often rural, who use some combination of microfinance, entrepreneurship and social enterprise to eradicate poverty among their members. Many other developing countries have their own equivalent.

One form of word-of-mouth or outreach through referral is to tap into these membership groups to help promote eye care and awareness of the eye care institution’s services in the community. A self-help group coordinator (with minimal training in general eye care outreach and self-help group management) engages hospital staff in providing eye care education and training, diabetes screening, referral cards and orientation tours of the facilities to self-help group members.

The self-help groups, located in the villages within a 10 kilometre radius of the base hospital, pay for their own transportation to the facility and the eye care institution covers the cost of programme co-ordination, hospitality and training for these groups.

This familiarity with the eye hospital will drive more direct and paying surgical and speciality patients to the base hospital. Self-help group members take



Mobile eye clinics are a toned down variant of a screening eye camp, often organised and run as an equivalent of an outpatient department of the base eye unit.

- Daniel Etya'ale, Coordinator of VISION 2020 in Africa

The current gap between eye care providers and the many blind and severely visually impaired needing their services is unacceptable, and could be best bridged through the establishment of permanent eye care structures and services. In the meantime, and given the dysfunctional nature of eye care systems in many impoverished parts of the world, other modalities of outreach will continue to be used, perhaps for many years to come. Outreach programmes, however, are not a panacea.... As more and better use is made of these bridging strategies, we should try to learn, through operational research, how to have an even greater impact.

- Daniel Etya'ale

A programme like the one reported here may be replicable across other rural populations in India and other developing countries. Ideally it should form a part of the comprehensive services offered by any ophthalmic hospital. Such programmes do not limit themselves to rehabilitating the blind; they also help in creating awareness of available services to the community.

- Valaguru Vijayakumar et al ^[19]

advantage of the services themselves and recommend them to others in their communities. They are given priority at the hospital. In some settings, it might be appropriate to provide incentives to the self-help groups that make the highest number of referrals.

MOBILE EYE CLINICS

Mobile eye clinics are a quick way to provide basic eye care services to needy communities at low/no cost (beyond the initial cost of acquiring the van, bus, airplane or truck with trailer and equipping it adequately). In the most remote settings, this might be the only way to deliver comprehensive eye care.

In many countries, eye clinics on wheels provide comprehensive primary eye care, with referrals to a base hospital. In other countries, these mobile eye clinics focus on screening for specific eye ailments such as glaucoma or diabetic retinopathy (see below). In some cases, the van or bus is the actual “clinic” while in other cases, the vehicle merely transports the portable equipment from one remote health centre to another. Some mobile eye clinics are equipped to perform cataract surgery. Others are set up to visit schools, homes for senior citizens, prisons, orphanages and homes for the handicapped. In highly developed countries, mobile eye clinics visit shut-ins or set up in the poorest city neighbourhoods.

The Challenges of Mobile Eye Clinics - An example

First, Aravind Eye Care System launched mobile clinics, sending vans to remote areas. But these mobile clinics turned out to be cumbersome to sustain, as the hospital had to find local sponsors to host them. In addition, the vans could only visit a particular area occasionally, and without a strong community presence, the hospital found it hard to promote eye-care education, which is a key to preventing cataracts.

There are disadvantages, as with any approach to outreach. Sometimes, too many patients are seen superficially, and the quality of care cannot always be guaranteed. When personnel is limited, deploying a number of clinical staff to the mobile eye clinic might negatively impact continuity of care and services at the base unit.

Without long-term donor or sponsor support, a mobile eye clinic will likely not become sustainable. The programme could be justified like an eye camp – as a way to strengthen existing eye care institutions, as a step towards setting up more permanent eye care facilities in needy areas, or simply as a means to reach out with compassion to the unreached who need eye care.

RURAL CBR (COMMUNITY-BASED REHABILITATION)

Rural community-based rehabilitation, or CBR, means providing rehabilitative services for the incurably blind in their home or community, which “may be a viable alternative to the current tertiary care approach prevalent in developing economies to provide services to the incurably blind.” ^[19]

In India alone, the economic burden of blindness is over US\$4 billion per year, so the focus of a CBR programme is to train incurably blind people living in remote and rural areas to be functionally and economically independent, within their own environments.



The Tun Hussein Onn National Eye Hospital Mobile Eye Operation Theatre, Malaysia



The Tun Hussein Onn National Eye Hospital Mobile Eye Clinic, Malaysia



Mobile eye clinic in eastern Africa



Screening community members for refractive error in Tongaat, KwaZulu-Natal, South Africa

CBR teaches these specific skills:

- Skills for orientation and mobility - locating oneself in the surrounding environment, indoors and outdoors; moving in that environment from place to place with a mobility cane or sighted guide.
- Skills for activities of daily living - manual dexterity, independently handling personal hygiene and appearance, dress, cleaning the house, cooking, shopping and doing the laundry, among others.
- Skills for economic rehabilitation (for people 15 to 70 years old) - learning to engage in lucrative activities and contribute to household needs by running a trade, business or profession, with sustainability within and support from the local community as a focus (accounting skills, small business ventures, agriculture training and animal rearing, trades, craftsmanship such as manufacturing baskets, brooms, chairs).
- Skills for attending the local school (for children of school age) - orientation and mobility, personal care, pre-Braille activities, and learning Braille from a visiting teacher.
- Support services are offered to help rehabilitee's access Government aids that are legally due to them (disability national identity card, disability pensions, concessions, free bus and train passes, Braille watches, folding canes and other aids, bank loans).
- Support training for family members is also offered.

Barriers to providing rehabilitation at the community level include:

- Lack of sufficient special schools for the blind, the residential nature of these schools, and their location away from the family.
- Lack of start-up funds for economic rehabilitation.

Integrating children who are blind with their peers in a normal educational system expands the scope to provide education, besides contributing to a better social understanding of the needs of a blind person.

- Valaguru Vijayakumar et al^[19]

- Sociocultural traditions (some female blind persons refused rehabilitation services citing the lack of a female eye health worker as their reason; some female eye health workers quit their jobs citing the inconvenience of travelling to villages outside their own).
- Incurable blindness for longer than 20 years (these candidates are much less likely to accept rehabilitation services, often because of old age and/or illness and disability from other systemic diseases).

Steps in Organising a Rural CBR Programme

- Delineate the CBR programme district: an area with a population of 1 million or more.
- Divide the district into separate blocks, to be surveyed in a phased manner.
- Recruit field workers from and for each block.
- Train field workers in CBR methods.
- Plan screening eye camps to identify people with curable and incurable eye diseases.
- Deploy each field worker to his or her geographical block to conduct door-to-door surveys to identify curably and incurably blind persons as well as rehabilitation candidates.
- Train the field workers to meet incurably blind people individually to plan and begin their rehabilitation training.
- Field workers should meet regularly to plan, review and assess CBR activities.

CBR Planning Guidelines

- One or two blocks covers a population of 200,000 to 300,000.
- 10 field workers are required to cover these blocks.
- Each field worker rehabilitates approximately 25 blind people per CBR programme session.
- Each candidate's rehabilitation takes an average of 40 hours, spread over 20 weeks.
- Each day, a field worker spends one hour with as many as five different rehabilitation candidates (three in the morning and two in the afternoon).
- Each week, a field worker meets each rehabilitation candidate twice.
- A CBR supervisor meets every field worker twice per week to oversee his or her work.
- Field workers, supervisors and managers meet every week to plan and assess the progress in individual candidate's rehabilitation. Field workers' achievements are reviewed, and other logistical matters are discussed during the weekly outreach department meetings at the base hospital.

Field workers are recruited locally, in the rural districts that the CBR programme will cover. Candidates must have completed secondary education, and they learn about CBR through personal referrals. For instance, local school teachers may be asked to recommend one of their best students. The candidates are interviewed, selected and partially trained at the base hospital.

Initially, CBR supervisors must receive CBR training from an expert, in addition to ophthalmic training from doctors. Thereafter, they can train field workers themselves. CBR training is conducted in two to three phases over 45 days or more.

Phase One - The first 15 days of training is conducted by an ophthalmologist. Field workers learn all about basic eye health and eye care.

Phase Two - The following month consists of practical CBR training. Field workers are temporarily blinded (with blindfolds) for the duration of this training,

and learn how to train by experiencing rehabilitation methods themselves, as though they were blind.

Phase Three - Specially selected field workers receive additional training in how to help blind children get mainstreamed into local schools. These fieldworkers know or learn Braille, and teach it as visiting teachers.

Community Involvement in CBR

Recruiting local field workers is not the only way of soliciting community participation in CBR. The process of selecting field workers is also an opportunity to recruit village volunteers to assist CBR field workers. Depending on the nature of their work, volunteers may be trained for two days at the base hospital. In some cases, volunteers can be compensated with a small stipend.

Local sponsors and local Government agencies support CBR projects financially, through a combination of donations, in cash and in kind, and loans.

Finally, field workers frequently call upon local professionals to teach their skills to blind people. Fieldworkers cannot learn all trades during their training; therefore they serve as intermediaries, facilitating the transmission and adaptation of expertise from a seeing worker to a blind person. Generally, the professional's time commitment averages a half hour per training session, for as many days as are needed to learn the trade.

Community-based rehabilitation not only gives the incurably blind a new lease of life, it also serves as a powerful marketing tool for the eye care institution that implement the programme. Blind people and their families, friends and neighbours learn about the services of the eye care provider, as do all the field workers and community members involved - and their families, friends and neighbours. CBR is certainly a win-win for everyone involved.

Diabetic Retinopathy Awareness Campaigns

Diabetic retinopathy differs from cataracts, refractive errors and a number of other eye impairments in that it is not a well known disease among the general public, or among diabetic and medical communities. Establishing a DR screening programme requires engaging in a significant awareness campaign. Such a campaign is usually orchestrated by an expert in IEC (Information, Education, Communication). (See Appendix 5).

Awareness seminars for medical officers and other staff of primary health centres and eye care NGOs must be part of this outreach approach. Public exhibitions on DR can be conducted at the same time.

Steps in a DR awareness campaign include:

- Conduct surveys in the general public and among specialised audiences (medical and diabetic) to assess diabetic retinopathy awareness.
- Write and diffuse a report on the prevalence of the disease and lack of treatment for the disease.
- Create, print and diffuse letters and informative material on the disease to medical, paramedical and social workers, to Government officials, and to diabetic patients, adapting these communications to these respective audiences.
- Hold press conferences and issue regular press releases.
- Give guest lectures to service clubs, civic organisations and other groups.



- Diffuse radio and television public service announcements to educate the public at large about the disease and treatment options.
- Set up displays / exhibitions.

Diabetic retinopathy awareness campaigns, as well as screening camps, can be sponsored by leading hospitals and their diabetes departments or clinics. Diabetic associations should be invited to become involved.

For more information on diabetic retinopathy and DR outreach, see Appendix 5 - Designing a Diabetic Retinopathy Awareness Survey and Campaign, or visit <http://www.v2020resource.org/newsitenews.aspx?tpath=news72007>.

REFRACTIVE ERROR SCREENING PROGRAMMES

Delivering Refractive Error Services: Primary Eye Care Centres and Outreach

Addressing refractive errors, the second major cause of preventable blindness, is now a priority for eye care programmes.

Although a simple pair of spectacles [eyeglasses] will correct refractive error, there exists a high prevalence of uncorrected refractive error. This is due in large part to the cost and inaccessibility of refraction and spectacle dispensing services, which are usually offered only at secondary and tertiary eye care centres.

The optometrists and ophthalmologists who provide these services are often kept very busy providing a range of other eye care services as well. This means that the number of refractions they have time for falls short of community needs. The distance to these secondary and tertiary eye care centres also hinders access.

In addition, people who have been refracted and who have received a spectacle prescription need to have access to an affordable spectacle dispensing service. Since most spectacle retailers are concentrated in bigger towns, accessibility is a major challenge for communities in rural areas.

To solve the problem of uncorrected refractive error in low- and middle-income countries, it is therefore important to provide comprehensive services – both refraction and dispensing of spectacles – at the primary level of eye care, where they will be most accessible to the community.

The delivery of comprehensive refractive error services at the primary level requires the following:

- A trained person to refract and provide counselling about refractive error as part of a general eye examination and service



- Equipment for vision testing, refraction, and spectacle dispensing
- Spectacles which are acceptable and affordable to the patient.



There are two strategic options for improving access to comprehensive refractive error services at the primary level:

1. Integrate refractive error services at all levels of eye care delivery and patient contact, including the primary level, as is done in India's vision centres (primary eye care centres).
2. Integrate refractive error services into outreach services, thereby bringing primary level eye care closer to communities.

Table 1

Estimating demand for refractive error services for a population of 50,000 in India, using available data

Age group	Percentage of total Population	Number of people in each age group	Percentage with refractive error in each age group	Number of people with refractive error in each age group
Pre-school (0-5)	12%	6,000	Unknown (but low)	Unknown (but low)
School (6-20)	34%	17,000	5%	850
Adult (21-45)	37%	18,500	10%	1,850
Adult >45 (presbyopic age)	17%	8,500	90%	7,650
Total	100%	50,000	n/a	10,350

Estimating Demand

An important first step when planning a primary eye care centre is to estimate the potential demand for spectacles.

Table 2

Marketing strategies for a population in India

Age group	Marketing strategy
Pre-school (0-5)	General awareness about squint, amblyopia Networking with paediatricians for early referral
School (6-20)	School eye examinations
Adult (21-45)	Refraction services in the workplace screening camps
Adult >45 (presbyopic age)	General awareness about the advantages of near vision correction Refraction services in comprehensive eye camps

The prevalence of refractive error varies between age groups. Where reliable data are available on the age distribution of the population at country and sub-country levels, the rate of refractive error in different age groups can be estimated

(preferably from studies done in that area, or from personal experience) and the total demand can be calculated, as shown in Table 1 (using data for India).

In most situations, one can expect about 20 per cent of the population to require refraction services. A primary eye care centre serving a population of 50,000 has enough potential market to make it economically viable.

Table 3
Basic equipment required at the primary eye care centre for refraction services

Refraction Equipment	Spectacle Dispensing Equipment
Snellen chart	Marking pencil/pen
Near vision chart	Lens chipper, cutter
Trial lens set	Lens edger
Trial frame	Screwdrivers
Streak retinoscope	Frame warmer
Power supply extension board	Adjustment pliers

Marketing

Given the very low coverage and penetration of existing primary eye care services, a primary eye care centre should cater to those who visit it, and also proactively seek out those who need correction. Marketing strategies should be specific to each age group, as suggested in Table 2.

Preliminary vision tests are conducted by trained fieldworkers or teachers (in the case of schools and colleges) to identify those with vision less than 6/9 [20/30] or 6/12 [20/40] for school children). These people are then referred to the primary eye care centre for further investigation. When a large number of prescriptions are expected at a school, college or workplace, the complete range of refractive services, including dispensing of spectacles can be provided on site.

Aravind's Vision Centres

Aravind Eye Hospital in South India has developed an innovative approach to addressing all aspects of eye care in remote and rural areas. It has set up a network of special vision centres to serve rural areas around each of its secondary and tertiary eye hospitals.

Each Aravind vision centre covers a population of 40,000 to 50,000. The centres are equipped for refraction and the dispensing of spectacles. For comprehensive diagnostics, each has a slit lamp fitted with a digital camera, a glucometer, and a computer with webcam and internet connectivity (this enables real-time interaction with ophthalmologists at the base hospital). The centres are run by well-trained ophthalmic assistants, who perform slit lamp examinations and refraction, treat minor ailments, and provide counselling. They are also trained to dispense medicines and spectacles. Patients who require further investigation or advanced interventions are referred to the base hospital.

Fieldworkers identify people with eye problems and refer them to the vision centre. They conduct school screening camps and awareness campaigns, and take care of the many marketing activities required. Fieldworkers also provide community-based rehabilitation for the incurably blind.

At the vision centre, patients are charged a nominal fee for the examination and pay for spectacles and medicines. Income from the sale of spectacles helps the centres to move towards financial sustainability.

Table 4: Statistics from ten Aravind vision centres during the year 2014-2015

Outpatients	3,96,007
Total income	INR 51,101,602 USD 786,178
Number of spectacle prescriptions	58,505
Number of spectacles ordered & dispensed	52,318 (89% of total prescribed)
Average sales price of a pair of spectacles	INR 572 USD 8.8
Income from spectacles	INR 29,921,182 (58.5% of total income). USD 460,325

* Centres not completed one year during the year 2014 - 2015 are not included in this statistics

Essential inventory items are:

Frames: There should be a variety of frames available to satisfy personal and local preferences. As most people are willing to spend more on an attractive pair of spectacles, this can provide the required income to sustain the services of the vision centre. Smaller frames need to be available for children.

Lenses: Only commonly required dioptrre powers should be stocked – other lenses must be ordered. With proper inventory planning, on-the-spot dispensing of about 85 per cent of orders can be achieved. However, this will require an inventory that is roughly ten times the expected number of orders. The proportion of on-the-spot dispensing therefore depends on the inventory size that can be maintained.

Other accessories: Spectacle cases, cleaning materials.

Outreach Clinics

Outreach refractive services are a short-term strategy to meet needs. An outreach strategy can play a big role in supporting permanent vision centres or health centres, as well as enhancing the reputation of the provider and reducing costs for patients by meeting their needs there and then.

The International Centre for Eye Care Education (ICEE) has been conducting outreach clinics in KwaZulu-Natal, a province of South Africa. ICEE sent teams to outlying and rural areas by road and by air, the latter in partnership with Red Cross Air Mercy Services and the South African Department of Health.

ICEE is acutely aware of the many problems that exist with outreach clinics and refractive error services in general, and it structures its outreach clinics to minimise any possible negative impact. The problems include the following:





- Free spectacles create expectations and patients wait for the return of the free service, which in most cases never occurs.
- Programmes run by non-governmental organisations (NGOs), independent of government services, negatively affect the public sector. Patients wait for the NGOs to come back, instead of accessing the (possibly limited) services available.
- Improperly matched recycled spectacles often result in visual complications and poor cosmetic appearance (these should only be used as a last resort).

Key Components of the ICEE Outreach Strategy

Relationship building: In order to ensure that there is cooperation and support (buy-in) from the department of health, ICEE clinics are held in rural primary eye care centres or rural hospitals. The service is advertised with the help of local health centres.

Equipment: Includes a trial lens case, trial frame, occluder, ophthalmoscope, retinoscope, E-chart, pupillary distance (PD) ruler, and tape measure. An auto-refractor is carried by the Red Cross Air Mercy Services.

Sustainability: In order to make these services affordable, ICEE does not make any profit. To ensure that services are sustainable, ICEE calculates what it costs to provide the service and charges patients accordingly. Patient numbers are kept high by the advocacy efforts of local clinics and department of health in the community; this makes services economically viable.

Exit strategy: The ICEE exit strategy entails handing over refractive services to local health care providers. ICEE trains local personnel (ophthalmic nurses) in refraction services and advocates for optometrists to be employed. No optometrist was employed in the public sector when the ICEE program started. Currently, there are 13 in employment. Out of 11 health districts visited initially, ICEE is now serving only four. This reflects the belief that outreach clinics are a short-term strategy: they help to show that there is a need for services, which then prompts government and other providers to develop permanent services.

Spectacles: Ready-made spectacles (which have the same prescription in each lens) are dispensed immediately. Custom-made spectacles are produced and sent to the clinic where the patient was seen. With basic equipment and a small inventory of lenses and frames, some spectacles for simple refractive errors can even be fitted and delivered there and then.

Case finding: Screening in schools and in communities is critical to boost patient numbers and to ensure that clinicians' time is used optimally. With funding from USAID, ICEE has trained 50 "vision screeners" who visit schools on a daily basis. The provincial department of health has agreed to employ these screeners once the funding runs out; this will strengthen human resource capacity in the long term.

Volunteers: If necessary, volunteers should be incorporated into existing outreach programmes. Changing the strategy when volunteers are available and then reversing this later is not in the best interests of the programme.

Outreach for advocacy: ICEE programmes target areas where there are no services and the potential for a future eye clinic is high. To do this, ICEE links up with the government outreach clinics and adds refractive services to the package of existing services. This demonstrates the value of refractive services.

Refraction as a Case-Finding Mechanism in Outreach Programmes

Refractive error services provide an opportunity to identify patients with other conditions, such as glaucoma, cataract, and diabetic retinopathy, although they are not often used in this way.

A service for dispensing spectacles is in fact more likely to attract patients than a surgical programme, as fear of surgery may prevent some patients from attending the camp.

Developing refractive error service as a screening strategy therefore becomes an attractive option. Rather than including the correction of refractive error as just one of the services in an outreach programme, it may be more useful to consider refractive error service as an anchor; it has the potential to attract all patients with visual impairment. Patients in need of additional eye care can be identified from those who need refractive error services.

This strategy is particularly relevant, given the fact that patients with presbyopia are usually at high risk of age-related eye diseases as well. However, it demands a coordinated and integrated approach to outreach clinics, rather than having separate programmes, which results in unnecessary duplication of efforts.

In order to function as a screening tool for other eye conditions, refractive error programmes must ensure that they include comprehensive eye examinations. If they don't, they will squander the opportunity to identify other eye conditions that require intervention.

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It is essential for school children to have not only good health but also good eyesight in order to be successful in their studies. Children with poor eyesight will be poor performers at school. It is necessary that such children be identified and that their refractive errors be corrected to restore good eyesight to them.

- R. Meenakshi Sundaram

Recruiting Teachers for School Eye Health Programmes

The Tun Hussein Onn National Eye Hospital in Malaysia works closely with the "I Care Vision 20/20" Project. Under this project, eye test seminars are conducted for kinder garden teachers, training them to detect early signs of eye defects and undertake simple vision screening tests with the use of basic eye test charts.

Unfortunately, squint is considered to be a sign of good luck by parents in Tamil Nadu, South India. They do not realise that besides being teased by their schoolmates, their child runs the risk of developing amblyopia unless treated as early as possible in life. Blindness due to amblyopia is irreversible.

- Dr. C.A.K. Shanmugham

It is important to fully exploit the potential of refraction services in order to achieve the goals of VISION 2020: to bring sight to the millions of people who are blind or visually impaired due to refractive error. The income generated by providing refractive error services to more people will in turn provide the required economy of scale for these services to become sustainable - a win-win situation.

SCHOOL-BASED OUTREACH

School eye health screening programmes are used to detect refractive error in schoolchildren before it leads to academic problems and school dropouts. These programmes can also catch common causes of blindness in children before they cause irreparable harm. These include vitamin A deficiency and squint (or strabismus, a misalignment of the eyes that causes amblyopia, an uncorrectable decrease in vision in one eye, or lazy eye), both of which can lead to blindness.

In view of the seriousness of these conditions, it is fundamental to make school eye health schemes an ongoing part of any outreach programme. The active participation of trained teachers is encouraged for sustainability of the programme, better results and follow-up.

Aravind designates an outreach organiser not only for comprehensive eye screening camps where we predominantly target old age population but also to take care of other age segments in order to provide eye care for all. School screening camps are planned for a duration of 3 months in a year considering the exams, vacations, festivals and academic commitment. Hence the outreach team develops annual plan for all types of programmes with proper distribution of target for each month which needs a kind of systematic approach to reach everyone in the catchment area.

- Dr. G. Natchiar

School screening programmes can be organised in secondary schools with high population (more than 1000 students). In some settings, feeder schools (the primary schools that send their students to these secondary schools) can then be invited to attend.

For the school eye health scheme at Aravind, it was decided to invite the active involvement of teachers, with whom children spend a big part of their day. A major challenge for this screening programme is scheduling. Timing it to not conflict with school registration, holidays and examinations is crucial for full participation. This scheme involves the following steps:

1. Plan ahead. An effective target is 25,000 schoolchildren per year. Within an outreach district with a population of 100,000, approximately 10 schools are selected for participation each year. As in all outreach activities, selecting school locations should be done in conjunction with finding strong local sponsors.
2. Obtain the consent of school administrators early on. In addition to consenting to host the screening programme, they must agree to let the teachers involved in ophthalmic training at the school premises.
3. All interested teachers (hopefully, 80% of the teachers) are eligible for basic ophthalmic training. After one to two days of training, one teacher can screen up to 100 children in one session. Aravind Eye Hospital sends an ophthalmic assistant to the school with educational materials. Each teacher is trained to:
 - Understand basic eye anatomy and common eye diseases
 - Measure visual acuity
 - Diagnose cataracts, squint, Vitamin A deficiency disease, and refractive errors
4. Each teacher is given a portable “tumbling E” vision chart and a 6-metre length of rope to ensure consistent distance from the chart. On a given day, they screen their students and identify and list those with visual defects.
5. On a subsequent day, an ophthalmic assistant comes from the base hospital to verify and confirm the teachers’ findings. The principal or headmaster contacts the families of children with visual impairments.
6. Finally, an ophthalmic team made up of a paediatric ophthalmologist, a refractionist, an orthoptist (a professional who diagnoses and treats defective eye coordination and binocular vision problems) and a patient counsellor visit the school and examine the students with confirmed eye problems, in the presence of their parents. At this stage, treatment is discussed and prescribed. Children with serious eye problems are referred to the base hospital, with the parents’ consent.
7. One month later, the school eye health assistant visits the school to assess whether students are wearing their eyeglasses – are thus wearing them properly – or adhering to other prescribed treatments, and to verify whether parents have taken action to rectify their child’s visual defects, as advised by the ophthalmologist. (Aravind Eye Hospital has tracked the follow-up rate at 85%; although the compliance rate for buying eyeglasses drops to 50% when discounted prices are not offered, showing the potency of the financial barrier to eye care.)
8. A list of children whose parents have not followed the ophthalmologist’s advice is sent to the school authorities with a request to impress on the parents the urgent need to take remedial action. It is advisable to contact parents directly after obtaining their addresses from the school, if this is possible.

Common eye defects detected through school screenings are refractive errors, squint/strabismus and Vitamin A deficiency. Some students may be found with conjunctivitis, conjunctival xerosis, night blindness, blepharitis, chalazion, cataract and nystagmus. Watering, irritation and other minor ailments may also be seen.

School-aged children constitute a particularly vulnerable group, since vision impairment can have a dramatic impact on learning capability and educational potential. The need for population-based vision screening for schoolchildren in the developing world is validated by the large number of uncorrected refractive errors and treatable ocular disorders in this age group. School eye health screenings are easily the best way of reaching the vast majority of school-aged children.

PAEDIATRIC OUTREACH

Compared to blindness in adults due to cataract, blindness in children has not received the same level of attention or funding support. Although the prevalence of childhood blindness is relatively low compared to blindness in the aged, it assumes great significance due to the years of disability faced by every child who remains blind. The following facts portray the gravity of childhood blindness in the world:

- 1.5 million children in the world are legally blind (270,000 in India alone), and this number appears to be growing.
- A child goes blind every minute.
- Approximately 500,000 children become blind every year.
- About half of these children die within one or two years.
- 89% of childhood diseases occur before the age of 5.
- 75% of learning in the first 5 years of life is through the sense of sight.
- Children constitute only 3% of the world's blind population but childhood blindness is the second largest cause (following cataract) of blind-person years about 70 million blind person years globally.
- It is estimated that one-third of the total economic cost of blindness stems from childhood blindness.
- Approximately 40% of childhood blindness is avoidable (preventable or treatable).

One of the goals of VISION 2020 - The Right to Sight is to reduce childhood blindness from its present level of 0.75/1,000 children to 0.4/1,000 children by 2020. To achieve this, three conditions must be controlled:

- Corneal scarring in children
- Congenital cataract, especially when caused by congenital rubella syndrome
- Retinopathy of prematurity or ROP (which tends to be a problem in high- and middle-income countries, where premature babies have a higher chance of survival)

This means that the priorities for paediatric outreach are:

- Elimination of vitamin A deficiency
- Treatment of congenital cataract and ROP, as well as primary congenital glaucoma
- Dealing with serious refractive error
- Treating squint/strabismus and other causes of amblyopia

Many parents do not seek early treatment for their children because of the prevalence of illiteracy, low socioeconomic background, adverse advice, traditional practices, and the lack of availability of treatment for children in nearby hospitals. These factors reveal a great need to care about paediatric services on a population basis. Paediatric outreach activities focused on preschool and school-aged children help tackle the magnitude of childhood blindness, before it is too late, by contributing to the prevention of major causes of childhood blindness such as corneal scarring from measles and vitamin A deficiency. Correction of refractive error in children must also be part of paediatric outreach.

A child's eye is not merely a smaller version of an adult eye, and childhood blindness is different compared with adult blindness. Strategies that are effective against adult blindness need to be modified to combat childhood blindness.

*- David Yorston, FRCS
FRCOphth, Eye Unit of
Kikuyu Hospital, Kenya*

Children are the most precious resource of families in developing countries. A blind child is a tragedy for these families. A child whose blindness could have been prevented or cured is an even greater disaster.

- David Yorston

Great improvements have already taken place in the prevention of corneal scarring. Primary health care programmes are distributing Vitamin A, and immunising against measles. Traditional healers have been trained to avoid harmful practices. The greater availability of primary eye care has enabled children with corneal ulcers to be treated sooner and more effectively. However, despite these changes thousands of children become blind from corneal scarring every year, and many of them die. Goals for 2020 may include the total elimination of measles, and vitamin A deficiency, both of which are achievable targets.

- David Yorston

If we could take action against only one of the world's major causes of blindness, the choice would have to be xerophthalmia.....It occurs at the critical beginning of life and even the intimidating statistics of its present prevalence reveal only the smaller part of the human tragedy it involves or of the menacing prospect for the future.... Experts agree that an adequate technology already exists to achieve control.... The need now is for action and the urgency of the task will require no emphasis to those who have seen those children flickering on the edge of life or, in impossible conditions, facing a lifetime of blindness.

- Sir John Wilson, Director, Royal Commonwealth Society for the Blind, 1980

Effective paediatric outreach involves:

- Awareness campaigns that provide the relevant information to the right people, especially parents, but also family physicians and other primary health care workers, midwives, and teachers.
- Reaching more children with eye problems at the primary care level and providing needed services for restoring sight at the base hospital.
- Early intervention in childhood diseases.

Community participation is vital in paediatric outreach. One of the challenges is finding sponsors who are interested in paediatric eye care, since the events demand greater investment and more intensive publicity than adult camps, but attract fewer people. Potential sponsors should be educated about the need for paediatric eye camps and other outreach events, the social and economic ramifications of childhood blindness and the benefits to the child, the family and the community of screening children early.

Building a strong outreach network with family physicians, obstetricians, midwives and paediatricians in the catchment area will ensure that they refer children with eye problems to the ophthalmologist or eye care institution. This leads to earlier intervention and better quality treatment.

Involving parents directly in outreach is vital because, parents make decisions about their child's health, lack of proper coordination between the eye care provider and the parents results in poor service delivery. Paediatric outreach involves an awareness (or IEC - information, education, communication) campaign that changes mindsets and dispels stubborn misconceptions. This leads to more parents consenting to treatment for their child and accompanying him or her to the tertiary care centre.

Patient counselling becomes "parent counselling" in paediatric eye care. A counsellor plays an important role in allaying the fears of parents, implementing the awareness campaign, and ensuring follow-up once a child has received treatment.

Ideally, eye problems are detected and treated during early infancy to prevent permanent visual impairment in children. Screening should be done for all infants by six months of age, with estimation of visual acuity at least once by the time they are three years. Thereafter, screening should be done routinely every year at school for early detection of children's eye problems.

Children have the right to sight. For the sake of giving them a bright future, suitable strategies for dealing with childhood blindness must be adopted as soon as possible. Developing paediatric specialists and tertiary level paediatric ophthalmology centres is necessary. Paediatric outreach is a necessary complement to find at-risk children and get them to the speciality facility.

Planning a Xerophthalmia / Vitamin A Surveillance Initiative

Vitamin A deficiency, a major contributor to childhood mortality and morbidity, exists in over 70 countries and affects an estimated 150 million children. [20] It is not always simply the outcome of decreased intake of vitamin A rich foods. Several systemic agricultural and sociocultural issues are also involved. Many WHO, UNICEF and other NGO outreach programmes distribute vitamin A as part of pre-existing immunisation initiatives. Recent research shows that vitamin A

supplementation has the added benefit of boosting children's immune systems, so fewer are contracting – and dying from – infections such as malaria.

Economists have calculated that an annual US\$60-million investment in micronutrients, especially vitamin A and zinc, would yield annual benefits of more than \$1 billion, including health care cost savings. One high-strength vitamin A supplement every six months can save a child from death and disease. Each capsule costs on average 2 US cents (that is \$0.02). Unfortunately, “vitamin A supplement programming is often run as a donor-funded project and is not tied in with national child health programmes. When donors leave, so do the vitamin A supplements,” according to Peter Olumese of the World Health Organization.^[20]

Examining the Iceberg - A Case in Point

At Lumbini Rana-Ambika Eye Hospital in Nepal, the objectives of the xerophthalmia/vitamin A programme are:

- To find new cases of xerophthalmia and to treat them immediately
- To make local people aware of vitamin A deficiency and its effects
- To provide eye health education

When Lumbini conducted this surveillance programme in 1996/97, 10 sites were selected for the purpose. Within ten sites, 1822 children below 15 years of age were examined and 4.17% of the children were found to have vitamin A deficiency. Of this percentage, 59% were male and 41% were female. According to the report, 35% were below six years of age and 65% were 6 to 15 years of age

Xerophthalmia cases presented to an eye hospital, eye care clinic or ophthalmology practice are considered as the tip of the iceberg, because large number of cases are assumed to be hidden within their home community. The programme procedure consists of the following steps:

- Note and keep special records of diagnosed cases of xerophthalmia at the base hospital.
- Obtain each patient's address and make a request to visit his/her household.
- Fix a date to make a visit to the area with a small medical team.
- Select 100 houses in the immediate surroundings, and inform them of the visit
- Inform local authorities of the visit and seek sponsorship.
- Examine all children below 15 years of age for signs of xerophthalmia or vitamin A deficiency.
- Refer patients with signs of eye disease to a nearby vision centre or screening eye camp, or to the base hospital, to receive counselling and treatment.
- Record and report the results.
- Generate a statistical report.

CONCLUSION

This chapter presented several outreach approaches beyond the traditional eye camp. Some are based in permanent outlying facilities; some depend on new information technologies, while others rely on fieldworkers and volunteers based in the communities being served. All are proving to be effective and sustainable ways to offer comprehensive eye care to the unreached.

Outreach programmes have the potential to serve as an advocacy tool and to meet short-term needs in underserved areas. In order to ensure the maximum is gained from these programmes, there should be:

Caring: Ensure that outreach does not imply lower standards of care; adopt clear management protocols.

Consistency: Develop appropriate guidelines regarding the structure of the programme, its pricing policy, and the types of spectacles offered in different areas, as well as protocols to maintain standards of care. Convince other service providers to adopt a similar approach.

Comprehensiveness: Refractive services should be linked to a comprehensive package of eye and health services, either by direct delivery of services or through an appropriate screening and referral network.

The next chapter explains how to market and promote eye care outreach initiatives.

Appendix 5A: Electronic Medical Record format in vision centre

Appendix 5B: Weekly report on Vision Centre performance

This template helps the outreach and vision centre staff to collect the details of vision centre performance based on the suggested key performance parameters for a week.

Appendix 5C: Monthly-Cumulative report on Vision Centre performance

This template helps the outreach and vision centre staff to collect the details of vision centre performance as a cumulative report for any given month.

Appendix 5D: Monthly report on vision centre's Income & Expenditure

This template helps the outreach and vision centre staff to record income and expenditure details and to analyse the centres financial viability. Also helps to take appropriate action to reduce the avoidable expenditure.

Appendix 5A

Aravind Vision Center - Alanganallur						
OP NO.	P3526	Details			Back	
Patient Name:	Age:	Sex:	Village:	Visited Date:		
CHINNASAMY S	52	Male	66 METTUPATTI	05/01/2008		
Complaints	Eye Type	Duration	Period	Ocular Exam	Right Eye	Left Eye
Pain				Lids	Papillae	Papillae
Watering		2	Month	Conjunctivitis	Pterygium	Pterygium
Discharge				Cornea	Clear	Clear
Redness				AC	Normal Depth	Normal Depth
Headache				Iris	Colour Pattern Normal	Colour Pattern Normal
Defective Vision				Pupils	Normal Size Reacting to Light	Normal Size Reacting to Light
Crossed Eyes				Lens	lens changes	lens changes
Trauma				(others)Ocular Movement	Full	Full
(others)ITCHING		2	Month	(others)		
Vision Details	Right Eye	Left Eye	Tension	RE	LE	
Presenting Vision	6/12	6/12		20.6_	17.3_	
Best Corrected	6/6	6/6	Physical Detail:	Height: Cms	Weight: Kgs	
Refraction	Sph.	Dyl.	Axis	V/a	Blood Pressure	Systolic BP
Right Eye		-1.00	90	6/6		140
Left Eye		-1.00	90	6/6		90
Refraction NV	NV ADD	NV	Test	Urine	Blood	
Right Eye	2.25	N6				
Left Eye	2.25	N6				
Diagnosis Details						
Right Eye	SIMPLE MYOPIC, ASTIGMATISM AND PRESBYOPIA					
Left Eye	SIMPLE MYOPIC ASTIGMATISM AND PRESBYOPIA					
Glass Prescription						
Connection Details			Doctor's Remarks			
Visit Date:	1/5/2008		Suggestion:			
Connection Date	1/5/2008		<input checked="" type="checkbox"/> Spectacles			
Time From:	4:23:54 PM		<input type="checkbox"/> Surgery			
Time to:			<input type="checkbox"/> Medicine			
View Image()			<input type="checkbox"/> FU at Hospital			
			Doctor :		DR. CHARUTHA	Suggestion

Vision Center Weekly Performance Report

Duration of the week From To

1. Last week Performance

New OP and % in total OP	####	####	Old OP	####	####	Total	0
--------------------------	------	------	--------	------	------	-------	---

Age group of Out patients seen last week	0-15	####	16-40	####	41-50	####	> 50	0	#DIV/0!
--	------	------	-------	------	-------	------	------	---	---------

Diagnosis of Cataract and Refractive Errors	Specialty cases identified	Referred	Accptd
Immature/Early Cataract			
Mature/Operable Cataract			
Accepted surgery and Rate			
Refraction done			
Glasses prescribed			
Glasses ordered & Accp.%			
Diabetes identified			
Glaucoma			
Retina			
Diabetic Retinopathy			
Childhood Blindness			
Orbit problems			
Corneal defects			
Other defects			

% of patients with eye defects visited Vision Center during the last week	Cat.	0	RR	0	Spity.	0	Total	0
		####		####		####		####

Of the cataract surgeries performed last week;					
Paying	Free (subsidy)	Total Free	Total (last week)	Advised during the week	Advised prior to the week
			0		0

Of the Glasses Ordered last week	
Advised during the week	Advised prior to the week
	0

Patients referred by the Field Workers	During the last week				Prior to last week			
	Cat	RR	others	Total	Cat	RR	others	Total
				0				0

Up to this week			
Cat	RR	others	Total
0	0	0	0

2. Cumulative Trend in performance

No. of months completed this year

Period	Outpatients			Cataract			Glasses			Specialty		
	New	Rev	Ttl.	Adv.	Sur	%	Adv.	Ord	%	Ref.	Acc.	%
Last week	0	0	0	0	0	####	0	0	####	0	0	####
Prior to last week			0			####			####			####
For this year	0	0	0	0	0	####	0	0	####	0	0	####
Avg. per week	####	####	####	####	####	####	####	####	####	####	####	####
Last year as on now			0			####			####			####
Current Trend	####	####	####	####	####	####	####	####	####	####	####	####

3. Diabetic Retinopathy Camp

Date	Place	OP	Diabetes		Diab.Ret.		Referred for		Adv. Follow up
			Known	New	Known	New	Laser	FFA	
This camp was supported by:			#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
			in total outpatients	in known diab.	in total diabetic	in Diab. Retinopathy	in total diabetic		

4. School Eye Health Scheme

Last week

Name of the School	Activity carried out	Strength	Defects	Remarks (for Follow up)

Cumulative performance

Target 2011	Completed	% to Target	Remarks
Schools		#DIV/0!	
School strength		#DIV/0!	
Total defects (as estimated to 5%)	-	#DIV/0!	#DIV/0!
Gl.delivery (estimated as 3.5%)	-	#DIV/0!	#DIV/0!
Referred to VC/CC/Base hospitl (0.5%)	-	#DIV/0!	#DIV/0!

5. Refraction Camps (last week)

Date	Name of Employer / Group	Employees seen			Glasses prescribed			Gl. Ordrd.	Same PG	Refrd.
		<41	>40	Total	<41	>40	Total			
				0			0			
				0			0			
				0			0			
Till last week				0			0			
For the Current year		0	0	0	0	0	0	0	0	0
Age distribution & acceptance rate		#DIV/0!	#DIV/0!		#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

6. Public Awareness Campaign

Date	Place	Target audience	Number	Activity

Center Counselor

Center Field Worker

Vision Center Coordinator

Vision Centre - Monthly Cumulative Summary										
Location of the Centre and Base hospital:				Report for the month & yr:						
Variables	During the Month			Upto Prev. Month in the current year			Cumulative total for the current year		Last Year for same period	
Out patients services										
New OP							0			
Review OP							0			
Total OP	0			0			0		-	
Refraction Services										
Refraction done							0			
Glasses prescribed							0			
Glasses delivered							0			
Glasses acceptance rate	#DIV/0!			#DIV/0!			#DIV/0!		#DIV/0!	
Cataract Services										
Cataract advised							0			
Cataract operated (thro VC) - of the cases advised during the month				####			0			
Cataract operated (thro VC) - of the cases advised prior to the month										
Cataract identified in VC and operated through any other sources (our camps...)							0			
Total Cataract surgeries	0			####			#DIV/0!		#DIV/0!	
Patients advised but not yet operated	0						0		0	
Specialty Services										
	Diag.	Ref.	Reg.	Diag.	Ref.	Reg.	Diag.	Ref.	Reg.	Diagnosed
Retina (Newly) diagnosed							0	0	0	
Glaucoma (Newly) diagnosed							0	0	0	
Diabetes diagnosed	Known						0	0	0	
	New						0	0	0	
Diab.Ret. (Newly) diagnosed							0	0	0	
Other specialty diagnosed							0	0	0	
							0	0	0	
							0	0	0	
Other Clinical Support Services										
Number of Blood sugar done							0			
Others:							0			
Monthly remarks by the Technician/Coordinator:										

Vision Centre - Monthly Summary of Income and Expenditure		
Location of the Centre and Base hospital:		
Income and Expenditure details	During the Month	Specific Remarks
A. Income		
1 Consulting fee		
2 Lab Charges & Other Charges		
3 Sale of Spectacles		
4 Sale of Medicine		
5 Cycle Recovery		
6 Bank Interest		
TOTAL		
B. Stock in Hand		
1 Medicine		
2 Lenses		
3 Frames		
TOTAL		
C. Recurring Expenditure		
1 Medicines (Purchased for Sale)		
2 Lenses and Frames (Purchased for sale)		
3 Store supplies (Printing & Stationery etc.,)		
4 House keeper wages		
5 Rent, Repair & Maintenance		
6 Electricity Charges / water tax		
7 Generator fuel expenses		
8 Telephone charges		
9 Broad Band Rental Charges for VC		
10 Broad Band Rental Charges for BH		
11 Postage & Courier Charges		
12 TA & DA to Field worker		
13 TA & DA to VC Technician		
14 Bicycle Maintenance		
15 Salary to EHFV		
16 Salary to VC Coordinator		
17 Salary to VC Technicians		
18 Miscellaneous		
TOTAL		

VC Technician

VC Coordinator

6. Marketing and Promotion of Community Outreach for Demand Generation in the Target Community

Create a demand for services: In most developing countries, only a small proportion of patients who need eye care seek help, whether for simple interventions such as eyeglasses or for treatment of diabetic retinopathy. Arvind Eye Hospital developed an eye care market in its community by using its patients as marketing ambassadors, offering counselling and education, providing affordably priced or cost-free care, and organizing outreach programs. These measures were designed to grow the market rather than to compete for patients already receiving services.

- R.D.Thulasiraj

A major concern of social marketing is to bring about changes in the social and structural factors that impinge on an individual's opportunities, capacities and right to have a healthy and fulfilling life.

- R. Donovan and N. Henley, Professors of Social Marketing

Although it may seem evident, a large volume (and therefore financially sustainable) cataract surgery (or other eye care) programme is only possible with a high volume of patients. Developing several different strategies for motivating and enabling patients to come for treatment is called “demand generation.” This chapter introduces some marketing and promotional strategies intended to increase demand generation through community outreach activities or initiatives. (Acknowledgements to R.D.Thulasiraj, Director - Operations, AECS for his help with this chapter.)

Marketing and promotion in outreach involve creating maximum awareness in the community and among potential patients of outreach services, to ensure that the maximum possible number of patients will benefit from each outreach initiative. It includes:

- Community engagement and participation
- Cultivating relationships with the population within the service area through local interaction
- Public relations, publicity and possibly advertising
- Advocacy
- IEC (information/education/communication) campaigns

Applying the concept of service marketing and the principles and processes of community-based social marketing, along with health education and IEC (see below), will promote eye health in target communities. At the same time it will generate demand for an eye care institution's services in a proactive way.

DEFINITIONS

The use of the word “marketing” is still frowned upon by some health care providers, including some in the voluntary sector and those involved in the delivery of eye care to the community. Yet good marketing is the cornerstone of effective distribution in business operations and it is extremely useful in ensuring “distribution” of eye care services. These definitions and explanations should help dispel some of the misconceptions about this aspect of community outreach.

Marketing was defined in 2007 by the American Marketing Association as “the activity, set of institutions, and processes for creating, communicating, delivering, and exchanging offerings that have value for customers, clients, partners, and society at large.” The term (to quote from Wikipedia) “developed from the original meaning, which referred literally to going to market, as in shopping, or going to a market to buy or sell goods or services.”

Service Marketing is a type of marketing used to promote something less tangible than a product, such as an experience or an end result. Service marketing tends to focus on relationship and value.

Social Marketing has been defined as the planning and implementation of programmes designed to bring about social change, using concepts and principles from marketing.

Community-Based Social Marketing is the combination of social marketing, community organisation principles, and behaviour change science and theory into

one model or framework. It is based on research that indicates that initiatives to promote behavioural change are most effective when they are carried out at the community level and involve direct contact with people.

Promotion is any method or strategy used to communicate with the public to inform, remind or persuade people to buy or utilise a product or service (in this case, an eye care institution's services or outreach events).

Publicity is a type of communication (usually not paid for) through the media that attracts public attention (in this case, to an eye care institution's services or outreach events).

Public Relations or PR is any promotion, usually through positive publicity in the media, that is intended to create goodwill and a favourable opinion toward a product, service or organisation (in this case, the eye care institution) in the eye of the public. In eye care outreach, this can often be achieved by creating links with local community philanthropists.

Advertising is media-based (hand bills, posters, audio/microphone announcements, newspaper, radio, television, internet) promotion that is paid for.

Advocacy is speaking up in active support of something. (In this case, advocacy helps an eye care institution reach more people by obtaining more resources to support programme implementation and service delivery.) The role of advocacy in marketing and promotion comes from clearly communicating programme benefits to those who are in a position to make a difference.

Health Education, one of the fundamental principles of primary health care as spelled out by the World Health Organization (WHO), comprises learning opportunities meant to improve, maintain and safeguard the health and health care (in this case, the eye health and eye care) of the community. The educational programme involves some form of communication directed to the general public to increase health literacy and health knowledge and skills and to improve health-seeking behaviour.

Health Promotion is an educational programme or effort that seeks to improve or safeguard the health of a target population through behavioural, biological, socio-economic and environmental changes. It can include health education, personal services, environmental measures, community and organisational development and economic and regulatory activities.

Information, Education and Communication (IEC) is a set of strategies, approaches and methods based on needs assessments, sound educational principles, and periodic evaluation using a clear set of goals and objectives. The words "information," "education" and "communication" have individual meanings, but when grouped together as IEC, they denote a campaign of learning that empowers people in target communities to make decisions, modify behaviours and change social conditions in order to achieve, protect and sustain their own health.

MARKETING AND PROMOTION STRATEGIES FOR COMMUNITY OUTREACH

Many eye care institutions in developing countries now market and promote their eye care services through community-based outreach initiatives (diabetic retinopathy awareness campaigns), community-based outreach programmes (patient counsellors providing eye health education) and community-based outreach activities or events (screening eye camps).

It is our key responsibility to help the community take ownership of their eye problems and seek eye care when they feel they are not comfortable with their vision. The strategy is to change their mindset in such a way that they are really empowered to take a decision to access the available eye care services. Over a period of time, the increased level of awareness will help members of the community to not wait for outreach but to approach eye care services while they still have their vision.

- R. Meenakshi Sundaram

Information, Education and Communication plays a pivotal role in creating awareness, mobilizing people and making development participatory through advocacy and by transferring knowledge, skills and techniques to the people.

- Ministry of Rural Development, India



Applying Commercial Marketing to Outreach

The following are some important marketing concepts that relate to outreach programmes in eye care:

- Marketing is always about influencing action and behaviour.
- Target audiences take action or change their behaviour when they believe that the benefits will outweigh the costs.
- Marketing campaigns that seek to understand the perceptions of the target community about costs and benefits will be more effective.
- Target communities are seldom uniform in their perceptions and should be considered in different segments (such as seniors, students, working people, diabetics).
- In addition to these considerations about “PEOPLE,” marketing efforts must incorporate the following 5 P’s, which are relevant even when marketing eye care services:
 1. Create an enticing “PRODUCT” (determine how your outreach workers should present the benefits associated with the desired action - cataract surgery, purchasing eyeglasses, or other treatment).
 2. Minimize the “PRICE” the target audience believes it must pay in the exchange (in the case of outreach, by providing free or at least convenient transportation to the base hospital).
 3. Make the exchange and its opportunities available in a “PLACE” that reaches the target community and fits its lifestyle and social customs (most eye care outreach is community-based).
 4. “PROMOTE” the exchange opportunity with creativity and through channels and tactics that maximise desired responses (see later in this chapter for relevant promotion and publicity ideas and opportunities).
 5. A fifth important P in outreach is “PARTICIPATION,” which emphasises participation of the local community in effective communication and marketing.
- Recommended behaviours always have competition (in the case of eye care outreach in developing countries, that competition comes not from other providers but from the myriad of barriers that face potential patients), which must be understood and addressed (see the section on barriers below).
- The “marketplace” (or society in general) is constantly changing and so the effects and outcomes of outreach programmes must be regularly monitored, and the eye care institution must be prepared to rapidly alter strategies and tactics (see Chapter 8 for more information on monitoring and evaluation).



What Can be Applied from Commercial Marketing to Outreach

As defined by marketing guru and Professor Philip Kotler, a service is any act or performance that one party can offer to another. Service creates an experience, an end result, or both.

There are several major differences between marketing a service and marketing a product that have something to teach organisers about eye care outreach. These include:

Intangibility - Consumers cannot hold or touch a service, although they can experience it - which influences how they perceive it, evaluate it and talk about it to others (word-of-mouth).

Inseparability - Unlike a product, which can be taken away, a service cannot be separated from the service provider. Consumers do remember the “service production process,” which is why high quality eye care means more than the end result. Quality of service is vitally important because people will remember - and tell others about - how the process felt and how they were treated, as well as the outcome of their treatment.

Lack of ownership - No one can own and store a service. Because a service usually has duration, consumers want and expect excellent service during that time - “their” time. No one “owns” a cataract surgery, although the patient expects to be treated with care and respect during the hospital stay, and will appreciate receiving the wonderful end result afterwards - the gift of sight.

Perishability - Because services are developed and experienced or used almost simultaneously, they only last a certain length of time and cannot be stored like a product. This is why high quality service must begin at, or before the first moment of contact with the consumer.

Heterogeneity - It is difficult to make every service experience identical. Systems and procedures must be in place to ensure the quality of service is as consistent as possible.

Conventional marketing talks of the 4 P's:

1. Product
2. Price
3. Place
4. Promotion

Service marketing concerns itself with three other P's:

Process means the procedures, mechanisms and flow of activities that assist the eye care institution in delivering eye care service. An efficient and effective service will foster patient loyalty and confidence in the eye care institution.

Service Marketing Approaches

Marketing approaches are often market-driven, that is, they respond to already identified needs. In this situation, eye care institutions sometimes find themselves competing for the same (quite small) “already served” market or segment of the population. Better to engage in “market driving,” which means identifying an unmet need in the community and turning it into a felt need (diabetic retinopathy screening is a good example of this approach). After “developing the market,” the eye care institution can then extend its service levels to meet the actual need, which is now felt in the community.

- Mr. R.D. Thulasiraj, Executive Director

Physical evidence is the direct sensory experience of the service that allows a consumer (in this case, a patient) to judge whether he or she has received value. Examples include the way a patient is treated by a staff member, the length of time a patient has to wait for the service, or the environment in which a service is delivered.

People stand for all the people who directly or indirectly influence the perceived value of the service, including employees, management, patients and community members. An essential ingredient in any service provision is the use of appropriate staff. Recruiting the right people and training them appropriately in the delivery of high quality eye care is essential.

Health Education and IEC as an Integral Part of Outreach

Informing, teaching and communicating about eye health at the community level should result in increased numbers of people presenting at vision centres and screening eye camps. Thinking in terms of “providing targeted eye health education” will help an outreach organiser develop a process that:

- Brings about social change as it relates to changing eye health behaviour patterns and attitudes towards eye care.
- Generates awareness of and demand for health care services in the community in those who are not seeking it.
- Enables individuals, families and communities to improve their health and in this case, their eye health, by improving or increasing their knowledge, attitudes and skills.
- Brings the right people to the right outreach event (rather than attracting the general public), which makes outreach more cost effective.

A good eye health education programme will respond to the following targeted questions about eye care services.

For cataract patients:

- What is cataract and how is it caused?
- Is it curable and if yes, how?
- At what stage should it be operated ?
- At what time of the year should it be operated ?
- Where can I get the surgery done and how much will it cost me?
- Are the services reliable and available, as promised?
- Are the services expensive?
- Do most people get good vision (as perceived by the community) following surgery?
- Is the surgery painful or frightening?
- How will my quality of life change after surgery?

In the case of diabetic patients:

- Will diabetes affect my eyesight?
- Is it necessary to undergo eye examinations? How frequently?
- What are the consequences of not getting an eye examination?
- What is diabetic retinopathy? What are the symptoms?
- Can it be cured? If so, how?
- What are the preventive measures a diabetic can take?

Health education seeks to improve or protect health through voluntary changes in behaviour as a consequence of learning opportunities. It can include personal education and development, and mass media information and education.

- John Catford and Don Nutbeam, Wessex Regional Health Authority, UK, in Towards a Definition of Health Education and Health Promotion

For older people:

- Why must people older than 40 start getting their eyes checked?
- What is glaucoma and why is it considered a “silent killer” of eyesight?
- Can anything help me see up close again? Is it expensive?
- My elderly parents have eye problems. Will I have eye problems, too?

In the case of children and their parents:

- Old people have eye problems. Can children suffer from eye problems, too?
- My child’s eyes don’t seem right. What should I do?
- My child has been squinting and rubbing her eyes a lot. Should I have her eyes examined?
- Will it cost a lot?
- My child cannot see. Can his vision be restored?

Responses to these and similar questions will lead to the design of an information, education and communication (IEC) campaign that addresses current perceptions in the target communities and creates better awareness and uptake of the ophthalmic services available to these communities. The IEC campaign can then be one part of a community outreach activity, offered perhaps by patient counsellors, who can play a vital role in patient education, especially for motivating and increasing the uptake of cataract surgery and other treatments.



There are high levels of non-compliance with treatment recommendations. More people consult eye care services than follow through with treatment recommendations. People often do not return for treatment.... This is particularly true for a recommendation of future cataract surgery. These potential cataract beneficiaries are possibly hoping for a “quick fix” in the form of medication, and do not represent.

- Martine Donoghue, Deputy Director, HLSP Institute [21]

Attracting the Right Audience by Framing Publicity

Many people ask how Aravind Eye Hospitals get such a high proportion of people with eye defects out of the total number of people who attend our outreach events. At our comprehensive screening eye camps, about 75 to 80% of those attending have eye defects. At our diabetic retinopathy screening camps, about 50% have known diabetic problems. At our paediatric screening camps in the community, about 15% of children attending have eye defects. This is possible because we work with the local community to carefully design our publicity campaign for each event, framing the content in the handbills to attract the exact target audience rather than using our valuable resources to draw in the general public. Because our IEC materials are part of this publicity, we have to design them very carefully.

- R. Meenakshi Sundaram

Social Marketing for Community Outreach in Eye Care

Social marketing is an essential component of outreach in eye care because it introduces methods that change the mindset and health-seeking behaviour of community members. It gives them a sense of ownership of their eye problems and empowers them to access available eye care when they are in need, rather than waiting for eye care institutions to reach them. Faith and trust is developed in communities that they have the right to sight and the right to eye care.

Community-based social marketing means:

- A system for developing effective outreach programmes and eye care services that are accessible, affordable and acceptable to target populations

The emergence of community-based social marketing over the last several years can be traced to a growing understanding that programs which rely heavily or exclusively on media advertising can be effective in creating public awareness and understanding of issues but are limited in their ability to foster behaviour change.

- Doug McKenzie-Mohr, PhD, in *Fostering Sustainable Behaviour: An Introduction to Community-based Social Marketing*

- B. A process for understanding the barriers to both access to and uptake of outreach and eye care services
- C. A set of principles for designing an effective awareness and publicity campaign to generate patient demand for and promote uptake of eye care services

Steps for Conducting an Effective Social Marketing Campaign

Step 1 - Define priority eye conditions, programmes and goals

When dealing with limited resources, it is necessary to establish priorities in order to focus efforts on your service area's most serious problems (cataract, glaucoma, diabetic retinopathy, xerophthalmia, trachoma, onchocerciasis, refractive errors in workers or school children, etc.). Based on the prevalence of various eye ailments as well as your eye care institution's available resources, select the most pressing diseases/disorders that need active attention. Draw up a realistic list. (See Chapter 3 on outreach design for more information).

Step 2 - Identify priority populations

Having defined the priority objectives, the next step is to target priority population groups (rural, poor, children, women, elderly, etc.). This may stem from the nature of the disease (for example, vitamin A deficiency occurs in children; cataracts usually occur among the elderly), or from a population's inability to access care (rural populations have limited access to cataract surgery; women tend to have less access than men).

Step 3 - Determine barriers to eye care accessibility and uptake

Understanding barriers to accessibility and uptake is indispensable in designing community outreach programmes to meet local needs. Barriers can range from geographic to economic, from societal to institutional to personal. See the section below for more information on determining and addressing barriers.

Step 4 - Design and implement strategies for overcoming barriers in order to achieve goals

Possible strategies include:

- Engaging village volunteers to reveal potential demand for eye care services ("case finding")
- Soliciting the help of pseudophakics (past cataract patients who had an intraocular lens implanted and are "satisfied customers") to motivate their neighbours
- Educating patients through locally available and attractive media, screening eye camps and patient counselling at vision centres
- Arranging for free food and transportation to and from the base hospital in addition to offering free medical services and treatment
- Keeping track of and following up on patients who refused surgery or other treatment
- Ensuring that services and outcomes are of high quality

Step 5 - Ensure community involvement

Active community participation is a key to successful social marketing of eye care services. Involving locals, particularly influential people and groups, increases the credibility of outreach programmes and patient attendance. Using local sponsors (who give financial support) and volunteers (who give "in-kind" support) increases cost effectiveness and has an empowering effect on the local community,

It is well recognised that universal coverage in itself will not guarantee access to and uptake of care. Even when eye care services are available and affordable, utilisation and quality vary across population groups based on socioeconomic status, literacy and other culturally based factors.

- Dr.R.Pararajasegaram, Past President, International Agency for the Prevention of Blindness

increasing the impact and “reach” of outreach programmes. (For more information, see Chapter 3 on designing outreach programmes.)

Step 6 - Create publicity and build good public relations

Publicity and PR are vital aspects of successful outreach. Public relations strategies for generating patient demand include:

- Building a good reputation by providing consistently high quality service and outcomes
- Campaigning to inform and educate people about eye care facilities and services, with media coverage of the campaign
- Creating goodwill in the community by recognising the contributions of community members (sponsors as well as volunteers)
- Encouraging word-of-mouth advocacy by satisfied patients and sponsors who are pleased with their experiences with the eye care institution

See below for a section on publicity strategies.

Step 7 - Monitor visual outcomes and patient satisfaction

It is vital to continually monitor visual outcome and sight restoration rates, and to periodically review and evaluate the quality outcomes of clinical procedures. Ongoing monitoring of accessibility and distribution of eye care services will allow your institution to effectively and efficiently meet the demand for eye care. (See Chapter 8 for more information on programme monitoring and evaluation).

These steps will lead to outreach programmes that are accessible, affordable, acceptable and well attended by patients. When the above strategies are followed with a cost effective service delivery system and effective awareness creation, eye care institutions will have a major impact on reducing the prevalence of needless blindness.

UNDERSTANDING AND ADDRESSING BARRIERS TO OUTREACH AND EYE CARE SERVICE

Community-based social marketing is vital for successful outreach programmes because it focuses on community-based barriers and ways to overcome them.

Very few of the cataract blind in developing countries seek cataract surgery. (One estimate in India is that only 5-7% do so in a given year. The statistics might be similar in other countries.) In some places, this is not due to lack of resources or facilities or services. In fact, analysis of resource utilisation in India a few years ago showed:

National average surgeries per ophthalmologist per year	=	350
National average surgeries per hospital eye bed per year	=	13
Government of India suggested norms:		
Surgeries per ophthalmologist per year	=	150-1000
Surgeries per hospital eye bed per year	=	35-50
Aravind surgeries per ophthalmologist per year	=	2000
Aravind surgeries per hospital eye bed per year	=	97



We need to raise awareness about the low use of cataract services and adopt strategies which promote equality in eye service delivery, access and use. People who do not use eye services know why they do not seek treatment. It is therefore critical that providers ask and listen to the views of their community.

- Martine Donoghue

Failure to develop a good system for delivering eye care might have been a major reason for a huge backlog of blindness.

- R.D.Thulasiraj

One of the major challenges facing health care providers in general, and eye care providers in particular, is the inequity in the provision and utilisation of care.... The analysis of the reasons for poor uptake, and the enumeration of the measures necessary to be taken to enhance the utilisation of services, are of critical importance if increased coverage is to be equated with enhanced utilisation.

- Dr.R.Pararajasegaram

A community-based social marketing initiative that ignores external barriers is a recipe for failure.

- Doug McKenzie-Mohr, Ph.D.

The volume of 2000 cataract surgeries per surgeon at Aravind in addition to the routine clinical commitments is possible because of the systems and work culture developed in our outpatient department as well as our operating theatres. These systems, along with team accountability, help Aravind to scale up the volume of work of our surgeons – something that has not happened effectively in many places, which is reflected in low uptake of services and low utilisation of resources.

- Dr. G. Natchiar, Director Emeritus, Aravind Eye Care System

The reasons for this difference partly have to do with availability, accessibility and uptake of eye care services by the people who need them. In delivery of eye care services, it is necessary to know the clinical nature of eye diseases in the community. It is even more important to know the barriers to access and uptake. Often, barriers to access arise out of urban concentration of facilities, difficulties for patients to travel long distances for access of eye care, lack of information, socioeconomic constraints, and customary health behaviour. Barriers to uptake of accessible eye care are less understood, but include fear that surgery will damage or “spoil” eyes, inability to leave family/work responsibilities, a perception that postoperative expectations are too restrictive, treatment cost, a belief that they are too old or that they can manage without treatment, a lack of escort, and believing it to be a “fate”.

A research study to assess the magnitude of the barriers, done in 1986 on a sample of 19,260 households from a population of 5 million in Madurai and Ramnad districts of South India, showed the following:

Reason for not undertaking cataract surgery	Bilateral Blind (n = 466) %	Unilateral Blind (n = 786) %
No one to bring me to surgery	25.1	17.3
No need or desire for surgery	20.7	24.3
Unable to afford surgery	16.5	13.0
Afraid of surgery	16.5	13.2
No time to undergo surgery	13.7	17.9
Do not know where to go	5.2	5.0
Able to see adequately	3.4	12.0
Cataract not mature enough	1.7	1.0

In Nigeria, a study showed that the main barriers to uptake of cataract services were “the people’s ignorance of the condition and its management, and a lack of awareness of the location of cataract service providers. Imagined cost, fear of surgery and its visual outcome were found to be the other main reasons for the poor uptake of these services. Other reasons were long waiting time in the hospital, repeated industrial actions [strikes] by government workers, and blindness as being part of an aging process. Distance from cataract service providers was not mentioned as a cause.” [22]

A Brazilian research study to identify popular beliefs about the treatment of cataract showed that “misbeliefs” related to the causes and treatment of senile cataract were most probably of sociocultural basis, indicating the need for education on the subject. A proportion of the people surveyed asserted that sight restoration depended only on God’s will. A proportion of women believed in the association of cataract with menopause, maternity, and menstrual periods and they admitted using herbal and “rose teas” for treating cataract. [23]

It appears that a significant proportion of people who are cataract blind are not even aware that their blinding condition is caused by cataract, and that it is surgically curable. This indicates the need for effective health education. Among the remaining who are aware of cataract and its surgical intervention, a proportion are not willing to undergo surgery because of fear, family's attitude, or blind belief practices. Even among those who are willing to undergo surgery, only a small percentage are actually operated on, while the rest are unable to gain access for want of an escort, not knowing where to go, not having enough money, or incorrectly thinking they must wait for the cataract to mature.

In an effective social marketing campaign, making relevant information and services accessible to the right people hinges on a good understanding of the target patient population in terms of health behaviour, literacy levels, economic status, their barriers to access and their barriers to uptake. This understanding helps in the content and in the delivery of the message. What follows are important barriers to consider when designing outreach programmes and their marketing and promotion.

Barriers to Access - Distribution of Service Facilities and Logistics

Most of India's population live in rural areas, while the eye care facilities are predominantly concentrated in urban areas. It is usually the young who migrate to earn a living, leaving the elderly in the villages. It is not uncommon to see villages with a higher proportion of elderly than young, resulting in a higher prevalence of blindness in the rural areas. This same population shift is occurring in many developing nations. A higher concentration of blind people in the rural areas further compounds the problem of uneven distribution of services.

This presents logistical problems with economic implications. Poor road infrastructure and public transport facilities make travel difficult even for sighted persons. For the blind this presents a major problem. This is especially true in the mountainous areas of some countries where it takes several days of trekking to reach the nearest road.

Barriers to Access - Information

Some studies have shown that ignorance of eye care services and facilities is not a barrier for many people, although ignorance about the cause of their blurry vision is common. One study in South India showed that in the control population, awareness about cataract and surgical intervention was less than 8%. While awareness is increasing with the move to cable and satellite television, internet and national programmes to control blindness throughout the developing world, there is a significant portion of the population still unaware of the nature of cataract and its treatment. This needs to be addressed in a very effective way through mass communication and effective intervention strategies. Among those who are aware of the condition there are misconceptions such as they have to wait until the cataract is "ripe" or refrain from surgery in the summer or monsoon seasons. Some of them don't know where to go for cataract services or how much it will cost. These misconceptions and lack of required information lead to delay in accessing surgery or, often, not getting any intervention. This situation is serious in conditions such as glaucoma and diabetic retinopathy, which tend to sneak up on people unaware of the risk.

Some of the major barriers for blind people are actually within the first 100 metres of their front door.

- Dan Ward

As can be expected, financial barriers loom large in communities, and families are often forced to make financial choices based on survival – food, clothing, shelter – rather than health needs. However [there are also] many non-financial barriers [personal and sociocultural deterrents] that play a critical role in people accessing and utilising care. Studies ... need to be carried out in different geographical areas, given the culture-specific basis of sociocultural barriers.

- Dr.R.Pararajasegaram

In the formative years of Aravind Eye Care System, patients attending the screening camps were examined and those needing surgery were appropriately advised. Even though surgery was free, the patients had to come to Aravind at their own expense. The response rate was less than 15%. Concerned by the low turnout, a research team from Aravind conducted in-depth home interviews with a randomly selected group of 65 patients for whom surgery had been recommended but who had not responded for over six months. The study revealed the following reasons or constraints:

Still have vision, however diminished : 26%

Cannot afford food and transportation costs: 25%

Cannot leave family: 13%

Fear of surgery: 11%

No one to accompany: 10%

Family opposition: 5%

Other reasons: 10%

As a consequence, Aravind made a request and the camp sponsors readily agreed to bear the costs of food and transportation.... In order to reduce the fear of surgery, as well as to encourage a support group, patients are transported to Aravind as a group by bus.

- Professor V. Kasturi Rangan, Harvard Business School

Barriers to Access - Socioeconomic

Although many providers offer their eye care services free or at a nominal charge, the patient often incurs substantial expenses to access the free eye care. There is the patient's cost for travel to the hospital. Quite often the patient requires someone to accompany them because of their visual handicap and for the attendant, in addition to travel costs, wages is lost for the time away from work. In many situations, food is an additional expense. The patient has to pay for some of the medications, and perhaps the IOL or eyeglasses. The sum total of these costs is high for people in this socioeconomic sector, often inhibiting the number of patients who can come for cataract surgery or other treatment.

Barriers to Acceptance - Health Behaviour

Traditional practices, beliefs, fatalistic attitudes towards blindness, fear of treatment, lack of faith in the intervention and fear about the surgical procedures can influence the behaviour of patients. This leads to low acceptance rates. Health education, patient counselling and using operated patients as motivators can help overcome this problem. One of the studies in India showed that pseudophakics (post op cataract patients) had the greatest motivational impact, influencing over 33% of the cataract blind to accept surgery.

RECOMMENDATIONS FOR DEALING WITH BARRIERS

Eye care researchers around the world are looking into solutions to the range of barriers noted above. Below is a range of recommendations.

Negative Attitudes to Treatment

A barrier to the uptake of eye care services is a negative attitude about the treatment, often held by the community, or by potential users and their families. These attitudes include:

- Fear, especially of damage to the eyes
- Fear of death as a result of surgery
- Perceptions that treatment is not necessary
- Attitudes such as blindness is due to God's will

Recommendations include:

- Creating awareness amongst eye care providers, including donors and sponsors, about the impact of negative attitudes upon service utilisation.
- Seeking to involve and integrate community leaders, local organisations and traditional healers (where applicable) in the promotion of eye care.
- Ensuring that community health workers and personnel at the primary health care level are well informed and motivated to participate in the promotion of cataract surgery and other eye care services.
- Identifying and implementing appropriate counselling strategies, to ensure that patients are involved in decision making and fully informed of treatment procedures and outcomes.

Solutions to Poor Quality Visual Outcomes

Every operated patient is a testimony to the merits or pitfalls of a sight restoration programme. Traditionally, success has been measured in terms of output (number of surgeries) rather than outcome (quality of vision). From the patient's point of view, successful surgery is one without postoperative complications and resulting in good quality visual outcome. This can positively influence the decision to go for a second eye operation (if required). Such satisfied patients will almost certainly act as motivators within their families, as well as within their communities.

Recommendations include:

- Giving quality eye care services the highest priority; urgent attention is required to investigate and determine the extent and reasons for any poor outcome.
- Developing and maintaining systems for quality control purposes; these systems need to monitor and evaluate screening, surgical process, outcome and follow-up.
- Using trained personnel to conduct screening and pre-operative activities, in accordance with good clinical practice guidelines (for example, the identification of pre-existing ocular pathology that might affect outcomes must be recorded pre-operatively and explained to the patient).
- Encouraging ophthalmic practitioners (including medical and paramedical personnel) to take a positive attitude toward audit and record keeping.
- Strengthening the counselling of patients in the base hospital during their postoperative stay and at the time of discharge, stressing the importance of proper hygiene, postoperative medication and follow-up medication in order to reduce the risk of poor quality outcomes.

Solutions to Costs Relating to Utilisation and Uptake of Eye Services

Both direct and indirect costs influence the "cost perception" of eye care, as well as the decision to seek and take up services. Direct eye care costs include fee-for-service as well as costs for transportation, accommodation and food for both patients and their attendants. Indirect costs include lost wages (of the patient and the attendant), costs of covering work absence including domestic and family duties and the less tangible costs such as pain, disruption of daily routine and uncertainties.

We are able to attract thousands of patients both in outreach and walk in as they believe in our work culture and trust on quality of care. We measure the number of surgeries performed and the level of patients satisfaction. We give our attention to quality of visual outcome and the way of delivering the service. It leads our success.

- Dr.G.Natchiar

Direct treatment cost ...is a very important obstacle to overcome. However, it is only part of the cost borne by service users and their families. The concept of "time is money" is not only the preserve of the city professional. In fact, it has a sharper reality for people living in poverty. Seeking treatment involves leaving day-to-day responsibilities. In an existence of "work today, eat today," early treatment intervention is a luxury that may be unaffordable. Furthermore, costs are multiplied when other family members are involved, to fulfill either escort or carer roles.

- Martine Donoghue

Recommendations include:

- Reducing direct cost of providers through better utilisation of manpower and resources and refinement of policies and procedures.
- Giving providers greater flexibility in resource management, in particular with regards to the allocation and redistribution of resources and the introduction of more efficient cost management measures.
- Conducting appropriate IEC activities to correct misperceptions about the direct and indirect costs of eye services and becoming aware of community views about what constitutes affordable eye care.
- Lowering indirect costs by
 - Reducing the number of patient visits necessary for receiving services (initial screening or consultation, treatment/surgery and follow-up).
 - Shortening the length of hospital stay.
 - Locating selected services within an accessible distance of the catchment population.
 - Ensuring that such reductions do not result in deteriorated quality of service and delivery.

Unless actively addressed, there is scope for negative attitudes to old age to become a bigger barrier to treatment. Cataract is an age-related condition. Given demographic forecasts and life expectancy patterns, many of the people requiring surgical treatment will be women and widows. In many communities these are the people who are likely to be forgotten.

- Martine Donoghue

It would be a mistake to overlook the importance of social marketing but it is by no means a "magic bullet." The test of time plus some evidence has shown that the power of example is not enough. The interplay between social, economic and cultural factors is key to understanding service utilisation and to developing effective intervention strategies. Many of the reasons specified for poor service use are largely a consequence of poverty, gender inequality and lack of participation in decision-making. Tackling these causes is fundamentally challenging.

- Martine Donoghue

Solutions to the Community View of Elderly People

Demographic trends indicate that the world's population is ageing. This age group is significant because of its implications for prevention-of-blindness programmes. The prevalence of blindness and low vision due to cataract, glaucoma, diabetic retinopathy, macular degeneration and presbyopia is much more common in elderly people. But negative perceptions of old age held by elderly people and their family members, as well as by some professionals and agencies, adversely affect uptake of eye care services.

Recommendations include:

- Taking action to create awareness, develop policies and establish integrated programmes to ensure that the needs of elderly people are met (currently there is inadequate information to fully assess whether the eye care needs of elderly people, especially women, are being met).
- Promoting the benefits of cataract treatment and screening for other eye defects for elderly people.
- Providing integrated services, including eye care for elderly people. Commitment from all governments to develop these services is important and should be viewed as an essential component of national development.
- Giving greater recognition to the positive aspects of old age; elderly people are able to make a continuing contribution to society given their immense work and life experiences, the potential this age group represents is not being sufficiently appreciated or mobilised.

Solutions to Gender Issues

Cataract is a "women's issue" in that two out of three people blind from cataract are female. This gender inequity is due to social issues (under-utilisation of services because of their gender) and biological issues (women live longer than men and have a slightly higher incidence of cataract compared to men). Another example is glaucoma, the second leading cause of global blindness; it affects men and women equally, but men receive disproportionately more surgical and medical treatment. Gender inequity spans all age groups in the developing world. Girls, like adult women, have less access to medical and surgical services compared to boys.

Recommendations include:

- Adopting a gender-sensitive approach to eye care service delivery.
- Promoting gender-specific data gathering and analysis.
- Ensuring high quality visual outcomes with IOL (women are discouraged from wearing glasses in some societies).
- Designing culturally appropriate, gender-sensitive outreach programmes.
- Designing outreach publicity campaigns that recognise illiteracy in the target audience (because the women in some societies, especially in older populations, have had fewer opportunities to go to school, their literacy rates are lower than men).
- Utilising advocacy, education tools and peer motivators (women talking to other women) to promote use of eye care services, including surgery.^[24]



COMMUNITY-BASED SOCIAL MARKETING PRINCIPLES FOR AN EFFECTIVE AWARENESS AND PUBLICITY CAMPAIGN

Social science research has come up with a set of “tools” or techniques that are effective in fostering and maintaining behavioural change. The principles of each tool are listed below.

Commitment: Ask People to Move from Intention to Action (for example, have local community partners put their commitment to sponsor outreach events in writing)

- Emphasize written over verbal commitments in community outreach programmes.
- Ask for public and group commitments in community work and involve them.
- Use existing contact persons to give commitments and involve them in community work.
- Help people to view themselves as caring about their community’s eye health.
- Combine commitment with other behaviour change techniques in the community.

Prompts: Help People Remember to Act (for example, put banners up across busy intersections 2 or 3 days before a screening eye camp)

- Make the prompt noticeable.
- The prompt should be self-explanatory (through graphics and/or text, the prompt should explain simply what the person is to do).
- The prompt should be presented as close in time and space as possible to the targeted behaviour.
- Use prompts to encourage people to engage in positive behaviours rather than to avoid harmful actions.

Norms: Build Community Support for the New Behaviour (for example, have satisfied patients spread the word about an upcoming outreach event)

- The norm should be noticeable, so that the desired behaviour is normalised.
- The norm (“we are a community that takes care of its eye health”) should be made explicit at the time the targeted behaviour is to occur.
- Use norms to encourage people to engage in positive behaviour rather than to avoid harmful actions.

Incentives: Advance Motivation (offer free transportation to those needing cataract surgery)

- Create effective incentives.
- Closely pair the incentive and the desired behaviour.
- Use incentives to reward positive behaviour.
- Make the incentive visible.
- Consider non-monetary forms of incentives.

Convenience: Make It Easy to Act (take outreach to where it is needed most)

- Identify external barriers to action.
- Make the undesired behaviour less convenient and more expensive (“Save time and save money by attending tomorrow’s 10 a.m. screening eye camp at the school. Get your eyes screened for free now or wait and pay for a check-up in the city when your eyesight worsens”).

Communication: Use Effective Messages

- Explore the attitudes and behaviour of your intended audience prior to developing your message.
- Make sure that your message is vivid, personal and concrete.
- Have your message delivered by an individual or organisation who is credible with the audience you are trying to reach.
- Frame your message to indicate what the individual is losing by not acting, rather than what he/she is saving by acting.
- If you use a threatening message, make sure that you couple it with specific suggestions regarding what actions an individual can take.
- Make your communication, especially instructions for a desired behaviour, clear and specific.
- Make it easy for people to remember what to do, and how and when to do it.
- Integrate personal or community goals into the delivery of your programme.
- Model the activities you would like people to engage in.
- Use personal contact to deliver your message.
- Provide feedback at both the individual and community level about the impact of the new behaviour.

(These tools are adapted, with thanks, from the website Fostering Sustainable Behaviour. For more information about community-based social marketing, visit www.cbsm.com/pages/guide/preface).

OUTREACH PUBLICITY STRATEGIES

The principles of community-based social marketing for creating effective messages can be used to develop a successful publicity campaign for services and outreach programmes of an eye care institution.

Effective publicity is an important part of any marketing campaign. In this case, the “product” being marketed is quality eye care and publicity is a means of generating demand for these services. An eye care institution will accomplish most of its marketing through screening eye camps (although other outreach initiatives are becoming more common), and will attract most of its rural patients to these eye camps through camp publicity. These camps and their publicity form an integral part of the marketing strategy for the institution - increasing the number of people who access its services, leading to high productivity and cost effectiveness.

Messages that emphasise losses which occur as a result of inaction are consistently more persuasive than messages that emphasise savings as a result of taking action.

- Doug McKenzie-Mohr, PhD

Cultural differences are real. They are fundamental. At the end of the day, people are different.... You have to accept that people with different cultural backgrounds have different views.

- Harris Diamond

Because publicity diffuses health awareness in a community, it is nearly an end unto itself. Publicity serves several purposes.

A successful publicity campaign will largely depend on outreach organisers' understanding of local communication patterns as well as common access barriers. Organisers must rely heavily on the local knowledge of sponsors or field workers and their ability to reach the targeted population. For major outreach initiatives (large eye camps, new vision centres, extensive screening campaigns), it is advisable that a publicity subcommittee focus exclusively on devising this key aspect of the programme's success. For smaller events (such as a community-based screening eye camp, or a one-day workplace-based diabetic retinopathy screening), the publicity campaign can be entrusted to local sponsors (with guidance from the organiser).

See Appendix 4L for examples of publicity for a comprehensive screening eye camp, as developed by Aravind Eye Hospitals.

Successful messages have the following characteristics

- They are clear and simple, but include enough information and detail (what to do, and how and when to do it) to prompt action (attendance at an upcoming outreach event, or washing your child's face twice a day to help reduce eye disease).
- They are personal, vivid and memorable, recognising that many people learn and remember best through stories and concrete picture language (metaphors or analogies such as "Getting your sight back is like seeing your grandchild's smile for the first time") versus concept language (a technical explanation of cataract surgery).
- They are accurate and consistent, and come from a credible and trusted source (pseudophakic family members, friends and neighbours; traditional healers; respected civic groups; employers and other influential people in the community).
- They are need-based and relevant. Use surveys and needs assessments to determine what information people in your target audience lack and tailor the message to that specific need. For example, if a survey shows that the symptoms of diabetic retinopathy are unknown to most people, an appropriate message might be, "Diabetic retinopathy often develops without any symptoms, until vision deteriorates - sometimes irreversibly. Get your vision checked at this week's eye camp."
- They are adapted and geared to the target audience using every appropriate medium available, including local and traditional media. Remember to publicise to reach visually impaired, hard-of-hearing, illiterate, disabled, isolated and remote populations.

Successful Publicity Strategies

Communication channels for publicity can be summed up into four categories:

- Interpersonal (word of mouth, person to person, door to door)
- Media (radio, television, newspapers, magazine, websites, e-mails, text messages)
- Traditional (posters, handbills, pamphlets, banners)
- Special events (street theatres)

Although not every form of publicity will work in every culture or community, the following are samples of successful outreach publicity activities:

(See Chapters 4 and 5 for more publicity suggestions specific to eye camps and other forms of outreach)

In the rural areas of India, the most effective type of publicity is through audio media. Sponsors use techniques such as radio and microphones and loudspeakers on the street to announce an upcoming camp. These rural techniques attract the attention of visually disabled and illiterate patients, who might otherwise not attend. This crucial factor helps determine the turnout and the ultimate success of the camp.

- Dr.G.Natchiar

We have seen the success of "Entertainment-Education" in applying mass entertainment and popular culture to health promotion. Its usefulness to eye health has been demonstrated in trachoma control programmes in Ghana, Tanzania, Ethiopia, Nepal and Niger where National Trachoma Control Programmes combined the talents of the BBC World Service Trust and local health communicators and artists in an International Trachoma Initiative-funded strategy which combines radio, community media such as dramas, video and print materials.

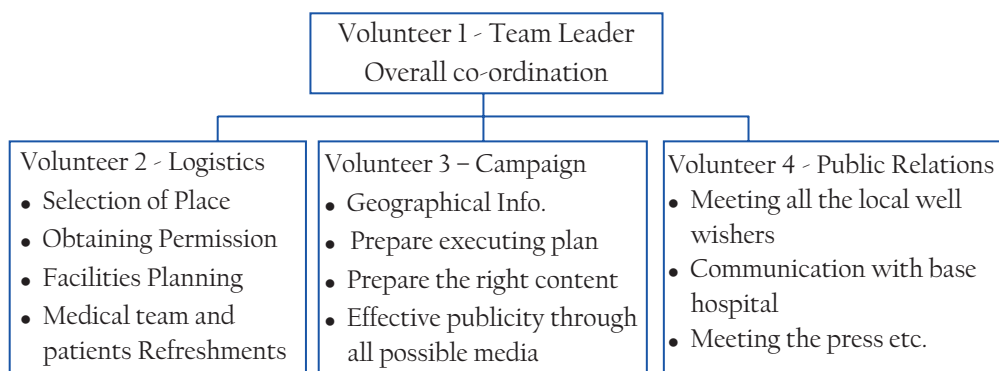
- Victoria Francis, Former Editor, Community Eye Health Journal

- Display information at celebrations, parades, and other community events. Distribute promotional / educational material.
- Quiz the public on their knowledge of eye health and eye care, especially during events planned for World Sight Day (the second Thursday of October) or World Diabetes Day (November 14). Offer prizes for correct answers.
- Publicise outreach activities at innovative fund raising events. Meet and educate the public.
- Get community volunteers, school students and youth groups to participate in outreach activities. They will then publicise the event through word of mouth, especially at home and amongst friends.

Invite all local dignitaries to attend an outreach activity.

- Distribute innovative marketing materials, in Calendars, refrigerator magnets or brims to shade the eyes from the sun (that include important messages and contact information).
- Ask local businesses to participate in and publicise outreach events. Request to contribute volunteers or supplies, or to direct employees and customers to outreach events.
- Install a “hot line” or toll-free telephone number that the public can call to get up-to-date information on outreach activities in their area.
- Be sure your outreach activities are listed on an easy-to-find website.
- Use folk art, drama, dance, street theatre and music (also called “popular education”) to get your message to the public.
- Hold a “town hall” meeting in the community and speak directly to the public. This provides an opportunity to receive valuable feedback on your approach to outreach.
- Use road signs or overhead banners, especially in busy places.
- Get people to sign and carry a pledge card (with event details on it), documenting their commitment to attend an outreach activity.
- Have a talented speaker from your eye care institution make audiovisual presentations to local service clubs, schools and other groups.
- Develop an official proclamation to designate a particular community as a Cataract-Free Zone, or to dedicate a certain day, week or month to eye care.
- Tie in outreach messages with existing special days or weeks (National Health Week, Children’s Day, Grandparents’ Day) to get media attention.
- Encourage local health care providers to display information about your facilities and upcoming outreach events.
- Have your message publicised at the back of public transport.

Guidelines to Sponsor to delegate responsibilities to volunteers





- Produce community-specific public service announcements (PSAs) that local radio and TV stations can broadcast. Use local celebrities, if possible.
- Invite the media to tour your facilities or attend an outreach event and then write about it.
- Encourage local cinemas to show theatre slides containing information about an upcoming outreach event, before the feature film and during intermission.
- Request local sporting events to announce your outreach event or display information about it.
- Ask local centres of worship to do the same.
- Invite companies to send all their employees to an outreach event. Send your talented speaker to their place of employment to explain the importance of eye health screening.
- Ask local utilities or large employers to include handbills with their invoices and pay cheques.
- Use a “mascot” (a costumed representative) to deliver the message about eye care and outreach activities to children. Never underestimate the influence that children’s learning can have in the home.
- Arrange for youth groups and other clubs to tour your facility.
- Organise workshops for teachers. Provide accurate information on eye care and outreach opportunities, and ask them to pass it on in their classroom.

The strategies above will not work in all places. Indeed, some of them might be ineffective or impossible in some places. Local cultural norms and behaviours must be considered when marketing and promotion campaigns are designed.

Research has shown that impersonal forms of marketing and promotion through the mass media are effective in building greater awareness about eye health and eye care. However, among all the possible (and sometimes fun) methods of publicity, it seems the more personal approach of using pseudophakic motivators - satisfied former patients - as village volunteers is the most successful at increasing the percentage of screened patients who accept surgery and therefore raise the surgical coverage rate (which is the ultimate objective of the publicity).

CONCLUSION

This chapter explained the vital role of social marketing and promotion in the success of eye care services and outreach events, the process of developing a social marketing campaign, the importance of understanding barriers to the uptake of eye care services, and a range of ways to publicise your outreach programmes.

The next chapter will discuss the financial considerations involved in effective and efficient outreach programmes.

7. Financial Considerations in Community Outreach Programmes

The goal of any high quality programme designed to reduce blindness is to make eye care services available, accessible and affordable to all, through a sustainable delivery system.

- Julio Yangüela Rodilla

As eye service programmes organise to achieve VISION 2020 targets, it is clear that they need to go out into communities to make services available to the patients, rather than wait for patients to come to them. This is usually done through outreach services.... For planning purposes it is important to have an idea of what services cost. For individual programmes it is useful to monitor costs and results regularly. We recommend that eye care institutions track and report their outreach programme cost per cataract patient brought for surgery and the strategies they use to improve these results. Further, we recommend that donor agencies become aware that the full cost of providing a cataract surgery is the community outreach plus the hospital cost.

- Susan Llewellyn, Edson Eliah, Suzanne Gilbert^[10]

Reaching the unreached with high quality eye care through outreach programmes costs money. Considering the financial implications of providing outreach is an important aspect of developing effective and efficient programmes. With careful financial management practices, outreach can be a major contributor to the financial sustainability of any eye care programme in a developing nation.

(Acknowledgement to Aravind's executive director R.D. Thulasiraj²⁵ for his assistance with this chapter).

What follows are financial strategies for determining the feasibility and ensuring the sustainability of outreach programmes.

DEFINITIONS

Case-Finding Cost: (or per unit cost) is how much money is spent to get one outpatient to a screening programme, or how much money is spent to find and admit one inpatient.

Cost Containment: simply defined, means less money going out. It is the process of controlling costs and keeping expenses to the minimum without sacrificing the quality of service or product.

Cost Recovery: means enough money is coming in to recoup all the costs associated with running an institution or a programme within it.

Cost Sharing: is an arrangement between two or more parties to share the costs of a project or programme, according to an agreed upon formula.

Cost Effectiveness means producing good results for the amount of money spent. It is an efficient or economical relationship between monetary inputs and the desired outcome.

Cost of Service Provision: is the total cost of eye care for one inpatient, covering all the expenses of providing the service, for example, from inpatient admission at the camp venue to the patient's return home after the cataract surgery.

Financial Sustainability: means that income generated covers or exceeds costs over the long term.

Self-Sufficiency: means generating at least 100% of the expenses through income (of all sorts). Generating more than 100% gives the eye care institution extra funds for growth and development.

Income Generation: is any attempt by an eye care institution to cover part or all of its costs through the earned income potential of its programmes, products and services, through what is called social enterprise.

FACTORS IN DETERMINING CASE-FINDING COST

As explained by researchers in eastern Africa [10], unless a patient walks in off the street, there will be costs associated with attracting patients to an eye care institution. Without tracking all the costs of "case finding," it is difficult to know how to budget for outreach and impossible to gain a complete picture of the institution's financial situation. Determining the case-finding cost also allows an outreach department to improve its efficiency and cost effectiveness.

1. Cost of human resources for planning and organising outreach

The eye care institution must spend money on staff who plan and organise outreach activities.

2. Cost of determining outreach sites and arranging venues

Initial expenses are incurred for the camp organiser to visit potential sites of screening eye camps, to identify community partners/sponsors, and to arrange and confirm the camp venue. Depending on the contributions of local partners/sponsors, sometimes a small amount of money must be spent to get the venue ready for eye screening.

3. Cost of publicity materials and transportation to mobilise patients

Making local people aware of outreach programmes costs money. The camp organiser has to work with community partners/sponsors to develop a system to cover nearby villages with publicity. (The coverage is a radius of 5 to 25 kilometres, depending on the size of the camp.) The cost of publicity materials and execution of publicity work prior to the camp must be budgeted. In some places, people in need of eye care cannot get to the camp on their own due to lack of access to transport. In these cases, specially arranged transportation to pick up these patients from pre-arranged junctions can be planned and the cost should be budgeted.

4. Medical team manpower cost

The eye care institution spends a large amount on the medical team that visits the camp venue on camp day. This is the total cost of the salaries of the doctor(s), paramedicals, camp organiser, patient counsellor(s) and drivers.

5. Medical team boarding and lodging expenses

The screening camp venue may be located a short distance from the eye care institution or it might require long travel and an overnight stay. The departure time of the medical team is determined by the distance and the number of travelling hours. If the travel is going to be longer than two hours, the team might leave a day before the camp and stay in a hotel or house, to rest and get ready for screening camp the next day. These boarding and lodging expenses should be planned well and included in the budget. If the team departs on the morning of the camp and can return back that evening, the team members' food expenses will have to be budgeted for. (This cost is often covered by the local partner/sponsor).

6. Cost of medical team's transport to the camp venue and back

The cost of transporting the medical team, in terms of fuel and vehicle expenses (rent/lease or maintenance) for both trips, must be factored into the budget.

7. Cost of clinical supplies for screening and diagnosis

The doctor(s) and paramedicals use clinical supplies for screening and diagnosis of





eye problems in outpatients at the outreach camp. The cost of the supplies will not be much but must be included in the budget.

8. Cost of support services and facilities required in the screening camp venue, such as water and power supply.

The camp organiser has to work with community partners/sponsors to arrange all the required support for the medical team. There should be furniture, drinking water, toilet facilities, and a generator in case of poor power supply in order to ensure smooth and comfortable screening camps in rural areas. The organiser, with the help of the community partner, will have to make a special effort – at extra cost – to get these services and facilities in place on time if they are not available in the community.

9. Expenses of volunteers who assist with the publicity campaign and camp day management activities:

There may not be much cost involved with volunteers, but they may be provided food and lodging facilities only if the camp is organised in distant places.

10. Cost of food for community partners, volunteers and patients who are admitted for cataract surgery

Community partners/sponsors are encouraged to extend their warm hospitality to colleagues and volunteers, as well as to the medical team, by taking care of their food and refreshments for the day. Also, patients awaiting admission procedures and the trip to the base hospital for surgery sometimes have a long wait. Even, after getting consent for going for surgery, sending them out of the camp venue for food, risks an increase in the number of patients who do not come back for admission, transportation and then surgery. Inpatients should be given food packets during their waiting time.

Calculating the Cost Per Unit of Outreach

To calculate the cost per unit of outreach, consider the expenses of

- Pre-outreach (promotion and publicity) activities incurred on the day of the outreach activity
- Community follow-up

Including the costs of

- Salaries of personnel involved (pro-rated for percentage of time spent on the activity)
- Special allowances (for example, special pay or accommodation for staff, if necessary)
- Fuel costs

- Advertising costs and stationery
- Consumables, including medicines given for free
- Food provided for staff and referred patients

It is estimated that outreach programmes in eastern Africa will cost US\$35-45 per cataract patient transported. These costs are higher than those expected in Asian regions. Greater distances and sparse population density in eastern Africa result in higher costs for getting services to people or people to services.

- Adapted from Susan Llewellyn, Edson Eliah, Suzanne Gilbert^[10]

COST CONTAINMENT STRATEGIES

Higher expenses per cataract surgery or other treatment do not necessarily translate into higher quality outcomes. Eye care institutions are advised to focus on providing high quality services to a large volume of patients while seeking ways to minimise costs. Cost containment is one of the strategies that can enhance the effectiveness, efficiency, and financial sustainability of eye care delivery. Cost containment is a continuous institution-wide process that involves a complex interaction of economic, technical, human and organisational factors. It calls for committed leadership and knowledgeable administrators.

Factors Affecting Cost Containment in an Eye Care Service Delivery System with Impacts on Outreach^[25]

Leadership and Attitude

- Concerns about cost
- Instituting a workplace culture of cost consciousness
- Being available for timely decisions (delayed or inappropriate decisions can be costly)

Increasing the uptake of eye care services

- Forecasting and planning for expected workload
- Utilising community resources

Human Resources

- Workload variations versus manpower planning
- Job descriptions
- Recruitment and selection
- Employee retention

Supplies, Instruments & Equipment

- Group or bulk purchasing for economies of scale
- Inventory management
- Models easy to repair and service
- Appropriate technology
- Preventive maintenance

Systems and Procedures

- Standardisation
- Periodic review to eliminate unnecessary systems

Voluntary eye hospitals committed to serving the community must understand the reality of increasing costs due to inflation, advancements in medical technology, and changing expectations of staff and patients. However, these costs are often not matched by the patients' paying capacity. While increasing income, through increased user fees or donations, are financial options which will be considered, cost containment must also be a focus.

- R.D.Thulasiraj and
A.K.Sivakumar
Aravind Eye Care System

The administrator needs to work closely with clinical staff to reduce the length of stay; eliminate unnecessary investigations, drugs and therapies; and bring about economies in the use of supplies, facilities and human resources. He or she has to devote enough time and attention to reviewing and improving systems and procedures – such as planning for services and facilities, and scheduling of staff and patients for optimum utilisation of resources – to enable cost containment.

- R.D.Thulasiraj and
A.K.Sivakumar

Strategies for Cost Containment

Daily Planning

In addition to long range or annual planning it is essential to plan for the next day and ensure that necessary resources and supplies are organised and that the needed staff are reminded. The patient load, availability of staff and required

supplies can be determined with a high level of reliability the previous day. Emergency procurements and delays in service delivery increases the cost.

Clinical Process

A patient protocol based on an integrated path for diagnosis, investigations, admission, surgery and follow-up substantially reduces delays and associated costs.

Personnel Costs

An eye care institution is a labour intensive organisation. Staff salaries constitute a major percentage of the total operating expenditure. It is important that salary packages be designed with this in view. Incentives linked to number of surgeries adversely affect the cost reductions that come from increased productivity.

Unexpected Salary Increases - A Case in Point

Government policy sometimes impacts an eye hospital's financial sustainability. In July 2007, the government of Nepal increased the basic salary of government staff by 27%. Seva's partner hospitals in Nepal follow the same basic pay scale, so the government's decision resulted in increased salary commitments. This had an adverse impact on the sustainability of these partner hospitals, particularly one that did not have adequate cushion money.

Work Culture

Developing a positive work culture reduces bureaucracy while promoting teamwork and a commitment to patient care. All of these have a direct impact on costs.

Local Production of Consumables

Many housekeeping and clinical supplies such as bandages, cotton pads, and swabs, can be produced locally (if less expensive than buying them). This also allows involvement of the paramedical staff when there are no patients to care for.

Managing Seasonal Variations

Productivity is governed by the patient load, which tends to have seasonal and also daily fluctuations. It is necessary to find cost-effective ways of accommodating the demand, and outreach has an important role to play here. If the patient load tends to be light on Mondays, then Sunday is a good day to hold screening camps. When this kind of scheduling is not possible, activities like staff training, major maintenance projects, or vacation time for staff can be scheduled accordingly.

Appropriate Use of Human Resources

Since salaries are a major element of fixed costs, these require special attention. The ophthalmologist's time is both expensive and in limited supply. Delegating routine, repetitive and measurement-related clinical tasks to well-trained ophthalmic assistants (paramedicals) can significantly increase the productivity of the ophthalmologists.

Community Participation in Outreach

One resource that is not used enough in outreach is the community. In many programmes, employees of the eye care institution do the publicity, arrange a camp site, track down necessary furniture, etc. All these activities can be better carried out by the community, often at no cost to the hospital. When the community

comes in as an equal partner, the camp attendance also goes up (often due to a thorough publicity campaign). The higher the attendance, the lower the cost per patient. If community-based sponsors cannot cover the full costs, a camp organiser can help them partner with another sponsor. (See Chapter 2 for a full discussion of the role of sponsors in community outreach).

Other Strategies for Cost Containment

These include

- Developing in-house competence for instruments / equipment maintenance
- Instituting appropriate recycling systems for waste products
- Regularly reviewing cost data and administrative systems, such as
 - daily / monthly review of revenues and expenditures
 - control over expenses through formal procedures for approval
 - independent audit of all internal records

Careful tracking of revenues and expenditures will ensure that financial resources go where they are needed

PRINCIPLES OF COST RECOVERY

Cost recovery principles can effectively support high quality, large volume, financially sustainable cataract surgery programmes, which constitute a major part of most eye care services in developing nations. Outreach plays a major role in successful cost recovery in eye care programmes.

Why Cost Recovery is Possible in Cataract Surgery

- Cataract accounts for 50 to 80 percent of blindness and is the primary income-generating procedure performed by ophthalmologists worldwide.
 - Cataract, unlike most surgical procedures, is the same procedure performed repetitively with little variation. Per surgery unit costs will vary little, allowing for very accurate cost projections and financial control, based on anticipated patient demand.
 - Because cataract surgery is the same procedure performed over and over, facility set-up, training, and operating procedures can be standardised for a variety of different settings and circumstances.
 - Unlike a preventive public health programme, cataract surgery is procedure-oriented and curative. Although people are unlikely to pay for preventive services, they are generally willing to pay for a cure.
 - Because of the large number of people requiring cataract surgery in developing countries, it is one of the few health care procedures that has the potential to pay for itself through user fees.
- David Green, Financial Sustainability Module, Quality Cataract Surgery Series

High Quality plus Large Volume equals Low Cost

To achieve high quality, large volume eye care that is affordable to all, a programme must lower the per unit cost of cataract surgery to allow pricing that the majority of a local population can afford. Outreach events such as screening eye camps contribute to bringing in a larger volume of patients. To adopt this first principle of cost recovery:

- Increase the volume of patients each doctor treats, as well as the quality of their services - the more patients a doctor sees, the more rapid and skilled he or she will become.

- Employ a high ratio of paramedical staff to medical staff (approximately five ophthalmic assistants to one ophthalmologist) to reduce personnel costs, and to allow doctors to work exclusively in their area of expertise.
- Lower the cost of medical consumables by creating economies of scale, reducing wastage, and maximising staff resources through more efficient medical procedures (at screening camps and at the base hospital).

Remember the 80% Rule

In many cases, 80% of blindness is due to cataracts; 80% of total eye care programme costs are for cataract surgery; and 80% of outreach revenues come from cataract surgery fees. (Where these statistics have changed, funding formulas might have to be changed).

Collaboration, Empowerment and Ownership

Many non-governmental organisations depend on donations and charity to sustain their field programmes. This kind of support is very helpful at the beginning of a new initiative, but often saps any true incentive for developing self-sustainability. Collaboration, empowerment and ownership are key factors in enabling change. The key questions are:

- What are the organisation's existing incentives for excellence?
- How can new motivating forces be built into the operating structure?
- What motivates staff to deliver high quality and large volume services?
- Are staff involved in designing the organisation's action plans?
- Are staff personally committed to making community outreach self-sustaining?

Understanding People's Capacity and Willingness to Pay

Research and experience have uncovered general rules about what people are able and willing to pay for eye care.

- People can usually afford to pay one month of their family income for high quality cataract surgery with IOL.
- People are more willing to pay for treatment than prevention.
- It is possible for an eye care institution to reduce the cost of cataract surgery to a level commensurate with the average monthly family income of the lowest earning 60% of the population.

Steps in Determining Volume and Price

1. Assess the average monthly family income of the lowest earning 60% of the population you are serving for a fee.
2. Analyse your fixed, variable and depreciation costs.
3. Determine your staffing pattern and production potential (number of patients/ per doctor / per year when programme is operating at maximum efficiency).
4. Calculate how much you must increase your volume in order to sufficiently lower the per unit costs, such that the average cost of surgery equals the average monthly income.

Multi-Tiered or Sliding Scale Pricing

By targeting patients' capacity to pay for eye care, it is possible to cover not only the costs of eye care, but also to subsidise community outreach in poor areas. Determine what percentage of patients can pay above cost, around cost, below cost, and not at all, in order to set the fees you will charge each group, so that the programme is completely (or almost completely) self-sustaining financially.

When a program begins to earn its own income, staff attitudes change as the program generates its own resources: staff become more empowered and motivated when there is ownership.

- David Green, *Economic Benefits of Ophthalmologic Care: Rules of Thumb in Cost Recovery*, International Council of Ophthalmology

The simple act of charging a fee for service introduces accountability into the patient-provider equation – providers strive to satisfy the customer to gain loyalty and reputation in the market place. Consumer behavior and expectation regarding quality and satisfaction transforms service delivery. Through their choice of eye care provider, consumers become program planners as they force providers to provide quality and affordability.

- David Green

Wise Location Selection

It is important that the base hospital be located in an area where there is enough of a paying clientele to generate sufficient revenues to cover operating costs and to finance community outreach. In addition, the location and base hospital facilities must be capable of attracting and retaining competent professionals. The selection of a base hospital location rests on a combination of social marketing, demographic and epidemiological research findings.

Compassionate Capitalism

Compassionate capitalism rests on the principle of generating sufficient profit to deliver services to underserved or poor people. It is not based on maximising profit at all costs, at the expense of excluding people with low purchasing power (for instance, those who cannot pay above cost). Staff are not motivated solely by the prospect of personal profit, but also by the reward that comes from establishing and being part of a self-sustaining eye care institution that offers high quality services to a high volume of patients, and reaches out to the poorest members of society.

Compassionate capitalism means:

- Charging the lowest possible amount of money needed to become self-sufficient while continuing to develop, and maximising the delivered quantity of affordable eye care services (as opposed to charging “what the market will bear”).
- Choosing to use profit margins / surplus revenue and excess production capacity to deliver services to poor people at a low fee or for free.
- Managing finances properly through cost containment in order to generate excess revenues and then utilise that money to subsidise low paying or volunteer work.
- Focusing on building the organisation rather than increasing personal income or return on investment for shareholders.
- Pricing the services and products so that they are affordable to the targeted “markets,” by developing social marketing-based community outreach.
- Paying staff good salaries to attract, retain, and motivate high quality, hardworking and efficient people.

A Different Approach to Ophthalmology

With today’s shift from individual-focused to community-based ophthalmology practice, charity pays. Despite the predominant perception to the contrary, revenues increase when an organisation achieves high volume service delivery in vast, low income markets. Market perceptions change and reputation generates demand. To function, however, ophthalmologists must accept working for a fixed salary, rather than a fee-for-service.

Programme Planning for a Standardised, Replicable Approach

Eye care programmes lend themselves to standardised procedures, much in the same way the franchising model functions. Standardised procedures and outcomes are possible in the following areas:

- Management structure
- Financial controls
- Supplies and equipment
- Purchasing and inventory control
- Medical records
- Examination procedures

The first priority is to establish a permanent primary eye care service wherever possible, and then specialised outreach can be conducted to support this service. Outreach should be carefully planned so as not to jeopardise the normal services of the tertiary centre. It does not make a lot of sense to travel for three days to perform 10 operations when one could be doing over 30 per day at one’s normal place of work.

- Dan Ward

In the face of this new reality, an increasing number of forward-looking nonprofits are beginning to appreciate the increased revenue, focus and effectiveness that can come from adopting “for profit” business approaches. Increasingly, they are reinventing themselves as social entrepreneurs, combining the passion of a social mission with an image of business-like discipline, innovation, and determination.

- J. Gregory Dees, in
The Meaning of Social Entrepreneurship

- Preoperative procedures
- Operating theatre procedures
- Surgical techniques
- Sterilisation procedures
- Postoperative care procedures
- Maintenance and repair of equipment
- Social marketing
- Training
- Outreach department and community outreach activities

The purpose is to ensure control from acquisition to disposal of materials. Purchase policy, simple inventory techniques like safety stock and re-order level, standardisation of supplies and equipment, and consumption reports correlating to the level of activity (for example, number of lenses issued and number of IOL implants in a month) help control the cost.

- R.D.Thulasiraj &
A.K.Sivakumar

Emphasis is placed on satisfying “clients” and being accountable to them. This is in marked contrast to service delivery settings which are ostensibly “free” where there is no monetary exchange between the client and the provider – if the patient doesn’t have to pay for services, very often the provider doesn’t feel accountable for the result.

- David Green

Appropriate and Appropriately Priced Technology

“High tech” at low cost is possible for the following reasons:

- Surgical technique and instrumentation can be developed or adapted and refined to be appropriate and appropriately priced for developing markets.
- With careful planning and innovation, ophthalmologists in low income countries can achieve quality postoperative results that rival their counterparts’ results in wealthier, more industrialised countries, at only a fraction of the cost. Using expensive phacoemulsification is not necessary when small-incision cataract surgery is just successful in producing high quality visual outcomes.
- Low cost equipment and consumables (especially IOLs), a large-volume team approach to eye care, a fixed salary structure, and multi-tiered pricing contribute to successful eye care delivery.

Accountability

As in any business, when the client is satisfied, business tends to thrive. Accountability to patients, and patient satisfaction, whether patients are “free” or “paying,” is important. Requiring patients to pay fee-for-service increases their involvement in their health care. In essence, eye care providers who are accountable to their patients become more competitive.

Responsiveness to “Customer” Expectations

Adapting to changing patient expectations is an opportunity to become the market benchmark for high quality, reasonably priced eye care. Patient expectations have two dimensions: quality of clinical outcomes, and quality of non-clinical care (for example, courtesy and respect, communications, cleanliness, a well organised facility).

Using Per Unit Costs as a Tool for Evaluating Efficiency, Productivity and Quality

As a rule, high costs per unit reflect a low volume of patients, lack of demand for services, and possibly low quality of eye care outcomes.

Per unit cost = Total costs (fixed, variable and depreciation) / Quantity (of treated patients)

To bring down per unit costs:

- Ensure high quality visual outcomes (use IOLs for cataract patients) to attract a higher demand for services.
- Manage and organise staff and material resources in ways that save time and money. Cost containment plays a role in cost recovery.

- Maximise staff productivity by staffing doctors with a high ratio of paramedicals, to free up all personnel to work exclusively in their area of specialisation.

As the number of surgeries increases, the fixed costs are spread over more surgeries, so the cost per surgery decreases. (See the Economics 101 section, as well as the cost recovery exercise in Appendix 7, for more information).

INCOME GENERATION AND FINANCIAL SUSTAINABILITY

Like any non-profit undertaking, community outreach in eye care can be financed in a variety of ways and from several sources:

- Fund raising (charitable donations, grants)
- “Membership” services (insurance schemes)
- Public contracting (partnerships with the government)
- Corporate philanthropy (sponsorship, partnerships with businesses)
- Income generation (social enterprise, fee-based services)

The most sustainable programmes are generally those that least rely on donations and charity, and most rely on their own cost recovery and income generating strategies. Because eye care lends itself well to a “franchise” (replicable) model, it can be turned into a high quality, high volume enterprise. By charging minimal fees to patients who can afford low-cost eye care, it is possible to generate enough income to cover the vast majority of community outreach expenses and to treat an equally large volume of patients for free (sometimes referred to as the Aravind model).

The Role of Fund raising in Income Generation

Charitable funds play an important role in covering the start-up costs of eye care institutions in developing countries. The independence and capacity-building that comes with income generation maximises charitable donations and philanthropic investments, and impresses donors, which can lead to further donations and philanthropic investments in the future.

Membership Services

Some eye care institutions have implemented an eye care insurance scheme, whereby “members” of the insurance plan pay a monthly fee and receive free or reduced-fee eye care when needed. Aravind’s vision centres and community eye centres charge a registration fee that covers the first three visits or three months, whichever comes first. This fee entitles patients to preferential treatment should they be referred to the base hospital.

Public Contracting

Another form of income generation is contracting to perform cataract surgeries for understaffed government hospitals. Accepting these contracts during the eye care institution’s slow season also serves as a way to smooth out workload variations. In some countries, the government subsidises free cataract surgeries at private or charitable eye care institutions because it relieves their burden.

Corporate Philanthropy

Sponsorship in outreach is a form of cost containment that contributes to income generation. In some regions of the world, sponsorship is a recognised and expected sociocultural part of doing business, increasingly viewed as part of a business’s CSR, or corporate social responsibility. In other parts of the world, the eye care

Cost is one of the major factors in organising outreach programmes, like any other service activity. Every step of outreach activity is connected with cost. Although it is offered to the poor either at no cost or at a subsidised price, a service cannot be provided totally free of cost anywhere in the world. The cost of the service is borne by someone else to help the poor.

- R. Meenakshi Sundaram

Organizational structure and program character and direction are often determined by the source of funding – how eye care is funded affects service delivery more than any other aspect. Those who control the expenditure of resources, control program planning and direction. With external funding, program direction often remains in the hands of the donors and not the project; and spending often occurs with little thought to the desired result. This is in contrast to earned income, which is difficult to obtain, and often more wisely spent.

- David Green

The “Sustainability Model” is a good example for helping donors and governments to see how they can use their precious resources for start-up costs (which are least attainable in a developing country) instead of for operating costs (which are attainable in most areas of the developing world).

- David Green

institution or outreach department might have to show potential sponsors all the possible benefits of their involvement and support (including their own self-promotion and publicity), since this is a two-way partnership.

Sponsors can be local individuals, organisations, businesses, governments, institutions or agencies that are willing and able to finance and/or actively participate in organising community outreach initiatives. Sponsors are usually rooted in the local community: service clubs such as Rotary and Lions, prominent employers, influential people, educational institutions, local groups and associations, and more. (See Chapter 2 on human resources and Chapter 4 on eye camps for more information on sponsors.) Inviting sponsors to work with the eye care institution at the local level is an effective way of reaching the poorest in need of eye care - attracting large numbers of rural patients - while keeping outreach costs as low as possible.

Outreach programmes can generate actual income for the eye care institution when publicity for outreach events attracts some paying patients to the hospital, clinic or practice directly. Screening eye camps always create a “buzz” in their community that leads to some paying patients. (“Camps” should not be conducted at or too near to the base hospital, as potential paying patients will tend to wait for the day of a free camp).

Social Entrepreneurship

Another income generation strategy is “vertical integration” or the opening and offering of related services and facilities to patients and visitors:

- Optical shop
- Pharmacy
- Clinical laboratory
- Canteen or cafeteria

While several other ways to attract revenues can be implemented, a multi-tiered fee-for-service approach remains the most common form of income generation for eye care institutions in developing nations. See the Basic Economics section below and the cost recovery exercise in Appendix 7 for more information on how to calculate the cost of and set the fees for cataract surgery, the most common – and most important – form of eye care for eliminating needless blindness.

BASIC ECONOMICS - DETERMINING THE COST OF EYE CARE

Cost containment, cost recovery, and income generation rely on a clear understanding of the cost per unit (in this case, the cost per cataract surgery, which is the basis of most eye care institutions in developing countries).

Capital Cost is the cost of land, building, major equipment, etc.

Fixed Costs are costs that have to be incurred regardless of the number of patients or level of activity, for example, salaries, interest, depreciation, overhead (electricity, water), annual maintenance contracts, etc.

Variable Costs are costs that vary directly with the level of activity, for example, cost of sutures, IOLs, medicines, food for inpatients, transport from screening camp and back, etc.

Unit Cost = fixed cost + variable cost per unit of service.

Note: Several cost items tend to have, within them, elements of fixed and variable costs, for example, electricity and housekeeping.

Unit cost is derived by dividing fixed costs (apportioned to the activity) by the number of units plus the cost of consumables per unit.

Cost recovery is calculated as a ratio of income divided by expenditure and is expressed as a percentage.

The per unit cost of cataract surgery can be used as a tool for measuring efficiency and for setting goals. Cost recovery and its measurement tool – per unit cost – then become an example for a comprehensive planning process for developing cost effective, high-quality eye care that is accessible and affordable to the poor.

FACTORS INFLUENCING THE COST OF OUTREACH

Several factors, discussed below, influence and impact the cost of outreach, by affecting the number of people who benefit. The outcome of a camp (or other outreach event) in terms of number of beneficiaries directly influences the cost. Systematic planning and proper execution of pre-camp activities can help to achieve the expected attendance.

Systematic Planning

Selection of the village, date and venue; calculation of geographic information such as area of coverage and population; estimation of outpatients for screening; and previous experience in that district are the major factors that must be researched and planned systematically. Any one of these factors can influence the outcome of the camp and the cost of the camp directly.

Effective Publicity Campaign

A publicity campaign must be planned scientifically and executed effectively in order to reach the targeted population for each outreach event. Based on the geographic information collected in the systematic planning stage, a publicity plan should be made with details of date and approximate duration of publicity in nearby villages. This plan should include a route map and schedule for distribution of publicity materials. It is important to have audio announcements (since the target audience is often one that is visually impaired) with very simple, clear and audible content. Audio announcing should be done in places where people gather (in other words, the announcer should stop where there is a crowd, deliver the message, and then move on). Monitoring the execution of the publicity plan is important for ensuring that the targeted number of outpatients attends the outreach event.

Cost Effective Methods of Mobilisation

Cost effective strategies for mobilising the maximum number of needy patients to attend outreach events include the following channels of communication:

- Posting details of the camp in health centres.
- Putting up display boards in markets in nearby villages.
- Directly contacting religious and spiritual leaders to request that they pass on the message during prayers and religious services.
- Training a group of volunteers to go to villages to identify needy people and guide them to attend.
- Involving local key people.

In our planning we strive to increase the volume of cataract surgery to decrease the unit cost to make cataract surgery affordable to the population. It is a planning process by numbers: we first begin with an understanding of the varying paying capacity of the population, and then we examine the production side to see how to increase productivity and market demand while lowering costs in order to arrive at a projected unit cost equal to the average monthly income of the bottom 60% of the population.

- David Green

Productivity in Eye Camps

The three factors listed above influence the productivity of an outreach camp or other event – and productivity (number of patients seen) is the only key factor that influences cost. For every eye camp or other outreach event, invaluable resources are used in order to screen a projected number of patients and admit a projected number for surgery. If the camp is not productive, the per-unit cost of “case finding” goes up significantly. See the sample calculation below, which shows why the productivity of an outreach event has to be the focus from the planning stage right through to the utilisation of resources.

Projected number of outpatients in a camp 400 Ops		
Projected number of cataract admissions (inpatients) 100 IPs	INR	USD
Amount spent on pre-camp preparation by the organiser	840	13
Amount spent on publicity campaign	14800	228
Amount spent on medical team manpower	3800	58
Amount spent on medical team transport	2200	34
Amount spent on medical team food	3000	46
Amount spent on volunteers and other services	2600	40
Total amount spent on organising the camp	27240	419
If the actual number of outpatients is 400 and admissions are 100, as planned for		
the unit cost per outpatient will be	68	1
the unit cost per admission will be	272	4
If the actual number of outpatients is 500 and admissions are 120, more than planned		
the unit cost per outpatient will be	54	1
the unit cost per admission will be	227	3
If the actual number of outpatients is 200 and admissions are 40, far less than planned		
the unit cost per outpatient will be	136	2
the unit cost per admission will be	681	10



Cost Management in Outreach

Eye care institutions generally do not set budgets for individual eye camps. At best, they might create an annual budget for outreach services in order to allocate resources to case finding. In many eye hospitals, the budget is set according to the number of expected beneficiaries of eye care and not for the cost of managing outreach programmes.

Budgeting gives an idea of the cost of conducting eye camps of different sizes - expenditures differ a great deal from a small camp to a major camp. Conducting a camp successfully can mean incurring a sizeable expense, yet trying to reduce these expenses too much can result in poor turnout of patients. Budgeting and cost control are very important for operating outreach programmes in a sustainable manner.

The costs related to community-based activities such as camp site preparation, publicity campaign, medical team refreshments, and volunteer expenses can be managed with an effective partnership with community service organisations or local well-wishers. As the organiser, the eye care institution must be able to guide the sponsor in financial aspects. Especially in rural areas, it can be difficult to find a willing sponsor. In such cases, the organiser must approach local community service organisations and local shops or business people to get the needed financial support.

This kind of association with local business people will help them promote their businesses while supporting a service activity - in effect, a combination of commercial marketing and service marketing in the community.

Revenues from selling medicines and spectacles in the camp venue can provide a good source of funds to help the eye care institution effectively plan and manage resource utilisation associated with outreach activities. The availability of medicines and eyeglasses at lower prices should be communicated during the publicity campaign so that patients can come prepared to buy.

The costs of providing care to inpatients (intraocular lens, supplies and medicines, transport and food) can be managed with financial assistance from funding agencies, donors, community contributions and a portion of the surplus in hospital revenues. Self-sustaining eye care services and outreach programmes can be achieved through a good balance of paying patients, subsidised patients, and those who receive eye care free.

CONCLUSION

This chapter has presented cost considerations in outreach, as well as ways that outreach can contribute to cost containment, cost recovery and income generation in an eye care institution.

The next chapter will explain the importance of monitoring and evaluating outreach programmes

One of the outreach organiser's jobs is to motivate community partners, helping them see that the expenses incurred are nothing compared to what it means to the patients. Getting back sight is like getting a new life, and the value of this is much more than the money spent for it. We should therefore regard the costs not as expenses, but as an investment in a better life for the patients.

- Dr.G.Natchiar

Department of Outreach

Camp Accounts Register

Place of camp

Camp Organizer

Camp Date/Day

Camp Admissions

1. Pre-camp visit expenditure

Visit 1	
Visit 2	
Visit 3	
Visit 4	
Visit 5	
Total	

2. Camp Organizing Cost

	Hospital	Sponsor	Total
Publicity Campaign			
Amenity for the team			
Cost of H.R. (Team Manpower)			
Team's transport cost			
Others			
Total cost incurred for conducting the camp			

3. Transport Account

Date of Travel	# patients	From	To	Amount	Approved by
Total					

4. Food Account

Bill No.	# patients	Dates: From	To	Amount	Approved by
Total					

5. Miscellaneous Expenditure

Details of Expenditure	Amount	Approved by
Total		

(1-5) Total Expenses (Pre-camp visits, Camp day, Transport, Food and Misc.expenses)

Revenue: Sponsors' Contribution	Receipt particulars	Amount
Expenses supported by 1.		
Expenses supported by 2.		
Expenses supported by 3.		

Hospital's contribution (Total Expenses - revenue thro sponsors/patients) =

Note: This summary sheet should be maintained for each camp by outreach department. The outreach manager may be empowered to approve all the expenditure and vouchers with the help of this register. This summary report should be completed after all the patients discharged from the hospital. A cost summary statement can be developed based on this individual camp wise report for any given period.

8. Monitoring and Evaluation for Success in Outreach

OVERVIEW

Monitoring and evaluating are important aspects of any eye care institution striving to continuously improve the quality of service rendered. (Acknowledgments to Ganesh Babu, Aravind [26] for his help with this chapter).

Monitoring is a strategic way to ensure efficient achievement of intended outcomes in an outreach project or initiative. It highlights areas of concern throughout the project when corrections are still possible. Evaluation, which takes place at the end is the process of judging the value of a project or initiative, sometimes resulting in reformulation of goals, a change in priorities, new strategies or reallocation of funds.

A vital part of eye care outreach in developing nations is promoting and increasing the acceptance of cataract and other speciality surgeries, treatments and spectacles. Some programmes only count the number of patients screened in eye camps, not the number of screened patients who actually end up getting surgery or the recommended treatment. One very compelling benefit of undertaking monitoring and evaluation is the role they play in helping outreach programmes to avoid drop out. Choosing the right indicators to monitor can make all the difference in meeting quality objectives, reaching targets, and developing an institutional culture for continuous improvement.

Talk to your funders and partners about what they want you to measure, then make sure you do it! After all, if you fulfill their objectives you may be able to go back to them for more funding next year.

- Tourism Network North East

THE ROLE OF MONITORING AND EVALUATION - A CASE IN POINT

KCCO, the Kilimanjaro Centre for Community Ophthalmology in Tanzania, now employs a “whole family” approach to childhood (or congenital) cataract. What they found through monitoring and evaluating their paediatric eye care services was that follow up for each child patient meant many visits and many new eyeglasses over many years - often financially impossible for a low-income family. Recognising the implications of these findings, KCCO changed their approach to advocacy and fund raising, no longer asking donors to fund just one childhood cataract surgery, but their lifetime of treatment.

Effective and efficient management of outreach activities calls for regular monitoring and review of statistical indicators. Without accountability, the case finding cost for a cataract surgery in outreach will cost more than the actual cost of cataract surgery!

The major cost to the eye hospital for an outreach activity is manpower and transport of the team. This is a fixed cost and will not vary with the volume of attendees at the screening camp. If a team of 15 members is sent to screen 500 outpatients, targeting 75 for surgery, and the attendance is only 200 with 30 admissions for surgery, the cost of manpower and transport and the amount of time and money incurred for publicity, will never be recovered. The cost to find one outpatient and one admission is artificially high in this scenario. Conversely, if the number of outpatients ends up higher than expected, say 700 with 150 admissions, the cost per patient is much lower and more cost-effective. It is important to keep track of statistics such as these and to track outcomes. The case study below shows this concept with real figures.

Monitoring for Cost Effectiveness - an Example
A Comparison of Two Eye Camps by Aravind Madurai

Expenses Incurred (INR)					Predicted		Actual		Unit Cost as per Target		Actual Cost to find one	
Date	Place	Manpower & Team Transport	Publicity & Amenity for team	Total	Outpatients	Admission	Outpatients	Admission	Outpatients	Admission	Outpatients	Admission
26.1.2016	Valvangi	7190	9,500	16,690	300	60	71	18	74	370	313	1233
29.5.2016	Valvangi	6322	13,200	19,522	400	100	270	143	67	269	100	188

Note that for Valvangi camp held on 29th May 2016, the cost to find 1 cataract patient is Rs.188 against the projected cost of Rs.269, a savings of Rs.81 per admission (The population covered during the publicity campaign was approximately 45,000).

In the previous camp conducted in the same place in January 2016, the loss is Rs.863 per admission for the same population coverage.

This comparison shows the cost implications of productivity and the importance of tracking these statistics and evaluating the causes behind them.

In short, monitoring and evaluation can increase the cost effectiveness of screening and other outreach programmes - contributing to their quality, quantity and sustainability.

COMPLEMENTARY ROLES FOR MONITORING AND EVALUATION

Monitoring is about collecting and compiling information in a planned, organised and routine way that will then help the eye care institution to answer questions about their projects during the evaluation phase, such as

- Are we doing the right things?
- How well are we doing them?
- What difference are we making?
- Are we having the intended impact?

MONITORING	EVALUATION
routine collection of information	analysis of information
tracking implementation progress	confirming project expectations are met
measuring efficiency (inputs/outputs)	measuring effectiveness and impacts

THE IMPORTANCE OF MONITORING AND EVALUATION

Monitoring the camp teams performance and outcomes, evaluating what they have achieved, and then sharing the results with their partners, staff, and sponsors are best practices in evaluation of community outreach in eye care institutions. This process of monitoring and evaluation must be done continuously, exhaustively, and in depth to analyse all aspects of outcome in community outreach.

Evaluation will reveal how well funds have been used and the benefits to all those involved. It will also help create more successful, well-managed projects in the future.

- Tourism Network North East

Why do we need to monitor and evaluate?

- To review what the eye care institution has done and is doing, and to decide whether it is on the right track.
- To measure achievements and progress and detect challenges and problems in time to take necessary corrective action.
- To improve the outcomes and enhance the impacts of the eye care institution's work.
- To ensure optimal utilisation of resources.
To improve staff performance and day-to-day decision making through feedback on their efforts.
- To stimulate learning and motivation for training, while building understanding and capacity among staff.
- To develop the strengths of personnel, eye care teams, the outreach department and the institution as a whole.
- To improve the efficiency, effectiveness and also helps in planning.
- To demonstrate accountability and maintain control of finances.
- To provide “proof of success” to funders and governing bodies, showing that their money and other resources have been spent in the best and appropriate way.

Just as monitoring and evaluation must become an integral part of what every eye care institution does, so is the outreach departments within them must adopt and integrate monitoring and evaluation processes.

The Importance of Monitoring and Evaluation - A Case in Point

The author of this manual from Aravind Eye Care System, visited an eye hospital in Egypt, China and one in Uttar Pradesh in India and helped the outreach coordinators and team members analyse the bottlenecks causing lower outcomes in spite of adequate resources and efforts put in. It was noticed that lack of monitoring and evaluation had led to the poor outcomes. The evaluated results have helped them to realise the importance of monitoring and evaluation.

A. As there is no policy to bring the cataract patients to hospital, patients admitted based on appointments	Egypt (Oct 2004 to March 2005)		China 2005		UP, India 2015-16	
B. Outpatient seen	n.a.		44,990		12,196	
C. Cataract identified for surgery	n.a.		3,369	7%	2,452	20%
D. Patients accepted for cataract surgery drop out % due to clinical and personal reasons	1407		2,343	1,026 (30%)	1,422	1,030 (42%)
E. Actual Admission on appointments and drop out due to late admissions	1119	20%	1,823	22%	1,313	8%
F. Surgery performed	836		n.a.		996	
G. Not operated due to clinical and personal reasons	283	34%			317	32%
H. Total dropout of identified cataract due to policy matter and lack of monitoring and evaluation	41% (of accepted cataract)		54% (of identified cataract)		59% (of identified cataract)	

DEFINITIONS AND TERMINOLOGY

Monitoring is the ongoing gathering of information that takes place throughout the life of a project (for example, a screening eye camp) or initiative (a cataract blindness reduction campaign), in a well-planned and organised way. Monitoring efforts are motivated by the need for “actionable” information. The data collected serves as evidence to show what progress has been made in the implementation of programmes over time. Tracking is a form of monitoring in which a specific measure is continuously watched over time. In the management cycle of planning → implementation → evaluation → planning, monitoring takes place throughout the implementation phase. Monitoring is focused mainly on quantitative indicators and data about efficiency.

We can safely say that balancing efficiency and effectiveness is not easy. But it is important for organizations to stay focused on the long-term impact of all decisions. Yes, short-term performance is important, but if it takes precedence over long-term viability it could lead to a decline in performance over time.

- Online Business Advisor

Efficiency is doing things right. Effectiveness is doing the right things.

- A modern day proverb

In general, there is a need to revise the indicators used in the National Programme for the Control of Blindness. The number of cataract operations alone is a poor indicator. By relating this figure to the surgical unit, we can have a better impression of the efficiency and effectiveness of these units. By relating the number of cataract operations to the population in the district or state, we can have a better idea of case finding and the impact and coverage of the surgical services. By relating it to the number of operating eye surgeons and the ophthalmic beds, it informs us on the workload and utilization of manpower and infrastructure.

- Dr. Hans Limburg, Chief Adviser, DANPCB

Evaluation (sometimes called retrospective evaluation or summative evaluation) is an assessment of the extent to which the mission, goals and objectives of a project or initiative are fulfilled. It is usually undertaken after the project is complete. Evaluation uses the information gathered through monitoring to make judgements about what is and is not working, to determine outcomes and to analyse the impacts. Self-evaluation is an organisation using its own people and resources to carry out evaluation of their work. External evaluation is an outside agency conducting the process. Evaluation is concerned with qualitative indicators and data about effectiveness, as well as long-term efficiency: the how and why, the outcomes and impacts.

Efficiency is the quantitative relationship between the results obtained and the resources utilised. It normally means doing things in the most economical way, achieving maximum output for minimum input (for example, the number of cataract surgeries performed with the minimum of personnel organised for optimal productivity).

Effectiveness is the qualitative degree to which a goal or purpose is achieved - the extent to which actual performance compares with targeted performance (in eye care, it might mean how many cataract surgeries successfully restored full sight to patients).

Quantitative data or “hard” data is comprised of the measurable numbers, statistics, and figures that show what happened during a project (how many sight restoration surgeries or procedures were performed in a specified area over a specific period).

Qualitative data or “soft” (but every bit as worthwhile) data reveals people’s experience of the project. Although it isn’t “measurable” data, it can show the impact a project has on people’s lives or on the local community (through how families of operated patients express their gratitude to the eye care institution).

Baseline is what exists before the start of a project. This can help to show gaps in provision or prove the need for the project (Cataract Surgical Rate - the number of cataract surgeries performed in a year per million populations in a given area - that is lower than the national average).

Benchmarks are standards that someone has already achieved; they show where the eye care institution is in comparison to the best (many eye institutions in developing countries strive for reduction in infection rates and complication rates).

Indicators (or performance parameters) are the standardised criteria or variables, chosen ahead of time, on which to collect data. These are used to judge an

organisation's performance, success and progress towards a goal (number of patients admitted out of the total number of patients advised for surgery; surgery acceptance rate of 90% or higher, used to evaluate the efficiency of a patient counsellor).

Inputs are the time, money and human resources (staffing, instruments, equipment, furniture, supplies, consumables, cost of training, cost of technology, and building rent, water and electricity for a vision centre) that go into the running of the project to create or deliver **its outputs**.

Process is the set of steps or activities in which project resources are used to achieve the expected outputs, or results, of the project (identifying a school, training a group of teachers, teaching them to do the preliminary assessment of students' vision, mutual communication, organising a camp for final examination, and delivering eyeglasses to the students - as a School children Screening Programme).

Outputs are immediately measurable evidence of what happened as a result of the project, showing how close to its original targets the project or organisation is (how many school children were screened).

Outcomes are changes that the project has made in the target group or community (how many patients had their sight successfully restored through a targeted number of outreach programmes, or the number of employees working in a particular industry who feel more comfortable in their work and have increased efficiency and productivity since they were screened by a clinical team from the eye care institution and received eyeglasses for presbyopia).

Standard is an expected level of achievement, chosen based on history, need, benchmarks and/or statistics. Standardised protocols help everyone follow the most efficient and effective process (screening eye camps can follow the same standardised examination procedures each time to facilitate easy set-up and to ensure that all camp attendees get the same level of comprehensive eye care). See Appendix 8 for a list of standardised protocols.

THE MONITORING AND EVALUATION PROCESS

The process of monitoring should be simple. Remember that monitoring is supposed to contribute good project management and improve efficiency in the system.

1. Determine the objectives: work out clear objectives of the project at the beginning, including a budget for the expected expenditures.
2. Plan the activity by answering the following questions:
 - What needs to be done?
 - How much time will it take?
 - When should it be done?
 - Who will be involved in doing it?
 - What resources are needed to do it?
 - How much will it cost?
3. Select performance indicators (see below for more information) and develop standards.
4. Monitor the project and how it is implemented. Work out the most appropriate way to collect information about the project. The following points are essential in monitoring a project

For too long, emphasis has been placed on the quantity of surgical operations performed, rather than the outcome of such surgery, as an indicator of the performance of cataract surgical services. Fortunately, this is changing, with greater emphasis being placed on using the outcome of surgery as an indicator, in addition to the numbers of surgeries performed.

- Dr.R.Pararajasegaram

The need for measuring outcomes, preferably over a wider spectrum than the mere visual outcome, is a critical element in measuring and tracking our achievements towards the goal of eliminating avoidable blindness by 2020.

- Dr.R.Pararajasegaram

A project is a series of activities (investments) that aim at solving particular problems within a given time frame and in a particular location. The investments include time, money, human and material resources. Before achieving the objectives, a project goes through several stages. Monitoring should take place at and be integrated into all stages of the project cycle.

- VISION 2020 eResource Team

- Regular meetings
 - Documentation with the help of logbooks
 - Progress reports
 - Financial accounts
 - Communications with concerned staff, internal and external stakeholders, and the community (through written questionnaires, formal feedback procedures, or informal conversations)
 - Software tools such as spreadsheets of data (software tools used in monitoring can be purchased, downloaded from the internet, or shared between eye care institutions or outreach programmes, but should be tested first for practicality and applicability in a particular eye care institution)
5. Move into the evaluation phase (usually when the project is complete, or before that if problems develop) and compare what has happened to the project targets. Analyse and disseminate findings.
 6. Take corrective action based on experiences of success or failure.

SELECTING INDICATORS / PERFORMANCE PARAMETERS

Deciding on indicators means determining what to monitor. The scope of a staff member's job will typically delineate what indicators that person monitors. For example, a project organiser will be concerned with indicators that apply to that project's goals, budget, quality, and challenges. As a project progresses, the project organiser will monitor these indicators and initiate corrective actions when they exceed pre-defined trigger conditions.

Indicators should be in line with the objectives of the project, its inputs, processes, outputs, outcomes, and impacts. For example, if the goal is to eradicate needless blindness in school children, performance indicators based on the objective of the project might be:

- Number of schools selected for screening programme
- Number of school children in the selected schools
- Number of school children estimated with eye defects
- Number of teachers trained for preliminary assessment
- Ratio of students to trained teachers
- Number of school children identified with eye defects by teachers
- Number of school children examined by ophthalmologist
- Number of school children with confirmed eye defects by ophthalmologist
- Accuracy rate of preliminary assessment (effectiveness of training)
- Number of school children prescribed eyeglasses
- Number of school children who received eyeglasses
- Glasses acceptance rate
- Number of school children referred to paediatric eye clinic
- Number of referred school children who visited paediatric clinic for medical intervention
- $SUCCESS\ RATE = \frac{\text{number of school children using eyeglasses} + \text{school children followed up with surgery or treatment}}{\text{the total number of school children advised for glasses, surgery and treatment}} \times 100$

Aravind Eye Care System

Indicators (Performance Parameters) for Monitoring and Evaluating Outreach Camps

Comprehensive Screening Eye Camps (Appendix 8B)

- Number of outpatients seen against target
- Age distribution of outpatients (>80% of outpatients should be in 40+ age group)
- Number of cataract patients admitted against the target
- Cataract surgery acceptance rate (>85%)
- Number of eyeglasses delivered against the target
- Eyeglasses acceptance rate (>80%)
- Specialty cases diagnosed (5-10% of outpatients)
- Total number of outpatients with eye defect (>75%)
- Specialty cases referred to base hospital for further medical intervention
- Specialty cases visited and registered in the base hospital
- Specialty referral acceptance rate (>70%)
- Case finding cost per outpatient (75 rupees)
- Case finding cost per admission (250 rupees)
- Number of patients who attended follow-up camp one month after cataract surgery
- Follow-up acceptance rate (>90%)
- Number of patients who gained visual acuity with correction in the range of 6/6 - 6/18 or 20/20 - 20/60 (90 to 95% of the patients who visited follow-up camp)
- Number of patients with recorded visual acuity <6/60 or 20/200 (<1% of the patients who visited follow-up camp)

Cataract surgery outcome in a sample of follow-up camps by Aravind Madurai in 2015 -2016						
Cataract surgeries	Followed up	Follow up acceptance rate	Vision with correction			
			VA 6/6 - 6/18	VA 6/24 - 6/60	VA < 6/60	Total
27,758	24,947	89.87%	24,237 (97%)	678 (2.7%)	35 (0.1%)	24,947

Diabetic Retinopathy Screening Camp (Appendix 8C)

- Number of people screened as outpatients
- Number of known diabetics registered
- Number with diabetic retinopathy among known diabetics
- Number of new diabetics diagnosed at camp
- Number with diabetic retinopathy among new diabetics
- Number of patients referred to base hospital
- Number of patients referred with Proliferative Diabetic Retinopathy (PDR) against Non-Proliferative DR (NPDR)
- Number of patients who receive urgent treatment, as recommended by retina specialist, at the base hospital (within one week of the date of screening by eye care team)

During any project, time is one of your most valuable resources, and one that fast slips away the further into the action you get. The key to successful evaluation is to start the monitoring process even before the project begins. Perhaps the easiest way to divide up your time is to plan in three stages - before, during and after your project.

- Tourism Network North East

Workplace Eye Screening Camp

- Total number of employees in the workplace (> 150 employees)
- Number of employees screened for eye care (90 - 100%)
- Age distribution (50% of outpatients should be in 40+ age group)
- Eyeglasses prescribed (not less than 35% of outpatients)
- Eyeglasses acceptance rate (>80%)

Schoolchildren Screening Camp

- Number of teachers trained (preferably 70 - 80% of teachers is acceptable)
- Number of students screened and identified with defects by teachers (10 - 15%)
- Number of students identified with defects by ophthalmologist (3 - 7% of total number of students)
- Number of students prescribed eyeglasses (3-5% of total number of students)
- Number of students who ordered eyeglasses and acceptance rate (>90%)
- Number of students referred to base hospital (paediatric clinic : 0.5 - 1% of total number of students)

Paediatric Eye Screening Camp

- Number of children screened and their age distribution (0-5 years is the target)
- Number of children identified with defects
- Number of congenital anomalies, congenital or developmental cataract diagnosed
- Number of children identified with refractive errors and prescribed eyeglasses
- Number of children who received eyeglasses
- Number of children referred to base hospital
- Number of children who received treatment at the base hospital (during the 1 month period following the date of screening by eye care team)

TIME FRAME OF MONITORING AND EVALUATION

Monitoring is an on-going process until the end of a project. Evaluation is a one-time (until next time!) summative activity. Both processes should be planned before the outreach project or initiative begins.

Before - The Planning

This is the time to assess what you already have and what you will need before the project begins. This means that you can establish a baseline level from which the project is starting, allowing you to see how far you have travelled by the end. Answering the following four questions will help you do this:

- What is the need?
- What are your aims and objectives?
- What resources do you already have and what will you need?
- What are your performance indicators?

During - The Monitoring

During the course of the project, you will need to carefully monitor your progress, looking at how many people are taking part, who is contributing what, and what they have gained from it. This information will help you evaluate the success of the project at the end. You might track information such as:

- How many are involved? - measuring attendance at outreach events
- What is the acceptance rate? - tracking how many patients accept referral to base hospital
- What are the outcomes? - measuring visual outcomes
- How much is being spent? - tracking who is contributing what

After - The Evaluation

Once you have collected all the information you gathered during the project, you should begin to make comparisons with your estimates from before it began. This is when monitoring becomes evaluation - the time for a detailed examination of the material you've gathered, and for reflecting on what it is telling you. To help you with this process, consider the following:

- Did you meet your aims and objectives?
 - How much did it all cost?
 - Any need for changes?
 - How will you share the results with others?
- Adapted from the North East England Monitoring and Evaluation Toolkit, with thanks to Tourism Network North East

No! Don't put it away for a rainy day! The most important thing about monitoring and evaluation is that once the process is complete, you learn from your findings, and put them into practice. Remember that an evaluation is meant to be used. The results must be seen to be acted upon – otherwise you will have wasted all your participants' time, as well as your own – and the process becomes meaningless. Agree how you will feed back what you have learnt into your daily work and the project's future development.

- Tourism Network North East

THE ROLE OF MONITORING IN STAFF SUPERVISION AND FEEDBACK

Supervision, the process of guiding, supporting and giving feedback to staff to help them perform well in their assigned tasks, is both a part of monitoring and a beneficiary of monitoring.

Staff supervision is part of monitoring when it involves collecting data about employee performance, through

- Observation
- Discussion with staff
- Communication with clients and community
- Review of records

Supervision contributes data on whether all required resources are available, and whether personnel are competent and motivated to perform their duties.

Supervision is a secondary outcome of monitoring when there is an opportunity for supervisors to provide feedback to their staff. Feedback is information about performance that can lead to change. It is important because it provides encouragement and assistance to staff, leads to self-understanding on their part, provides an opportunity for sharing experiences based on the data presented, and ensures proper and focused monitoring because both the supervisor and staff must thoroughly understand the data.

Effective feedback contains

- Performance indicators (best performance, whole outreach department performance averaged, staff member's performance).
- Targets achieved (often conveyed through graphs, trends, percentages, comparisons).
- Expressions of appreciation (or complaint), much of which comes from data collected during monitoring.

Quality is your first goal, not figures. Adopt measures to ensure quality from the first day of work. Develop guidelines to ensure basic minimum standards.

- Julio Yangüela Rodilla, MD

*Principles to Remember
What is important one must measure.
What gets measured gets done.
What gets measured and fed back gets done well.
What gets monitored usually improves.
What gets rewarded usually gets repeated.*

- with thanks to leadership trainer, John E. Jones

The temptation is great to ask for too much and too detailed information from the reporting units. This often results in incomplete and inaccurate reporting, delays in data flow and even more delays in data analysis, evaluation and feedback. When the amount of data is too large, analysis and evaluation becomes impossible. The Management Information System, whose purpose is to translate information into action, has then been reduced to a mere Information Collection System.

- Dr. Hans Limburg, Chief Adviser, DANPCB

Outputs, outcomes and costs should be monitored. Computerized information, including clinical histories and an accounting system, is essential to control the quality of the work and reduce corruption.

- Julio Yangüela Rodilla, MD

COMMON CHALLENGES IN MONITORING AND EVALUATION

These are the most common problems when monitoring and evaluating projects or initiatives within an outreach programme:

- Unclear objectives of the outreach programme
- Undefined key indicators / performance parameters
- Lack of clarity about what should be collected and measured, and when
- Uncertainty about who is responsible for the data
- Poor or improperly reported data from many sources
- Lack of system in place for analysis and storage of data
- Unstructured information distribution and use
- Lack of analytical skills in the outreach team
- Lack of interest and team spirit
- Lack of coordination with other departments
- Autocratic ways of monitoring
- Lack of management support
- No mandate or capacity to take appropriate action after evaluation

THE SOLUTION IS A MANAGEMENT INFORMATION SYSTEM (MIS)

It is difficult to attempt complex monitoring and evaluation without a management information system, which is an organised method (usually computerised) of data storage and retrieval that provides timely, accurate and relevant data to managers. Leveraging information technology makes monitoring and evaluation more effective and efficient.

Developing an MIS allows early identification of problems, while mid- course correction is still possible. MIS also provides data for decision making in the following areas:

- Operational: timing/schedules (human resources, equipment use and maintenance)
- Managerial: effectiveness and efficiency
- Strategic: for example, moving from a focus solely on cataract screening camps to comprehensive outreach programmes

A management information system can improve several information-related challenges within an eye care institution or outreach department:

- access to information: storing and finding documents becomes easier
- data collection/entry and report processing becomes more streamlined
- time effective and cost effective
- Accurate information is possible
- space management
- Adaptable to more advanced developments and programming in the future
- Decreases paper work
- Results are easy to analyse, evaluate and show in standard ways (graphs, charts, etc.)
- New data sets are easy to access, gather and analyse
- Reports can be distributed on time

- Reports sent can be tracked
- Money spent but not accounted for can be tracked
- Funding claimed but not yet received can be tracked
- Adequate staffing can be scheduled with greater ease
- Seeing the result in concrete statistics over time helps to develop a positive attitude and work culture amongst staff
- Leads to continuous improvement in outreach

To ensure effective and efficient use of a computerised Management Information System, consider the following points:

- Train people to read and act on reports in timely, effective and efficient ways.
- Orient staff to the department's programme activities and outcomes, and sensitise them to the importance of data.
- Hire dedicated people for data collection/entry and report processing.
- Organise training sessions to update outreach staff's knowledge and skills and to train them in troubleshooting.
- Ensure that reports are sent to the right people at the right level of management in order to facilitate the required follow-up action (they will be a waste of time, money and motivation if they are sent to people who have no power or authority to act on the information).

INFORMATION NEEDS AT DIFFERENT ORGANISATIONAL LEVELS

Information needs are different at different levels of institutional management (a field worker in outreach does not need the same kinds or amount of information as the outreach coordinator). Information collected is used for different reasons at different levels (an eye surgeon will use information about complication rates differently than the governing board).

- Transaction (or day-to-day) management at the coordinator level requires accurate, detailed, current and well-defined internal information.
- Operations management at the supervisory level and middle management at the administrative level need less day-to-day detail.
- Strategic management (Chair, CEO, governing board level) requires information that is aggregated over time, undetailed but showing trends, and including data external to the eye care institution for comparison purposes.

Abstract data has limited value and is more useful in comparison. This is why reports and discussions are generally based on data across two or more years or several weeks, or on pre- and post-data (pre-operative against postoperative visual acuity). Data can be compared with established plans/targets, longitudinally, or in cross section. For example, "2500 cataract surgeries in 2015" is more valuable when compared against "1800 cataract surgeries in 2014," showing an increase of 40%. Another example is that "5 infection cases in 2015 out of 2,500 patients (= 0.02%)" is more useful when compared against the 2014 infection rate of 0.034%, which shows a decrease.

MONITORING AND EVALUATION IN THE COMMUNITY OUTREACH DEPARTMENT

Constant monitoring and assessment of various functions maintain quality control. A regular, formal system of outreach evaluation should be in place.



Monitoring and evaluation data can be used:

- To inform local government officials, health officers, supporting NGOs and sponsors about upcoming outreach programmes, to encourage their continued support and cooperation.
- When seeking interdepartmental feedback on outreach programmes (scheduling meetings and distributing reports as needed)
- When publishing articles and reports in local media or professional journals.

Monitoring and evaluation data and reports are especially useful for sharing at outreach department meetings, which are attended by the head doctor or department in charge, senior camp doctor, outreach coordinator, camp manager, camp organisers, patient counsellors, vision centre staff, and others when appropriate.

OUTREACH MONITORING AT ARAVIND – A CASE IN POINT

At Aravind Eye Hospitals, outreach performance reviews are conducted in every branch, every Monday at 3:00 p.m., in the presence of all outreach department staff. All department staff members, especially camp organisers, are in attendance without fail. (Camps are not planned for Mondays.)

All relevant data for each kind of outreach activity is collected from a cadre of staff - ophthalmic assistants, optometrist, patient counsellors, refractionists, inpatient service coordinators, and so on. The standard CORMS (Community Outreach Management System) tools (Aravind's management information system, or MIS, for its outreach department) are used to put together all the information before 3:00 p.m.

The Camp Medical Officer chairs the meeting and follows the well-designed and standardised agenda in order to measure the past week's results against the benchmarks. Everyone is allowed to share their successes and failures in order to learn from them. Holding regular review meetings to assess and discuss performance and to plan further strategies helps a programme to evolve with the demand. Details are shown below:

Aravind Eye Hospitals - Department of Community Outreach

Agenda for Weekly Outreach Review Meeting (Appendix 8)		
Name of the statement	Presented by	Matters discussed
Weekly		
Post-camp report (for each comprehensive diagnostic camp) (Appendix 8B)	Camp organiser who attended the camp	Performance indicators are discussed. The indicators are (1) actual numbers compared to the projected numbers of outpatients (OPs), cataract admissions, eyeglasses and specialty cases; (2) age-wise distribution of outpatients; (3) cataract surgery attendance and acceptance rate (4) eyeglasses prescription and acceptance rate; (5) diagnosis of other specialty problems; and (6) the number of OPs who attended the camp with various eye problems. Organisers also commented on success or failure in terms of productivity.
Case finding cost summary (Appendix 8J)	Open discussion	Cost incurred by the base hospital and community partners are discussed. The major case finding costs are manpower, medical team transport, food, publicity and mobilisation. Cost per OP and cost per admitted cataract patient are discussed for each camp. This is to recognise the impact of productivity on cost management.
Specialty referral and acceptance details (Appendix 8H)	Patient counsellors	Since all the camps have been designed to deliver comprehensive eye care services, one focus for each camp is how many patients were diagnosed with specialty problems and how many were referred for further medical intervention at base hospital. Patients who need immediate attention are counselled to visit in a week's time and patient counsellors monitor the acceptance rate. The details of respondents are collected and reported to outreach department weekly. The aim is to achieve an acceptance rate of at least 80% of the referred cases. Counsellors are notified of and accountable for poor acceptance rates.
Follow-up camp performance (Appendix 8K)	Optometrist/ Refractionists who attended the review camps	Since follow up a month after surgery completes the cycle of service delivery, follow-up camps are conducted literally for every screening camp, in the same outreach venues. Follow-up acceptance rate (at least 90% of operated cases) and visual recovery at the time of follow up after correction are the major performance indicators, and are discussed at the weekly meeting. Reasons for poor visual outcomes are also discussed by the chairman of the meeting.

<p>Post-camp reports for specialty screening camps such as Workplace, Schools, and Diabetic Retinopathy screening camps are discussed based on the data (pre-set performance indicators) as per the prescribed formats (see Appendix 8C - 8F)</p>		
<p>Camp proposal for the ensuing week (Appendix 4I)</p>	<p>Camp organiser(s)</p>	<p>Expected workload in terms of outpatients, eyeglass delivery and cataract surgery admissions for each camp is presented by the individual camp organiser. This helps in planning the related logistics like pre-op arrangements, space management, food, clinical and nonclinical supplies, operation, discharge, follow-up schedule, etc.</p>
<p>Pre-camp preparation report</p>	<p>Camp organiser(s)</p>	<p>The organiser notes past experiences in the same location with either the same community partner or a different one, and presents what kind of pre-camp and publicity arrangements have been made to justify workload expectations.</p>
<p>List of not-operated patients (Appendix 8I)</p>	<p>In-patients service coordinator</p>	<p>The coordinator presents how many patients were admitted, operated, not operated, reasons for not performing surgery, any complications, any problems like absconding, emergencies, etc.</p>
<p>Monthly</p>		
<p>Cumulative cataract surgery performance</p>	<p>Open discussion</p>	<p>To note where we are as far as growth in performance is concerned, including percentage of increase or decrease in cataract surgery for the current year compared with corresponding period the previous year; different sources of patients such as outreach and walk-in, plus free and paying sections are discussed.</p>
<p>District level outreach productivity</p>	<p>Camp organiser(s)</p>	<p>Number of outreach camps conducted and productivity in each part (district) of the service area are discussed. The trend in increase or decrease in cataract admissions compared to similar period in the previous year is discussed and the concerned camp organiser is encouraged to take the necessary steps to correct or sustain the trend.</p>
<p>Organiser level performance report (Appendix 8L&M)</p>	<p>Camp organiser(s)</p>	<p>Since every camp organiser is accountable for achieving some results in different types of outreach programmes proportionate to the time period, their current performance is updated every month and presented by them. This is to know where they are as far as their targets are concerned.</p>

Periodically		
Forecasting outreach performance	Outreach manager	If there is a need for progress in outreach performance compared to the targets, forecasting future performance based on the proposals is done. The projection enables us to plan further. The format need not be a standard one but can be customised based on the type of outreach, targets, etc.
General suggestions to improve the quality of work / Any other issues to be discussed / Meetings with government officials / Planning for professional development/ CME, etc.	Outreach team	Suggestions, interpretations based on the issue.

CONCLUSION

This chapter introduced the concept and importance of monitoring and evaluating in eye care outreach programmes. It offers definitions, processes and examples for the use in an outreach department. Please see Appendix 8 for more information on standardised protocols.

The next chapter will focus on challenges in eye care outreach.

Appendix 8A: Standardised Outreach Practices and Clinical Protocols

Appendix 8B: Post Camp Report – Comprehensive screening camp

Appendix 8C: Post Camp Report – Diabetic Retinopathy screening camp

Appendix 8D: Post Camp Report – Workplace eye screening camp

Appendix 8E: Post Camp Report – School children screening camp

Appendix 8F: Post Camp Report – Paediatric eye screening camp

These forms are to collect all the relevant information for every camp and to analyze the productivity based on suggested parameters and benchmarks. This is also to help the organizers to learn their success and failure and to apply the best practices for continuous improvements in future

Appendix 8G: Sponsor’s Feedback

This is a kind of social auditing helps to get the feedback from the sponsors /Community partners that what they feel about the quality of eye screening camps.

Appendix 8H: OP Diagnosis Summary and Specialty referral acceptance summary

This is a tool to collect and maintain the details of diagnosis of all eye problems in each camp. Also helps to develop a system to track the number of patients who are counseled in the camps to visit base hospital for specialty services.

Appendix 8I: Reasons for “No surgery”

This template helps to develop a system to track the number of patients who have not been operated after admission. Also helps to reduce the avoidable drop outs.

Appendix 8J: Case Finding Cost

This template helps the outreach staff to collect and maintain the expenditure part of the camp. It emphasizes the importance of productivity in cost effectiveness.

Appendix 8K: Post operative Followup Report

This report helps to develop a practice to record the visual outcome details of the operated patients to access the quality of life.

Appendix 8L: Programme wise Performance Summary

It helps the Outreach department to update the (actuals) performance of camps irrespective of the organizer or service area or period. It may be updated on completion of every camp based on Post Camp Reports.

Appendix 8M: Organizers wise Performance Summary

It helps the outreach department to analyze the efficiency and productivity of the camp organizers.

8A - STANDARDISED OUTREACH PRACTICES AND CLINICAL PROTOCOLS

This appendix includes standardised protocols for outreach administration, planning, Conducting eye camps, follow up, and evaluation. Standardised clinical protocols for screening eye camps are listed below.

Area	Activity	Staffing	Supplies required	Time limit
Administration	General office administration, collection of baseline information for planning, report generation and communication, interpersonal relationships	Manager	A physical structure with a computer and basic supplies for office administration	Before starting the actual planning stage
	Assistance in all kinds of administrative functions and communication	Secretary		
	Provide necessary information to the department for planning and administration	Camp organiser	Required data only	As and when required
Annual Planning	Collect the baseline data, analyse the available resources and develop an annual plan and monthly schedule. The plan should include targets for camps and admissions	Team of Manager, Organiser and Secretary	Service area population details, potential areas, estimated blindness data, available resources (manpower, beds, etc.) and current performance in the area by government and NGOs	Beginning of the year
	Discuss goal and strategies with management and make necessary changes. Make sure the goal is accepted and the chosen strategies are implementable.	Manager	Action plan details	Beginning of the year
	Develop a job chart and movement schedule for the organiser and get it accepted by the camp organiser	Manager	Job description and movement schedule	Beginning of the year

Pre-camp planning	Contact the sponsors and help them realise the need for camps	Camp organiser at the community level with the help of the sponsor	List of the Lions Clubs, Rotary Clubs, religious organisations, trusts, industries, banks, self help groups, community-based service organisations, youth groups, farmers, weavers associations, panchayat presidents, philanthropists	A month before the proposed (camp) date
	Assess the sponsor's capacity for and commitment to social service, manpower and financial assistance		Current performance of various services by these sponsors	A month before the proposed (camp) date
	Help the sponsor understand his /her commitment and the impact of the service on his/her own business, lifestyle, etc.		Commitments by the hospital and sponsor at different levels	At the time of meeting
	Explain to the sponsor the steps in conducting the camp		List of holidays, auspicious days, etc.	When the sponsor has agreed to conduct camp
	Suggest a suitable date that does not coincide with local festivals, harvest, etc.		Familiarity, accessibility, support facilities like water, furniture, electricity etc. + formal permission from school authority	At the time camp village and date are confirmed
	Select camp venue and confirm (preferably a school building)		Standard format of publicity materials (handbills, posters, boards, audio message); estimate the number of publicity materials required based on the publicity action plan.	Two weeks before the camp
	Assist the sponsor in planning and publicity work; work out a publicity plan in terms of number and name of villages to be covered with time limit; use Geographical Information System (GIS) to develop an action plan for effective publicity work; if there is no such system available, work with the sponsors in the community to develop the action plan			

Ensure the effectiveness of publicity work		Printed publicity materials, loud speaker announcement equipment, formal permission from police department	2/3 days before the camp
Conduct periodic meetings (fortnight /weekly) at the base hospital to assess the number of doctors, paramedical staff, drivers and vehicles needed based on the community level work	Manager, Organiser and Secretary	Details of proposed camps, expected work load, distance in between the hospital and camp location, available transport facility, etc	At least a week before the camp
Plan the accommodation and food for the expected numbers of inpatients on the day of the camp	Manager, Camp organiser, Secretary and Housekeeper		
Prepare surgery and discharge schedule	Organiser and operating theatre nurse in charge	Estimated workload at base hospital and camp productivity	
Finalise the camp posting and inform the people concerned	Secretary and CMO	Structured tool to communicate the camp postings to all the departments	
Order / make indents for the items (medicines and instruments) to be received from stores for outpatient examination in camp	Senior paramedical staff posted for the camp	Standard order/ indent form of required supplies	2 days before the camp
Plan transportation for the patients from the camp to the hospital and back	Camp organiser with the help of the sponsor	Requisition letter to the government transport authority, if necessary	2/3 days before the camp
Apply to DBCS (District Blindness Control Society) for approval with necessary enclosures if you are eligible for DBCS grant; otherwise send the application to the sponsor/donor	Manager and Secretary	Prescribed formats (DBCS or other grant in aid)	2 weeks before the camp (the date of the camp should be confirmed a month ahead)

	Remind the sponsor about the team’s arrival, number of people expected, duration of the screening, required number of volunteers, date of surgery and discharge, etc.	Camp organiser	It is advised to prepare a standard checklist of requirements and other relevant information to hand over to the sponsor	A week before the camp and remind a day before the camp
Camp Day Activity	Make sure the required things for diagnosis and screening procedures are taken, based on the estimated work load	Camp organiser, paramedical staff, patient counsellor/s and optical technician	OP and IP registers and cards, identity cards, discharge summary, consent forms, referral cards	A day before the camp
	Take the amount of money required for medical team expenses and patients’ transportation	Camp organiser - approved by Manager	Advance slip produced by the Accounts department	Before leaving for camp (possibly the day before)
	Install the furniture and equipment at different steps as per the screening procedure (patient flow)	Medical team members, with volunteers if needed	All clinical and stationery items as per the indent/order form	Upon arrival at the camp venue
	Explain the patient flow and the role of volunteers to guide the patients to the respective stages (it is advised to have 10-12 volunteers who may be students from the same school as the camp venue)	Camp organiser and Sponsor	OP and IP registers and cards, identity cards, discharge summary forms, referral cards, and patient flow chart	Upon arrival at the camp venue
	Refer to clinical protocol below (from registration to the final examination by ophthalmologist)			
	Patients may be advised by the doctor to apply medicines, to wear eyeglasses, to go for cataract surgery, or to go for specialty services at the base hospital			
	Let patients choose the frames and pay for them (as the hand bills carry the message clearly, patients should come prepared to pay for the glasses)	Optical salesperson and technician deliver the eyeglasses during the camp (or deliver special orders in one week)	A collection of frames, lenses and required instruments and equipment to make eyeglasses on the spot	During the camp (or one week later for special orders)

	Counsel patients to buy medicines as prescribed by the doctor; the sponsors may be requested a week before the camp to give a list of medicines to nearby pharmacies or medical shops so that patients can buy them on camp day	Patient counselor, Organiser and Sponsor	A standard list of medicines which are usually prescribed by the doctor may be prepared with the help of the medical officer at the base hospital	Send to sponsor one week before the camp
	Counsel patients to visit the base hospital for further examination as suggested by the doctor; patients may be given a referral card and appointment to monitor	Counsellor	Referral card and a format to entry the details of referral patients	After the final examination in the camp
	Counsel patients referred for surgery to go to the hospital (make sure they do not have systemic problems); enter in the admissions register; relative or attendant should be informed of the place and date of return after discharge	Counsellor and Organiser	IP register, IP card, discharge summary and consent form	At the counselling counter
	Provide lunch and take admitted patients to the base hospital	Organiser with the help of the sponsor and volunteers	A proper communication in time	Just before the patients are taken
	Admit the patients in the base hospital and make sure the entries are made properly	Organiser, receptionist-data entry operator, paramedical staff, lab technician and housekeeping staff	Start entry of the details of admission in either the computer or the manual system	As soon as the patients arrive at the hospital
	Inform housekeeping and paramedical staff to take care of support services and pre-operative clinical procedures			
	Do pre-operative counselling to ensure better cooperation	Patient counsellor		Just before patients are taken for surgery
	Look after the necessary facilities provided to the patients during their stay	In Charge of the free hospital or the ward		Until the patients are discharged
	Make sure the transport has been arranged to send patients back home; settle the account	Organiser		A day before the discharge

Post Camp Activity	Do postoperative counselling to respond to patients' concerns; inform them of the date and venue of follow up; follow up should be done about 30 days after surgery either at the same camp site, or in the base hospital, depending upon the distance and number of people operated	Organiser and Counsellor		During post operative stay
	Do discharge counselling for postoperative medication, eye health and to get more referrals; also make sure that everyone is getting one month of medicine and is aware of follow-up details	Counsellor	Educational charts	Just before discharge
Post Camp Activity	Send the patients back to their villages with discharge summary after the final clinical rounds	Organiser and Counsellor	Checklist of admissions and surgeries	Third post-operative day in the morning
	Keep the sponsor informed about the patients operated on and their arrival home at the camp village	Organiser	Discharge statement	As soon as the patients leave the hospital
	Make sure the details of admissions, operations and discharge data are entered	Manager, secretary and data entry operator	Case records, OT register	As soon as possible after they are discharged
Follow up and Report Generation	Ensure the details of admissions, operations and all relevant clinical data have been entered; get a summary report for the outreach department	Manager and secretary	Prescribed formats	Within a week of discharge
	Thank the sponsor with basic data and develop a rapport	Manager and secretary	Basic statistics	
	Produce interim reports for DBCS or other donor	Manager and secretary	Prescribed formats	
	Submit the summary report of outreach performance to hospital management	Manager and secretary	Suggested management information system	On a weekly basis
	Communicate with the sponsor about the follow up for operated patients and request minimum support facilities at the camp venue	Manager and organiser		A week before the follow up camp

	Conduct follow up and record visual outcomes in the case records	Refractionist	Individual case records	±30th day after surgery
	Ensure the details of visual outcome / complications are entered in the system at the hospital and compile a follow-up report for all the patients; get a summary report for the outreach department	Secretary and in charge of free hospital	Prescribed formats	After the follow up camp
	Submit a detailed report to DBCS for every camp with necessary enclosures	Manager and secretary	Financial statement with copy of Individual case records	Within 40 days of camp
	Monitor that the grant in aid is received from DBCS/donor; take initiative for settlement of the claim	Manager and secretary	Claim and receipt particulars	2 months after the camp
Evaluation	Collect a set of complete data for each camp	Secretary, organiser and counsellor	Post Camp Report	A day after the camp
	Get the surgery summary	Secretary and in charge of operating theatre	Weekly surgery report	On a weekly basis
	Get the details of referral cases and their follow up	Secretary and counsellor	Referral / appointment monitoring form	On a weekly basis
	Collect follow-up camp data	Secretary and counsellor	Follow up performance report	A day after the follow-up camp
	Organise a Performance Review meeting to analyse the reasons for success or failure, surgery acceptance rate, referral acceptance rate, follow up acceptance rate, visual outcome, targets versus achievement, etc.	Administrator, manager, secretary, organiser and counsellor	Standard management information system (MIS) can be developed	Once a week or every two weeks (fixed day is ideal)
	Suggest guidelines for improvement	Manager		As and when required

Standardised Clinical Protocols

1. Go through checklist of items to be taken to the eye camp before leaving the hospital
2. Basic guidelines for screening
 - i. screen for operable cataracts
 - ii. screen for refractive error
 - iii. screen for dacryocystitis
 - iv. check IOP (intraocular pressure) to screen for glaucoma in patients over 40
 - v. screen for paediatric eye problems
 - vi. screen for other ocular problems (VA/visual acuity not corresponding to lens changes), such as diabetic retinopathy, corneal problems, glaucoma, age-related macular degeneration, etc.

3. Examination protocol

Patient is first registered according to standardised registration procedure.

Room (or Station) 1: Vision testing

Room 2: Preliminary examination by doctor using torch/flashlight, direct ophthalmoscope, dilating drops, antibiotic drops

- refractive error - send for refraction
- complicated refraction and pediatric refraction - refer to hospital
- early cataract - explain and advise (according to vision criteria)
- significant cataract - tension, duct, send to final examination
- dacryocystitis - final examination for advice (no duct examination in acute cases)
- other ocular problems - send to final examination
- elicit any systemic problems, such as
 - DM (diabetes mellitus)
 - HTN (hypertension)
 - cardiac
 - asthma
 - epilepsy

Room 3: Tension, duct, blood pressure, urine sugar

Room 4: Refraction

Room 5: Final examination by doctor

- medical treatment
- eyeglasses prescription
- case selection for surgery
- cases with major medical problems referred to physician
- very old, debilitated patients can travel directly with attendant to base hospital or seek local physician's help for further treatment

Room 6: Admission, patient counselling

Room 7: Optical

Dilation - for assessment of lens changes in immature cataracts; optional for patients known to be diabetic with fundus pathology

Case selection for surgery and/or transport to base hospital

- all operable cataracts
- dacryocystitis along with advanced cataract
- glaucoma cases, except phacomorphic and phacolytic glaucoma

Counselling by social worker/patient counsellor

- explain the surgery, reassure patients
- explain the importance of bringing with them to the base hospital any medications they are currently taking for systemic problems
- patients selected for IOL surgery should be advised to bring payment for the IOL, if necessary

4. Postoperative protocol for review of operated patients at camp site

Review is conducted 4 weeks after surgery

- vision testing
- examination by doctor using torch/flashlight, direct ophthalmoscope, looking for complications; routine postoperative medications are explained
- refraction - further review at base hospital for cases with pinhole vision of 6/18 or worse
- any patients needing detailed examination or management of complications are advised to go directly to the base hospital

Post Camp Report							
Camp Place :		Date/Day		Saturday			
Organiser		District		Distance			
Sponsor :		In last camp,	OP:		IP:		
Incharge Doctor		Counselor		Optician			
Target and Actuals							
	O.P.	Cataract	Glasses	Specialty			
Expected							
Actual							
Variance	0	0	0	0			
OP Age Gp:	0-15 yrs		16-40 yrs		41-50 yrs		> 50 yrs
		#DIV/0!		#DIV/0!		#DIV/0!	0
							#DIV/0!
Diagnosis Details				Specialty cases diagnosed		Referred	
Immature Cataract		#DIV/0!		Glaucoma		#DIV/0!	
Advised for Cat. surgery		#DIV/0!		Retina		#DIV/0!	
Cat. Admission & Accep.%		#DIV/0!		Diabetic Retinopathy		#DIV/0!	
Cat-Not admitted due to Systemic problem		#DIV/0!		Childhood Eye Defects		#DIV/0!	
Not willing		#DIV/0!		Cornea		#DIV/0!	
Refraction Done in Total		#DIV/0!		Orbit		#DIV/0!	
Same PG				Neuro		#DIV/0!	
Lens Change		#DIV/0!		Uvea		#DIV/0!	
Ref.Err (other than Imm.Cat+Sply)				Others 1		#DIV/0!	
Glasses Advised		#DIV/0!		Others 2		#DIV/0!	
Glass Ord. & Accep.%		#DIV/0!		Others 3		#DIV/0!	
% of patients with eye defects attended this camp							
Cataract (Immature + Mature)	#DIV/0!	Refr. Error	#DIV/0!	Specialty	#DIV/0!	Total	#DIV/0!
Pre Camp	Date	Purpose					
Visits made							
Did you use GIS (Geographical Information System) for publicity planning?							
Was your Camp Success? (tick the box)							
Remarks by the Camp Organiser for success or failure:							
Publicity Campaign							
Hand Bills printed :		Posters		Mic announcement :			
Other Methods of Advt.							
No. of Villages covered :		Population covered :					
No. of Villages from where patients have come :							
Your assessment as a whole (tick the box):				Best camp	Good	Fair	Poor

Review Date & Place:

Signature of camp organizer

Appendix 8C

Department of Outreach							
Post Camp Report for Diabetic Retinopathy Screening							
Date		Day	Sat	Venue			
Place		District		Distance		Departure	
Camp Organizer				Name of the Patient Counsellor			
Type of camp location	Urban (City/Town)	Semi-urban (Taluk, Town Panchayat)		Rural (Panchayat / Village)			
Sponsor 1:				Awareness Campaign	(Publicity work)		
Sponsor 2:				Diabetic screening	(Blood sugar test)		
Sponsor 3:				Diabetic referral	(Mobilizing Diab.pts.)		
Target Vs Achievement	Out patients	Diabetic patients seen & % of Diabetic in OP		Diabetic Retinopathy & % of D.R. in Diabetic		DR referral (imm.followup) & % of referral in D.R.	
Projected Outcome of this Camp			#DIV/0!		#DIV/0!		#DIV/0!
Actual Outcome			#DIV/0!		#DIV/0!		#DIV/0!
Projected Vs Actual	0	0		0		0	
Distribution of Diabetic and Diabetic Retinopathy							
Known Diabetic patients attended the camp		#DIV/0!	Among known diab.	Known Diab.retinopathy			
				New - Diab.retinopathy			
Newly diagnosed Diabetic patients		#DIV/0!	Among the newly diagnosed diab.pts.	Found with Diabetic Retinopathy			
Total no.of Diabetic patients seen	0	#DIV/0!	Total number of Diabetic Retinopathy seen	0			
Diagnosis of Diabetic Retinopathy							
Diagnosis details		Number	% in D.R.	Diagnosis details		Number	% in D.R.
1. NPDR	Mild		#DIV/0!	2. PDR	Early stage		#DIV/0!
	Moderate				High risk		
	Severe				Involutionary		
	CSME				CSME		
3. Vitreous Haemorrhage		#DIV/0!	Others		#DIV/0!		
4. Total Retinal Detachment (TRD)		#DIV/0!	Total (NPDR+PDR+VH+TRD+Others)	0	#DIV/0!		
Referred to Base Hospital for further treatment or surgery							
Investigations				Laser			
Fundus Fluorescein Angiography (FFA)				Pan Retinal Photo Coagulation (PRP)			
Optical Coherence Tomography (OCT)				FOCAL			
Ultra Sonography (USG)				Others			
Others							
Advised for Retina surgery				Advised for Cataract Surgery			
Advised for Glaucoma opinion				Others			
Camp organizer's remarks							

Department of Outreach
Post Camp Report for Work Place Eye Screening

Name of the Work place and location			
Camp Date and Day		Sat	District
			Organizer
Nature of work by Employees in the Industry			

Outpatients Age group breakup

Below 40 years		#DIV/0!	40 and above		#DIV/0!	Total number of employees seen	0
----------------	--	----------------	--------------	--	----------------	--------------------------------	----------

Diagnosis Details

Details	Number of persons			Percentage		% in Total Out-pts.
	< 40 yrs.	40 and above	Total	< 40 yrs.	40 and above	
Refractive Error						
Refraction done			0	#DIV/0!	#DIV/0!	#DIV/0!
Ref. Error (Same PG + New PG)	0	0	0	#DIV/0!	#DIV/0!	#DIV/0!
Same PG			0	#DIV/0!	#DIV/0!	#DIV/0!
Glasses Prescribed			0	#DIV/0!	#DIV/0!	#DIV/0!
Glasses Ordered			0	#DIV/0!	#DIV/0!	#DIV/0!
Spectacles Acceptance Rate				#DIV/0!	#DIV/0!	#DIV/0!

Cataract and Other defects					% in Total OP	patients referred to base hospital	Referral acceptance
Details	< 40 yrs.	40 and above	Total				
Cataract			0	#DIV/0!			
Glaucoma			0	#DIV/0!			
Retina			0	#DIV/0!			
Diabetic Retinopathy			0	#DIV/0!			
Cornea			0	#DIV/0!			
Orbit			0	#DIV/0!			
(Others)			0	#DIV/0!			
Persons seen with defects		0	0	0	#DIV/0!		

Organizer's Remarks:

Organiser signature

Appendix 8E

Department of Outreach
Post Camp Report - School Children Screening Camp

Name of the School			
Location and District			
Total strength of the school		No. of Teachers trained & Date	
Date Eye Screening Programme		Name of the Organizer	
Name of the Community partner(s) coordinated this screening			
Spectacles sponsor details			

Rate of Defective Children in 2 stages				
Stages	No. of Children Screened	Children Identified with defects	% of def. in total strength	% of accuracy by teachers
Screened by Teachers			#DIV/0!	#DIV/0!
Screened by Ophthalmologist			#DIV/0!	

Distribution of defective children by Age group and Gender					
Category	Age group	Male (All defects)	Female (All defects)	Total (All defects)	% in total defects
Nursery (KG Standards)	Upto 5 yrs.			0	#DIV/0!
Primary (I to V standards)	6 to 10 yrs.			0	#DIV/0!
Middle (Upto VIII standard)	11 to 15 yrs.			0	#DIV/0!
Hr. Secy. (Upto +2 standard)	> 15 years			0	#DIV/0!
Total		0	0	0	#DIV/0!

Diagnosis Details			
A. Children identified with defects by Ophthalmologist	0	of the total	among the def.
B. Refractive Errors (managed in the camp venue)	0	#DIV/0!	#DIV/0!
Total refraction done			
Same PG			#DIV/0!
Spectacles prescribed	New Power Glass		#DIV/0!
	Change Power Glass		#DIV/0!
	Total Glass prescription	0	#DIV/0!
Spectacles Ordered and acceptance rate			#DIV/0!
C. Other defects identified			#DIV/0!
Children Referred to Base Hospital by Ophthalmologist	For other eye defects		
	For further refraction		

Remarks by the Camp Organizer

Follow up	
1. Of the total prescription, no. of children use spectacles	
2. No. of referred children who have visited base hospital for further examination	
3. SUCCESS RATE: (Children using Glasses + Children visited base hospital) / (Total prescription + children referred to base hospital) x 100	#DIV/0!

Organizer Signature

Department of Outreach						
Post Camp Report for Paediatric Eye Screening						
Camp Date		Day	Sun	Camp Organizer		
Place of Camp				Name of the District		
Community Partner(s)						
Gender and Age particulars	0-5 years		6-15 years		Total Outpatients	
Male Children		#DIV/0!		#DIV/0!	0	#DIV/0!
Female Children		#DIV/0!		#DIV/0!	0	#DIV/0!
Total number of children screened	0		0		0	#DIV/0!
Diagnosis Details	0-5 years		6-15 years		Total	
Refraction details:	Diagnosed	Referred	Diagnosed	Referred	Diagnosed	Referred
Refraction done & % in OP		#DIV/0!		#DIV/0!	0	#DIV/0!
Same PG & % in Refractive Errors		#DIV/0!		#DIV/0!	0	#DIV/0!
Change the Power & % in Ref.Error		#DIV/0!		#DIV/0!	0	#DIV/0!
New PG prescribed & % in Ref.Error		#DIV/0!		#DIV/0!	0	#DIV/0!
Glasses delivered & Accep.rate		#DIV/0!		#DIV/0!	0	#DIV/0!
PMT						0
Cyclogic RR						0
Total Refractive errors & % in OP	0	#DIV/0!	0	#DIV/0!	0	#DIV/0!
Childhood Blindness	Diagnosed	Referred	Diagnosed	Referred	Diagnosed	Referred
Cataract					0	0
Glaucoma					0	0
Squint					0	0
Dacryocystitis					0	0
Conjunctivitis					0	0
Blepharitis					0	0
Nystagmus					0	0
Amblyopia					0	0
Stye					0	0
Ptosis					0	0
Corneal Opacity					0	0
Microphthalmos					0	0
Ptergium					0	0
Retina					0	0
ROP					0	0
Night blindness					0	0
Vitamin A Def.					0	0
Others					0	0
Defects other than Refractive Error	0	0	0	0	0	0
Children attended with eye defects:	0	#DIV/0!	Total Defects		0	#DIV/0!
Camp Organizer's Remarks and lessons learnt:						

Date:

Organizer's signature

Appendix 8G

Department of Outreach - Sponsors Feedback Form

Dear Sponsor,
 You have conducted a screening eye camp with us at on where we have screened outpatients and patients admitted for surgery. We appreciate your contribution in the field of community eye care. Please share your experience which will help us to improve the service in future. Thanks. Please tick in the boxes below

Excellent	Good	Fair	Poor
-----------	------	------	------

1. How do you rate the doctor's behaviour:				
--	--	--	--	--

2. How do you rate the nursing staff's behaviour towards the patients:				
--	--	--	--	--

3. How do you rate our treatment facilities:				
--	--	--	--	--

4. How do you rate the communication between you and our hospital:				
--	--	--	--	--

5. How do you rate the punctuality of the medical staff:				
--	--	--	--	--

6. How do you rate the guidance provided by our organizer:				
--	--	--	--	--

7. How do you rate the patient turn out in this camp:				
---	--	--	--	--

8. What is your assessment of the camp as a whole:				
--	--	--	--	--

Open Comments / Suggestions

--

Date:

Signature of the Sponsor

Appendix 8H

Department of Outreach																						
Diagnosis details for the camps held during the week ending on																						
S.No.	Date	Place	District	Distance	Org.	Age Group					Speciality											
						0-15 yrs	16-40 yrs	41-50 yrs	>50 yrs	OP	IMC	Adv	Brt	RR	GI.Pr	GI.Or	Diag.	Ref.	Reg.	Acceptance rate		
Col 1	Col 2	Col 3	Col 4	Col 5	Col 6	Col 7	Col 8	Col 9	Col 10	Col 11	Col 12	Col 13	Col 14	Col 15	Col 16	Col 17	Col 18	Col 19	Col 20	Col 21		
1																						
2																						
3																						
4																						
5																						
Total						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	%

IMC: Immature Cataract, **Adv:** Advised for Cataract surgery, **Brt:** Brought for Surgery, **RR:** Refractive error, **GI. Pr:** Glasses prescribed, **GI. Or:** Glasses Ordered, **Diag.:** No of patients diagnosed with speciality problem, **Ref.:** Referred to Base hospital for speciality, **Reg.:** Registered for Speciality in base hospital

Note:
 The camp organizer is accountable for the data for the columns 2 - 11. The ophthalmic assistant is accountable for the data for the columns 12 - 15 and the optician for Column 16 & 17 and counsellor for 18 - 20. The patient counsellor plays a key role for higher acceptance rate by way of effective counselling. This process will help us to ensure a complete and comprehensive eye care.

Appendix 8I

**Department of Outreach
Admitted but Not Operated' - for the period**

S.No.	Camp Place	Admission Date	Patient Name	Admission Number	Surgery Advised	Eye	Pre-Op VA	Reasons for 'Not operated'	Follow up Action
1			1. 2. 3.						
2			1. 2. 3.						
3			1. 2. 3.						
4			1. 2. 3.						
5			1. 2. 3.						
6			1. 2. 3.						
7			1. 2. 3.						

Coordinator - Inpatient Services

Note: In many places; there is a gap in between admission and actually operated and failed to record the reasons for 'no surgery'. This form will help us to track the reasons and to avoid those kind of avoidable admissions. Some cases may have special reasons for rejection after admission. It may be an experience. This monitoring will help us to reduce the dropout after admission and to standardize the clinical admission protocol.

Appendix 8K

Department of Outreach

Post operative Follow-up Report: Details for the camps held during the month.....

No	Place of Camp	Camp Date	Review Date	Place of Review	Optometrist	Counselor	Admission	Cataract	Other Surgery	Total Surgery	Reviewed (Cat)	% of (cat) Followup	Absent					
1										0	0	#DIV/0!	0					
2										0	0	#DIV/0!	0					
3										0	0	#DIV/0!	0					
4										0	0	#DIV/0!	0					
5										0	0	#DIV/0!	0					
6										0	0	#DIV/0!	0					
7										0	0	#DIV/0!	0					
8										0	0	#DIV/0!	0					
9										0	0	#DIV/0!	0					
Total											0	0	0	0	0	0	0	0

Vision with Correction				Compl cations
6/6 - 6/18	6/24-6/60	<6/60	TOT AL	
###	###	###	0	
###	###	###	0	
###	###	###	0	
###	###	###	0	
###	###	###	0	
###	###	###	0	
###	###	###	0	
###	###	###	0	
###	###	###	0	
0	0	0	0	

Note: Followup of operated patients and analysis of visual acuity have to be recorded and discussed in the periodical meetings to ensure the patients satisfaction and quality of life. The counsellor is accountable for followup acceptance rate as they insist the importance of followup in post operative and discharge counselling. The optometrist is accountable to collect the casesheets from MRD, record the findings in each case record and submit the summary report to outreach department. The outreach manager has to facilitate this process and leave the judgement on quality of life to the medical officer not to fine fault but sensitize the team where we stand. Details of complications for each camp has to be listed and the CMO can place it before quality improvement/infection control/clinical meetings as a regular practice.

I. Comprehensive eye screening camps: Summary of performance based on key parameters - for the week ending:

S.No.	Date	Place	Organizer	District	Sponsor	OP	Adv. Cat.	Adm	Cat Acc. %	GP given	Gl. ord	GL Acc. %	Sply Ref	Sply Regd	Sply Acc. %	Surgery done	Follow up	Follow up %
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
									#DIV/0!			#DIV/0!			#DIV/0!			#DIV/0!
									#DIV/0!			#DIV/0!			#DIV/0!			#DIV/0!
Total for the period - week / month						0	0	0	#DIV/0!	0	0	#DIV/0!	0	0	#DIV/0!	0	0	#DIV/0!

II. Diabetic Retinopathy screening camps: Summary of performance based on key parameters - for the week ending:

S.No	Date	Place	Organizer	District	Community Sponsor (for promotion)	Clinical Sponsor (for diab referral)	Exp. OP	Exp. Diab	Actual OP	Diabetic Screening				Amongst known Diab		New DR (in new diab)	Total DR	% of DR in Diab.	Referred to visit BH	Visited Ret clinic	Follow up %
										Known	Diag nosed	Total diab.	% of In OP	Known DR	New DR						
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
												0	#DIV/0!				0	#DIV/0!			#DIV/0!
												0	#DIV/0!				0	#DIV/0!			#DIV/0!
Total for the period - week / month										0	0	0	0	0	0	0	0	#DIV/0!	0	0	#DIV/0!

III. Workplace eye screening camps: Summary of performance based on key parameters - for the week ending:

S.No	Date	Day	Place / Employer	District	Orgr.	Employees			Ref. done	Glasses prescribed			Glasses Ord. & Acc.rate			Same PG	Ref. Err.	Other defects		
						<40	40+	Total		<40	40+	Total	<40	40+	Total					
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19		
									0			0	#DIV/0!			0	#DIV/0!		0	
									0			0	#DIV/0!			0	#DIV/0!		0	
Total for the period - week / month						0	0	0	0	0	0	0	#DIV/0!	0	0	0	#DIV/0!	0	0	0

IV. School Screening Camps: Summary of performance based on key parameters - for the week ending:

S.No	School Name	District	Organizer	Teachers trained	Training given on	Camp held on	Strength	Students id. with defects		% of accuracy	Refraction done	Refractive Errors				Glasses		Acceptanc e %	
								Teachers	Doctor			Same PG	Change PG	New PG	Total	Pres.	Ord.		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
										0	#DIV/0!					0	0		#####
										0	#DIV/0!					0	0		#####
Total for the period - week / month				0			0	0	0	#####	0	0	0	0	0	0	0	0	#####
% of defects in total school strength								#DIV/0!	#DIV/0!		#####	#####	#DIV/0!	#####	#####	#####	#####	#####	

V. Paediatric Eye Screening Camps: Summary of performance based on key parameters - for the week ending:

S.No	Date	Place	Organizer	District	Children screened			Refractive Errors					Gl. Ordered & accep. Rate	Refrd to BH for RR	Other def.		Total def. id by med. Team	% of def. in OP	Ref.to BH		
					0-5 yrs	6-15 yrs	Total	Refr. Done	Same PG	Change PG	New PG	Total GP			Diag nosed	Referred			RR & Others	Visited AEH	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
							0					0		#DIV/0!				0	#DIV/0!	0	
							0					0		#DIV/0!				0	#DIV/0!	0	
							0					0		#DIV/0!				0	#DIV/0!	0	
Total for the period - week / month					0	0	0	0	0	0	0	0	0	#DIV/0!	0	0	0	0	#DIV/0!	0	0

Department of Outreach

This is a performance summary by individual organizers in each type of programmes. The source of information is camp level data. Efficiency of the organizers is discussed and judged based on the following performance parameters.

I. Comprehensive Eye Screening Camp	Last yr Target		Last year Actual as on							Current yr Target		Current year Actual as on							
	Camp	Admn.	Camp	OP	IP & % to Annual Target	Cat in OP	Avg/ Camp	Glass Ordrd.	GO % in OP	Camp	Admn.	Camp	OP	IP & % to Annual Target	Cat in OP	Avg/ Camp	Glass Ordrd.	GO % in OP	
Organizer1					#DIV/0!	#DIV/0!	#DIV/0!		#DIV/0!					#DIV/0!	#DIV/0!	#DIV/0!		#DIV/0!	
Organizer2					#DIV/0!	#DIV/0!	#DIV/0!		#DIV/0!					#DIV/0!	#DIV/0!	#DIV/0!		#DIV/0!	
Total	0	0	0	0	0	#DIV/0!	#DIV/0!	#DIV/0!	0	#DIV/0!	0	0	0	0	#DIV/0!	#DIV/0!	#DIV/0!	0	#DIV/0!

II. Diabetic Retinopathy Screening Camp	Current year Target				Current year actual as on														
	camps	OP	Diab. Pts	Diab. Ret. pts	camps	OP	Diabetic patients seen				Diabetic Retinopathy (DR)				Referred to hospital	Patients Visited	Ret/clinic	Follow up %	
							Known diab.	Diab. Diagnosed	Total diab.	% of Target Diab.	D.R. (Old)	D.R. (New)	D.R. Total	% of DR in DIAB					Target DR Vs Actual
Organizer1				0						0	#DIV/0!			0	#####	#DIV/0!			#DIV/0!
Organizer2				0						0	#DIV/0!			0	#####	#DIV/0!			#DIV/0!
Total	0	0	0	0	0	0	0	0	0	0	#DIV/0!	0	0	0	#####	#DIV/0!	0	0	#DIV/0!

III. Workplace Eye Screening Camp	Current year Target				Current year actual as on									
	Camps	Targeted OP (Employee)	Targeted Glass order (GO)	% of GO in OP	Camps held	OP (Employees) seen			Same PG	Glass Prescribed (% in OP)	Glasses Ordrd.	Glass accep %	Actual GO to Annual Target	
						< 41	> 40	Total						
Organizer1				0	#DIV/0!				0		#DIV/0!	#DIV/0!	#DIV/0!	
Organizer2				0	#DIV/0!				0		#DIV/0!	#DIV/0!	#DIV/0!	
Total	0	0	0	0	#DIV/0!	0	0	0	0	0	#DIV/0!	0	#DIV/0!	

IV. School Children Eye Screening Camp	Current year target			Current year actual as on												
	Schools	Children to be screened	Eye Glass order & % in total strength	Schools	Teacher trained	Children seen by Teachers	Refraction Services					Glasses ordered & % in target	Glass accep %	Other defects	Total Defects (RR + others) & % in strength	Perf to (GO) Annual Target
							Same PG	Change PG	New PG	Total Gl. Presc. % in strength	Total Gl. Pres.					
Organizer1			#####							0	#DIV/0!	#####	#####	0	#####	#DIV/0!
Organizer2			#####							0	#DIV/0!	#####	#####	0	#####	#DIV/0!
Total	0	0	0	0	0	0	0	0	0	0	#DIV/0!	0	#####	0	#####	#DIV/0!

V. Paediatric Eye Screening Camp	Current year target			Current year actual as on																
	camps	Children to be seen	Targeted children with def.	Camp held	Children screened			Refractive Errors							Refrd to BH for RR	Other defects	Total defects (RR+Chn.dab.)	% of target achieved		
					0-5 yrs	6-15 yrs	Total	Refr. Done	Same PG	Change PG	New PG	Total Ref. error	Total Gl. Pres.	Gl. Ordered & accep. Rate						
Organizer1														0	0	#DIV/0!			0	#DIV/0!
Organizer2														0	0	#DIV/0!			0	#DIV/0!
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	#DIV/0!	0	0	0	#DIV/0!

9. Challenges in Community Outreach

Eye care institutions all over the world have developed strategies for meeting the challenges of outreach in eye care. Sharing these solutions is especially useful for small eye care institutions that are developing and those who have not yet structured their outreach programmes.

This chapter is a compilation of best practices in meeting the challenges described below, which can be categorised as internal or external to the eye care institution.

INTERNAL

1. Developing a sense of ownership and accountability for outreach programmes at all levels in the eye care institution.
2. Keeping staff morale high.
3. Retaining employees and dealing with absenteeism of clinical staff.
4. Maintaining a high quality of care.
5. Ensuring equitable access to eye care.
6. Developing financial sustainability for outreach programmes.

EXTERNAL

7. Identifying potential community partners / sponsors
8. Retaining community partners / sponsors
9. Maintaining the trust of community partners with organisation

INTERNAL OUTREACH CHALLENGES IN AN EYE CARE INSTITUTION

Challenge 1: Developing a sense of ownership and accountability for outreach programmes at all levels in the eye care institution

This challenge can be met via several strategies:

- A. Helping the whole staff understand the importance of outreach
- B. Encouraging cost consciousness
- C. Constant review by senior management (including monitoring, evaluation, and support)

A. Helping the whole staff understand the importance of outreach

It is important for the outreach department to help management and staff understand the importance of eye camps and other outreach strategies for both the community and the eye care institution. Whether staff are directly involved with outreach (clinical) or indirectly supporting outreach programmes (administration, supplies, medical records), they should be educated about the purpose and aligned with goals of outreach and the important impacts of outreach on the development of the eye care institution (for example, in generating patients).

The administrative team of the eye care institution must be trained (or at least encouraged) to include the outreach department when setting daily, weekly, monthly and annual targets as well as five-year and ten-year goals; and to include the outreach department when tracking and celebrating achievement of goals. The work of the outreach department must be considered an integral part of the work of the eye care institution.

B. Cost consciousness

Everyone involved with outreach should be aware of the costs involved in running outreach programmes. Instilling cost consciousness in the team members will lead to higher productivity, effective use of resources and supplies, a sense of ownership and accountability that will help to control the costs and sustainability of the programme.

C. Constant review by senior management

Lack of interest by senior management can contribute to unstructured and unproductive outreach. Effective outreach helps the eye care institution in several ways. This is an incentive for management to monitor outreach programming to make sure it serves its purpose. A system of constant monitoring will alert everyone to the importance of taking ownership of the outreach programme. Outreach should be given importance by various stakeholders.

Some eye care institutions have outreach meetings periodically and some conduct them as and when required. Lack of formal evaluation does not serve to regularly inform management about the outreach department's level of performance against their targets. A set of benchmarks and a structured evaluation process are needed to accurately measure and analyse results. In many cases, irregularly scheduled meetings or informal discussions lead to last minute stress to achieve "expected" results. Periodic review is vital for ensuring constant progress in meeting targets and to update the management on the progress of outreach initiatives.

Finally, management should be aware of the importance of outreach, the number of scheduled outreach activities and what support is required to conduct outreach programmes. Support from management is important for providing necessary resources, infrastructure, supplies, support services and finance. Support helps the outreach staff feel they are a valued part of the eye care institution and helps other staff accept the outreach department as an important contributor to the organisation.

Challenge 2. Keeping staff morale high

The number of people in the world with low vision or avoidable blindness is staggering. The magnitude of the problem, especially when added to the challenge of getting eye care to these people through outreach, can be overwhelming. To keep staff morale high, it is important to bring a wider focus to the eye care institution's work. For some, this is compassionate capitalism or social entrepreneurship. For others, it is a spiritual or religious mission. For still others, their eye care work stems from grounding in humanitarianism or philanthropy.

Compassion for the beneficiaries of outreach - predominantly the poor and rural blind - must be part of the outreach department's ethos and should be evident in the outreach team that directly delivers care to the patients. Outreach team members who have the feeling that they are helping their own community, their own parents, brothers and sisters, will keep their morale high.

Every individual's commitment and contribution is important for obtaining the desired results of an outreach programme. Every member of the outreach team has a notable role to play and every one is a part of the service chain, or service loop. One task of management is to motivate their staff by helping them recognise the significance of the service they are providing - by encouraging them to enjoy their involvement in outreach initiatives that will help a number of blind people regain their sight and return to productive lives.

I slept and dreamt that life was joy. I awoke and saw that life was service. I acted and behold, service was joy.

- Rabindranath Tagore

Without outer and inner discipline, nothing can be achieved in life, either spiritually or materially. All those who have been able to create something beautiful or useful have always been those who have known how to discipline themselves

- Dr.G.Natchiar

Right management of the internal self in the key to the succesful might of outer life and environment. Someone who cannot manage his own self cannot effectivly manage others or anything in the outer life. So self-management is the key to life management.

- Dr.G.Natchiar

Honesty is an integral element of credibility. Dishonesty has a very short self life.

- Dr.G.Natchiar

Without the fire called 'passion' one can only keep watching the clock to counter the number of hours one puts in. A person with passion, no matter what, will ensure the work assigned will be completed within the time limited.

- Dr.G.Natchiar

Widespread labour shortages exist in many health care professions. On a broader scale all businesses and professions are competing for the same pool of talented people, especially those who are technically or scientifically adept. No matter what the state of the economy, the best and the brightest are always in demand.

- Jeyachandran Sowmia

Another reason to keep morale high is that maintaining a positive attitude and team discipline among the staff will earn the eye care institution good recognition and a good reputation. Every member of the team shows the face of the organisation. Respectful staff behaviour and a compassionate attitude serve to improve the quality of care and increase the level of satisfaction amongst patients and sponsors, which in turn helps keep outreach programmes and eye care institutions, financially sustainable.

Challenge 3. Retaining employees and dealing with absenteeism of clinical staff

Eye camps or other outreach events can face problems because a member of the medical team is absent, sudden illness or family emergencies cannot be helped. Outreach departments can put into place policies and guidelines to help avoid absenteeism. Proper planning of all team members is important and it is mandatory to make the team members attending the camps commit by signing a posting that is prepared on a regular basis. The posting schedule is prepared with all details of medical and paramedical staff attending the camp.

- The administrators / managers of the eye care institution, eye clinic or ophthalmological practice must understand and support the planning and resources (money as well as staff time and energy) that go into an outreach activity. Their assistance and support is vital in setting policies and guidelines for clinical staff involvement in outreach activities.
- Using a transparent method such as rotation for choosing who will attend which eye camps helps to build a positive rapport between clinical staff and the outreach department. A seemingly unfair system could lead to problems in planning the outreach.
- Staff assigned to outreach events need ample notice of their posting. Posting the names of the clinical team members for each outreach activity in a regular place (notice board or online intranet) two to three weeks beforehand can solve many absenteeism problems.
- Because cancelling an outreach event at the last minute is a waste of time and money and especially the goodwill of the eye care institution and the sponsor, administrators should designate one or two clinicians who can be called upon at the last moment.
- Doctors and other personnel should inform outreach organisers of their absence at least one week ahead of time. In most cases, doctors are expected to find and arrange for their own replacement. Making outreach schedules and lists of posted personnel available to everyone involved (including supervisors) will facilitate this process.

Absenteeism can certainly be a problem within an eye care institution. Retention of employees has become a major challenge in the health care field around the globe. Challenges to retention of staff differ in different parts of the world, but the principles of effective human resource practices remain the same (see Chapter 2 on Human Resources).

First, success at retaining employees requires an organisational culture that inspires loyalty and commitment. Employees must feel that their contributions are valued. A fair living wage is an important form of acknowledgement, although not always the most important. Training and other career opportunities (promotions, research time, encouragement and support to attend conferences) are vital for mid- and high-level professionals.

Attracting and Retaining Trained Ophthalmic Personnel in a Remote, Rural Setting - an example

Sadguru Netra Chikitsalaya (SNC) in Madhya Pradesh, India was an eye care institution plagued with the following problems:

- Inconsistent, sporadic growth in the eye hospital organisation
- Difficulties in sustaining high quality of services
- Upgrading existing systems and management practices was a challenge
- Introduction of specialty services beyond cataract surgery was proving difficult
- Patient load was growing without an increase in human resources
- Patient satisfaction suffered due to lack of promptness and personal attention
- Lagged behind in technological advancements because meagre staff could not be sent for training (one retention factor is that most eye doctors are keen to work in a progressive environment)
- Unable to generate full potential income
- Retention of qualified ophthalmologist was difficult because of remoteness and lack of education and entertainment opportunities for their children

Management designed a two-year contract agreement for keen ophthalmologists with assurance of comprehensive exposure to clinical and surgical management, community outreach camps, continuing medical education opportunities (conference once every two years, more frequently if a paper was accepted), academic growth coupled with hands-on skill enhancement from world-class faculties. Those willing to commit to a five-year contract were provided short-term training opportunities in a sub-speciality such as oculoplasty, glaucoma, or paediatric ophthalmology, or even long-term fellowships in cornea or vitreo-retinal services.

Retaining ophthalmic manpower increased the surgical volume and benefited more underserved patients.

The past few years at SNC have proved beyond doubt that our revised human resource development policy, which addressed the scope for continued education and learning and career growth, and twinned it with the values of the organisation, resulted in positive growth for the organisation.

- Dr. B. K. Jain and K. Anand Sudhan

Respect everyone, be it your boss, your subordinates, your colleagues or anyone for that matter. We have something to learn from everyone, irrespective of age or seniority.

- Dr.G.Natchiar

Other retention strategies include

- Removing management responsibilities from clinical (technical and professional) staff and placing them in the hands of full-time managers (although this strategy can backfire in cultures where a well-honed hierarchy is functioning well).
- Providing staff accommodation and entertainment opportunities in rural areas.
- Extra compensation for lack of social utilities and amenities in remote postings.
- Setting up a mentoring programme, so that more senior staff can mentor younger colleagues before retiring.
- Ensuring that staff has the resources (supplies, instruments and functioning equipment) that they need at all times.



Challenge 4.: Maintaining a high standard in quality of care

Meeting this challenge involves several strategies

- A. Ensuring the availability of ample resources and high quality supplies.
- B. Ensuring follow-up of patients following treatment or surgery.
- C. Explaining poor visual outcomes to patients.
- D. Sharing poor as well as good outcomes.
- E. Dealing with the negative aftermath of other organisations' outreach activities.

A. Ensuring the availability of ample resources and high quality supplies

The success of outreach initiatives depends on a strong network where all departments, both clinical and non clinical, are connected and communicate well to ensure quality. Even if the outreach department plans well and works effectively with sponsors, high quality service can only be delivered if high quality resources are made available. The stores/stock department must make high quality supplies available in a timely way, with strong inventory management. Instrument and equipment maintenance is vital, as blunt instruments and frequent breakdown of equipment will strongly affect the quality of service. (Indeed, in some eye hospitals there is no uniform workload of surgeries due to inadequate supplies, instruments and equipment, leading to inefficiencies, low morale and no guarantee of quality of service). Keeping adequate high quality resources on hand maintains high quality care and increases the volume of work as well, leading to financial sustainability.

B. Ensuring follow-up of patients following treatment or surgery

The main challenge of the base hospital approach to community outreach is ensuring that patients are seen for follow-up after their surgery or other treatment. There are so many options: camp patients might go back to the base hospital for follow-up, or visit a local eye doctor, or attend a nearby screening camp, or not worry about the follow-up at all.

In parts of Africa, this challenge of follow-up is being solved through the use of cell phone technology, which is more and more common, even in small, remote villages. On the specified day, paramedical or outreach staff at the base hospital text a message to the family of the patient, reminding them of the need for follow-up.

Ensuring Follow-up - A Case in Point

At one time, it was impossible for Aravind Eye Hospitals to know exactly how many camp patients were receiving follow-up care because their visits to other doctors or eye camps could not be tracked. In the mid-1990s, Aravind solved this problem by developing follow-up camps as a mandatory part of every screening camp. Follow-up camps are held a month after surgery at the original camp venue.

Aravind has found that their rate of follow-up increases to 90% when a follow-up team is sent to the camp venue 30 days after surgery. Camp patients are informed of their follow-up date and venue details upon discharge. Depending on the number of operated patients, an ophthalmologist for every 100-150 patients plus one or two ophthalmic assistants (refractionists) make the follow-up visit. The logistics of hospitality and other facilities are arranged by the original camp sponsor.

In the diabetic retinopathy and glaucoma departments, follow-up is done based on an appointment system, and there is a good response to this system from patients. The rate of compliance became quite high.

C. Explaining poor visual outcomes to patients

Medical teams are often asked whether cataract surgery is always successful. The answer is that most cataract patients will have their sight restored. With the increased standard of operating procedures, they should be able to lead normal lives with good visual acuity. However, there will be some cases in which cataract surgery cannot restore vision.

- If the patient has delayed seeking treatment for cataract, other complications like glaucoma may set in, irreparably damaging the optic nerve of the eye. Even if the defective lens is removed, the patient would be unable to see properly. Although in most cases the ophthalmologist will be able to determine whether or not surgery will restore vision, it is not always possible to tell in advance. Generally a fundus exam is done wherever possible in immature cataracts to find out if there is any retinal pathology. This helps the surgeon inform the patient if the surgery will be done with guarded prognosis and the vision may not improve.
- Sometimes the patient has a mature cataract operated and then complains that their eyesight has not been restored. This is because fundus exam was not possible in mature cataract. Patients who have retinal pathology must be told that the vision loss is not due to cataract surgery but due to a pre-existing retinal problem. It is very important to deal compassionately with patients disappointed with their visual outcome and to direct them towards rehabilitation programmes to help them live with blindness.
- In some cases poor visual outcome is due to intraoperative or postoperative infection or complication. It is important to pay close attention to ensuring high quality surgery (asepsis, sterilisation of equipment). The significance of effective follow-up and counselling and the importance of monitoring and evaluation of results must be stressed.

Doctors are trained to explain the reasons for a potential or actual poor outcome, as well as the prognosis.

D. Sharing poor outcomes as well as good outcomes

It is said that a happy customer tells three people, but an unhappy customer tells ten. The same is probably true of satisfied and dissatisfied patients. An outreach team can continue its services sustainably within a community once the programme and its outcomes are appreciated and accepted. But if one patient in thousands ends up with poor vision, he or she could spread negative messages that will spoil the image and reputation of the eye care institution. It is important to share the statistics about good results within communities, to patients, relatives and sponsors. There should also be a procedure in place to analyse poor outcomes and their causes. These should be communicated especially to the staff members who handled the patients, not to penalise them but to help them learn and avoid the problem in the future. Everyone in the eye care institution and especially on the outreach team, should think of learning from poor visual outcomes as an important element in ensuring high quality eye care.

E. Dealing with the negative aftermath of other organisations' outreach activities

Wherever possible, eye care institutions are moving away from makeshift surgical eye camps as a form of outreach, because of suboptimal outcomes. Visual outcomes are much better and there are fewer intraoperative and postoperative infections and complications in a base hospital compared to an operating theatre "in the field."

Lowering the standard of medical care for those in developing communities is unprofessional, unsafe and unethical. If community members are trained to provide any type of eye health services, they must be integrated into a local eye clinic's ongoing outreach programs by eye care professionals at the same location. The primary role of the community members should be to help reduce the primary barriers to patient care and their close involvement with local eye clinics can be highly beneficial to the patients.

- Unite for Sight

The ramifications of botched surgeries affect more than just the surgical patients and their families; a single poor surgical outcome can lead an entire village to fear doctors and surgery on a long-term basis.

- Unite for Sight

The following mistakes should be avoided.

- Involving untrained people
- When we fail to partner with local eye care providers, we fail to engage them in our work, so we don't gain their trust
- Lack of follow-up can lead to patients not using the medications properly and we may fail to monitor the visual outcomes.
- Poor visual quality outcomes can have wide-ranging and long-lasting negative impacts

Challenge 5. Ensuring equitable access to eye care

Equitable access to high quality eye care is especially important for women and girls and for the unreached in underserved villages.

The statistics on gender imbalance in eye care are discouraging. Two thirds of those who are needlessly blind are female and this is for no biological reason. It is due to sociocultural and economic beliefs and traditions that create more barriers for women than for men in need of eye care.

The first step is awareness of this inequity. The second step is to study the barriers specific to the catchment area and target population. The third step is to design solutions to these barriers directly into outreach initiatives. For example, in many cultures, women do not travel alone. The closer outreach activities are to their front door, the more women will participate.

Other gender issues sometimes arise in staffing. For example, some eye care institutions prefer to hire men for the position of eye camp organiser due to the nature of the job requirements (travel, meeting with strangers) and the traditions of their culture, even though many women would make excellent camp organisers. In other settings, only women are allowed to hold the job of ophthalmic assistant, even though many men would make excellent OAs. Times change, cultural traditions evolve. The most important goal is to extend the human right to sight to all women and men, girls and boys equally.

Enabling Gender Equity - A Case in Point

Aravind Eye Hospitals realised for years that outreach is required to reach more women, especially those who are underprivileged and living in remote places or rural areas. Unfortunately, these women wait for eye hospitals to offer free services through outreach programmes in their own communities to take care of their eye problems. Aravind conducts eye camps predominantly in rural areas or in suburban areas that have very good access to the nearby rural masses. Still, the data on cataract surgeries shows that cost and access have a major influence on gender uptake. (See more about barriers to uptake of service in Chapter 6.)

The snapshot below of cataract surgeries performed at Aravind-Madurai supports the belief that female patients are better served through subsidised or free care and through outreach camps.

Cataract Surgeries Performed 2015 - 2016

Aravind Madurai	Male	Female	Number of Surgeries
Paying (walk in)	51 %	49 %	37,266
Free (walk in)	44 %	56 %	33,895
Free (camp)	44 %	56 %	28,022
Total	47 %	53 %	99,183

Often, eye care institutions choose areas for outreach programmes that are convenient for them rather than determining the places where their service is really needed. Ensuring equity of access for underserved rural areas means concentrating on a catchment area (perhaps a certain radius from the base hospital preferably 60 km radius) that can be covered effectively and efficiently. Uniform coverage in the chosen area should be ensured to reach everyone who needs eye care. Avoiding certain areas will impact the magnitude of blindness there, leading to poor health, poor education and poor economics over a period of time. Complete coverage of the villages and population within the catchment area should be confirmed. This full access is justifiable by an eye care institution because it leads to patient generation.

Challenge 6. Developing financial sustainability for outreach programmes

Be sure to read Chapter 7 on Financing for an understanding of how to achieve financial sustainability. One suggestion is to ensure that funders understand that the true cost of a cataract surgery must include the cost of the outreach activity, in particular a cataract case finding cost. The following three areas are important in understanding financial sustainability in outreach programme

- A. Cost recovery
- B. Cost management
- C. Cost analysis

A. Cost recovery

Conducting outreach initiatives and performing eye surgery costs a lot of money, for manpower, supplies, transport and more. Eye care institutions must seek sometimes innovative ways to recover their costs – be it through their own revenues (user fees, products such as eyeglasses), government grant-in-aid schemes, local or international funding agencies, or sponsors – in order to ensure their continued financial viability.

B. Cost management

Many eye care institutions do not include a well-defined budget for their outreach programmes in their larger budget. Both poor budgeting and inadequate financial support lead to “crisis management” when it comes to funding outreach initiatives, which can lead to reduction in or elimination of outreach offerings. This in turn decreases demand generation, which creates another budget crisis. An adequate budget for outreach, carefully managed through cost containment strategies can contribute to the financial viability of the eye care institution (see Chapter 7).

C. Cost analysis

In many eye care institutions, analysis exists to measure clinical performance. It is also important to have procedures in place for analysing financial performance: in-depth analysis of how much is being spent on outreach, such as the organisation of eye camps and free or subsidised surgery. Cost analysis gives an idea of the cost effectiveness of the outreach programme. If it turns out to be too costly, strategies can be found to cut down on needless expenditure, or to share the costs. Accurate cost analysis along with careful cost management shows administrators that the outreach department understands that it is an integral part of the eye care institution.

The current gap between eye care providers and the many blind and severely visually impaired needing their services is unacceptable, and could be best bridged through the establishment of permanent eye care structures and services. In the meantime, and given the dysfunctional nature of eye care systems in many impoverished parts of the world, other modalities of outreach will continue to be used, perhaps for many years to come. Outreach programmes, however, are not a panacea. So far, only a few have been able to sustain themselves beyond five years. Many, initially hailed as successful, have turned out to be long-term failures and most “model” programmes have not been easy to replicate in other settings or work environments; the reasons for this are still poorly understood. As more and better use is made of these bridging strategies, we should try to learn, through operational research, how to have an even greater impact.

- Daniel Etya'ale, Coordinator of VISION 2020 in Africa

Cost of conducting eye camps is shared by involving community based wellwishers. We should not demand for any kind of unnecessary expenses, luxury accommodation, lavish food etc., One should not feel that the money spent for the medical team is expensive.

- Dr. Ilango
Aravind Eye Hospital

EXTERNAL OUTREACH CHALLENGES AT THE COMMUNITY LEVEL

Challenge 7. Identifying potential community partners / sponsors

This challenge can be met with three strategies

- A. Recognising the necessary basic qualities in a sponsor
- B. Sensitising community leaders to the need for outreach
- C. Sensitising community leaders to the value of their contribution

A. Recognising the necessary basic qualities in a sponsor

Successful outreach initiatives depend on effective sponsors. These are people who can be identified through their interest in social issues, their willingness to serve the poor, a good reputation in the community, local recognition for their charity and business activities, evidence of their supervisory and financial skills, and their access to a network of potential volunteers. Finding these people (or, in some cases, groups such as local service clubs) is a great challenge for outreach organisers, which is why once a qualified sponsor is found (or a local philanthropist is converted into a sponsor of a camp), it is vital to retain that sponsor. (See Challenge 8 below.)

B. Sensitising community leaders to the need for outreach

Every community has its leaders. It is the task of every outreach organiser to identify these people and show them the need for outreach in their villages. This can often be accomplished with statistics and data on the prevalence of cataracts and other blinding eye diseases in the community. As soon as someone takes ownership of the local problem of needless blindness, it can be solved.

C. Sensitising community leaders to the value of their contribution

One role of outreach organisers is to communicate clearly to potential sponsors the value of the contribution they are being asked to make, in terms of both the people whose quality of life they will improve and the benefits to themselves. Because each outreach activity (especially a screening eye camp) must be strongly publicised in order to ensure its success, the sponsor's business or organisation can be widely promoted through the publicity. Brand recognition, community appreciation, and enhanced reputation are all benefits that come from sponsoring an outreach activity.

Challenge 8. Retaining community partners / sponsors

Maintaining effective working relationships with sponsors and other community partners entails several strategies

- A. Avoiding misunderstandings
- B. Ensuring satisfaction
- C. Showing appreciation
- D. Looking after details in a timely fashion

A. Avoiding misunderstandings

When working with sponsors mutual understanding and cooperation is crucial for effective and efficient outreach. Occasional misconceptions, miscommunications and misunderstandings with sponsors and other outreach partners are bound to arise. If a serious and persistent problem comes up, consider whether the best alternative (usually terminating the relationship if the problem is not able to be resolved) is indeed beneficial to the eye care institution.

Carefully analyse the “costs and benefits” of the relationship. Write a list of the sponsor’s strengths and weaknesses, as well as the advantages and disadvantages of continuing to work with him/ her or them. Give as much weight to the losses associated with not resolving the problem as you give to the disadvantages of working with the sponsor. In most cases, resolving the problem is worth whatever that may cost.

Clear delineation of roles, rights, responsibilities, tasks and financial commitments helps solve any misunderstanding. See Appendix 4 for examples of how to delineate a sponsor’s responsibilities, seek written proof that the sponsor has understood and continue to check in regularly right up to the event.

B. Ensuring satisfaction

As a stakeholder of outreach, sponsors want to feel a sense of satisfaction after “their” camp is conducted and a number of patients have had their sight restored. That sense of satisfaction comes mainly through satisfied beneficiaries. A key challenge is to make sure that every patient is well satisfied: that they have understood their eye problem, their treatment and their follow-up and that they are pleased with the services they received and their visual outcome. This care provided to the camp patients will reflect on the sponsor of the camp, so if the eye care institution wants to retain a sponsor, it must provide the kind of eye care that will enhance the sponsor’s goodwill and reputation in the community.

Ensuring the Satisfaction of Sponsors

At Aravind, we have been associating with service organisations (such as Lions Clubs, spiritual organisation, community based welfare associations) as our local community partners when conducting eye camps. Realising the important contribution of these organisations, we wanted to get feedback about the quality of service (in terms of staff attitude, morale and behaviour) during the eye camps. We developed a feedback form to get input from our partners on various aspects of the eye camp they sponsored, and we communicate their remarks or suggestions, whether positive or negative, to the concerned staff. This helps all of us to continually improve our work. It also helps us maintain a team discipline, as members of the camp team are not perceived as individuals but as Aravind staff – they represent Aravind Eye Hospitals. It is therefore very important to listen to suggestions for improving our quality in order to retain our sponsors.

- R. Meenakshi Sundaram

C. Showing appreciation

No work, no contribution to human society and service should go unnoticed or without appreciation. Outreach sponsors must be appreciated by the outreach

Appreciating the Contributions of Sponsors — A Case in Point



The founder chairman Dr.V and the chairman emeritus Dr. P. Namperumalsamy present award to best performer (Sponsors)

Community participation is the key element for the success of our outreach programme. We should value their time, interest and money. It is our responsibility to guide them how to make the programme more valuable for the community. Pre camp work has to be planned and check listed for verification. The right matter has to be communicated at the right time and in the right place. Otherwise, resources will be drained without yield.

- R. Meenakshi Sundaram

At Aravind, we have realised the important role of sponsors in the successful conduct of our outreach programme. Together we own the activity. Together we share the joy of service. Together we appreciate what is being provided to needy communities. In order to sustain these relationships, we conduct a meeting-like get-together – a “Sponsors Day” – once every two years. We invite every sponsor to the function, where we recognise their contribution, applaud their statistics and performance and allow them to share their experience. It is always a learning session for everyone. The sponsors feel happy that they are well recognised and express their willingness to continue in the same spirit in future.

- R. Meenakshi Sundaram

staff and management of the hospital. Otherwise they will lose their interest in service. Their invaluable time, money, resources, networks, efforts and results can be recognised in the form of letters, certificates, awards and meetings.

D. Looking after details in a timely fashion

Planning and execution are equally important. Outreach activities must be carefully planned and every detail must be attended to at the right time. Proper communication with the sponsor is necessary and at the same time official procedures have to be followed. For example, it makes no sense to have publicity for a screening eye camp venue if the required permission to use the venue has not been requested or received. Another example is that it is much easier to clean a venue before the furniture has been arranged than after. Getting the details (who, what, when, where, how) and proper flow of activities in a methodical way is a key to effective and efficient outcome and satisfactory relationships with sponsors.

(See Chapter 4 for helpful checklists.)

CONCLUSION

This chapter has outlined some of the challenges and problems that outreach departments and coordinators may experience. It is hoped that these solutions and strategies will be helpful. Other challenges and/or solutions and strategies can be sent to the Aravind Community Outreach Department for possible inclusion in a future update of this manual.

10. The Future of Eye Care Outreach in Developing Countries

The future of outreach in eye care will see some alarming shifts, some innovative new 21st century strategies, and some older strategies better explained. This chapter highlights some expected changes and developments in the areas of:

- Demographics
- Financing
- Advocacy
- Approaches to Outreach
- Technologies
- Human resources

THE GAP BETWEEN WHAT WE KNOW AND WHAT WE DO

The first necessary change, as described by Dr. Hugh Taylor, Chairman of the Department of Ophthalmology at the University of Melbourne in Australia, is for outreach programmes everywhere to put into practice what is already successful [27]. As Taylor explains, “VISION 2020 recognises that three-quarters of all blindness worldwide is either avoidable or preventable with what we currently know and it aims to bridge the existing gap between knowledge and practice.” Instead of “reinventing the wheel” or seeking innovations, eye care institutions around the world could learn best practices in eye care and community outreach, especially in terms of cataract surgery and refraction services, from each other and implement them without further delay.

ALARMING DEMOGRAPHIC SHIFTS

People are living longer. Except in the countries most affected by HIV/AIDS, life expectancy around the world has increased by about 20 years. As the world population gets older, the number of elderly people in the world is expected to double by 2030. Because the frequency of blindness and vision loss increases three times with each decade over the age of 40, the demand for eye care services is going to increase exponentially.

While there is a growing economic “middle class” in many countries, the poor are not getting richer. According to the World Bank, 40 percent of the world’s population lives on less than \$3 per day. Eye care will continue to be out of reach for these people without specific interventions to ensure availability, affordability and accessibility of eye care through outreach.

Another shift that will impact eye care and especially outreach, is increasing urbanisation. Over 50% of the world’s population now lives in cities, due mainly to the internal migration of young people. This is leaving the elderly who are still living in rural areas increasingly marginalised.

The increase in the elderly population, coupled with economic growth and increasing “westernisation” of developing nations, is creating dramatic changes in eye disease patterns. Diseases such as diabetic retinopathy, glaucoma, and age-related macular degeneration – diseases that are harder to detect and harder to treat – are becoming increasingly prevalent as causes of blindness in developing countries.

To my mind, the single biggest challenge we face – and the one which will offer by far the biggest pay-off – is the challenge of fully applying what we already know. We know how to cure cataract blindness, how to cure uncorrected refractive error, how to eliminate trachoma and onchocerciasis and how to prevent most blindness from diabetic retinopathy. We do not need to wait for a new gene to be discovered or a new laser. Why, then, aren’t we putting this knowledge into practice right now?

- Hugh R. Taylor, MD
President, ICO

Vision 2020 - The Right to Sight offers an excellent framework for all eye care providers to coordinate their actions in order to enhance the level of eye care service. All these initiatives, if done well and effectively, can easily lead to a situation within the next decade every single individual who needs any form of eye care is able to access it and get the services conveniently and at a price that he or she can afford. The very poor will have easy access to places that offer free care while the rich will have places that suit their demanding requirements. When this is reached, we will truly have community ophthalmology in place and paradoxically we won't need community ophthalmology, as we understand it now, anymore.

- R.D. Thulasiraj

The VISION 2020 initiative emphasises disease control, but it also recognises the need for eye care to be delivered through national programmes that are tailored to individual countries. The initiative also rightly emphasises human resource development and infrastructure. However, none of this is possible without money! Non-governmental organisations and donor agencies can provide some level of ongoing funding, as well as flexible start-up money for new initiatives. Yet long-term funding for ongoing blindness prevention and eye care must eventually come from governments or their insurance programmes, although individuals themselves will continue to pay some costs.

- Hugh R. Taylor, MD

What is really needed, therefore, is strong advocacy programmes to alert governments to the importance of eye care, the costs of not doing more, and the benefits of intervening to prevent avoidable blindness.

- Hugh R. Taylor, MD

Added to the continuing increase in population expected over the next few decades, especially in developing countries, these demographic patterns requires many changes in the field of eye care and outreach. Diabetes counselling will play an increasingly important role in outreach, with the training of paramedical staff to screen for diabetic retinopathy.

FUTURE FINANCING OF EYE CARE PROGRAMMES

Economic crisis turn attention and funding away from population-based needs such as health care. There is generally a reduction in available funds for blindness prevention and treatment from the governments of developing countries, due to a combination of economic recession and new competing demands for limited resources. Governments are increasingly looking to consumers of health care to pay for health services and treatment, and eye care programmes are seeking more funding to provide better accessibility to the unreached.

According to Aravind's R. D. Thulasiraj and R. Muralikrishnan^[28], regardless of economic changes, it is likely that government and NGO spending on eye care will drop considerably due to competing health and development needs. Patients will increasingly become the major source of revenue for eye care institutions, which will lead to greater accountability as they become more demanding of good value for their money. This will necessitate a shift in approach, with a new focus on quality, patient satisfaction and patient-centred systems. Internal cross-subsidy will then provide affordable eye care for the unreached, models of which are already in place in countries like India, Nepal and Pakistan. (Internal cross-subsidy means that income from high volume treatment and surgery such as cataract funds lower volume specialty work, or that income from paying patients funds treatment and surgery for poorer patients).

Blindness costs national economies an annual worldwide sum of around \$25 billion. Global economic productivity loss due to blindness was projected to grow to \$50 billion by the year 2020 (and to \$110 billion combined with the costs of low vision) without VISION 2020 intervention^[29]. But the amount of money spent by the international community on the prevention of blindness will have to greatly increase if the targets set by VISION 2020 are to be achieved. If these targets are achieved, governments will save billions of dollars from lost productivity, which is why governments should continue to contribute to eye care programmes in the future.

	Current Status	Vision 2020 Targets
Availability	50%	95%
Accessibility	40%	90%
Utilisation	25%	90%
Coverage	25%	90%

ADVOCATING FOR EYE CARE – THE IMPORTANCE OF ADVOCACY

Advocacy has been defined as the pursuit of influencing outcomes such as public policy and resource allocation decisions that bring about positive change. In light of the economic and financial constraints discussed above, advocacy will have a growing place in the field of eye care. For example, revenues from paying patients can be supplemented to some extent by local, national and international charities, but these relationships will have to be developed and cultivated.

Development of strong advocacy skills amongst those who work in eye care institutions and especially outreach coordinators is required. This means that key members of eye care teams should receive specific training to enable them to succinctly state and present the case for eye health initiatives [27]. According to R. D. Thulasiraj, “When planning an advocacy strategy aimed at improving eye care delivery, it is important to identify those groups who are in a position to make a difference. These are the targets for advocacy – the people at whom you need to direct your efforts. They can make important decisions that directly affect service delivery or simply influence others in a way that will improve the situation.” These “targets for advocacy” include the following [30]:

- Policy makers at all levels of government, who need to hear evidence for the positive impact their new initiatives will have. For example, in the case of refractive error services, policy makers in education and labour will learn of better attendance and academic results in schools and increased productivity in the workplace.
- Community leaders such as local industrialists and large employers, village elders and the heads of service clubs, need to learn the magnitude and impact of visual impairment and blindness, as well as the causes, treatment options and costs and benefits of treatment. They will soon become proactive in promoting eye care and outreach programmes and could provide support for the development of a community-based referral system or a permanent primary eye care facility.
- Other health professionals (community based paramedical ophthalmic personnel, traditional healers, midwives and obstetricians, general practitioners), can be invaluable allies in the early detection of eye conditions that do not lend themselves to cost-effective community screening (diabetic retinopathy is a good example). Those involved with children can identify those with retinopathy of prematurity or congenital cataract.

Another increasingly important focus for advocacy (as well as eye health promotion and patient counselling) is eye donation for corneal transplants.

FUTURE APPROACHES TO OUTREACH

According to R. D. Thulasiraj, community-oriented initiatives (outreach activities) will be required until all potential beneficiaries are covered by the existing service delivery system. “From this perspective, community ophthalmology will need to be in place until such time as there is universal access, availability and affordability of eye care services through fixed facilities.”

New approaches to community outreach will increasingly take advantage of new technologies, including communication technologies (see next section), as well as fixed facilities (such as vision centres) that provide primary eye care and referral to a base hospital.

Another new approach is managed eye care institutions, where a successful management system is melded with an existing eye hospital.

Aravind Managed Care Hospitals – A Case in Point

In 2006, not satisfied with its reach and expansion, Aravind Eye Care System set a goal of performing 1 million surgeries a year by the year 2015. The senior leadership group has put together a strategy to achieve this through the concept of “managed hospitals,” which involves staffing and managing the day-to-day operations of an eye hospital that is not owned by Aravind. In this partnership model, the partner manages the investments and creates an enabling interface for the hospital’s effective functioning. A core team from Aravind Eye Hospital manages the staffing through local recruitment, selection and training at Aravind Eye Hospital.

For effective advocacy, good data is essential. Eye care interventions are amongst the most cost-effective of all health care interventions.... Economic arguments ... are what governments and finance departments understand. For example, one can show that for each US dollar spent on eye care, there is a US \$5 return to the community. Such an objective financial argument carries more weight than an emotional call for action to stop people losing their sight.

- Hugh R. Taylor, MD

Advocacy has a role to play in any eye care initiative. It can help individuals or organisations to obtain more resources and it can support programme implementation and service delivery. It can improve the delivery of eye care services – in terms of both reaching more people and improving the quality of services available for specific eye conditions.

- R. D. Thulasiraj

The fusion of government, voluntary, and private sector providers of eye care services, in addition to offering more choice to patients, will result in overall improvement in the equity, quality of care, technology and manner in which the care is provided. This transition, over a period of time, will lead to a situation where all three providers will be providing service to the entire spectrum in the community, covering the rich as well as the poor.

- R. D. Thulasiraj

The challenge is not innovating, but adapting the new developments to local economies in a cost effective manner.

- R.D.Thulasiraj and
R.Muralikrishnan

All of ophthalmology and eye care would be revolutionised by the development of an effective and safe accommodating IOL. This would immediately replace all current IOLs and would further increase the demand for cataract surgery at earlier stages of vision loss. Moreover, accommodating IOLs could well become the preferred option for the correction of presbyopia and make bifocal spectacles redundant. Wouldn't that be a revolution!

- Hugh R. Taylor, MD

The future of eye care services in developing countries lies in training ophthalmologists within the local community. This allows for the expansion of efficient eye care delivery, an increased number of patients treated and an increased number of trained eye care specialists who can then train future eye care providers.

- Sanduk Ruit, MD, Co-Founder of the Tilganga Eye Center, and Geoff Tabin, MD, Professor of Surgery and Ophthalmology, University of Utah School of Medicine

Although much more eye research is clearly needed, there is also much we can do easily by fully applying what we already know. Vision 2020 gives us a splendid vehicle to do this.

- Hugh R. Taylor, MD

The hospital would be run as if it were an integral part of Aravind's own network of hospitals. In the pilot phase, three hospitals in India (at Kolkata in West Bengal, Amethi in Uttar Pradesh, and Amreli in Gujarat) are functioning in this model. The next great "learning by doing" experiment has thus been launched. If successful, an exemplar system will achieve another level of scale, with millions more cured of blindness.

- Dr. P. Namperumalsamy, Chairman Emeritus, Aravind Eye Care System

Other new approaches in some countries involve deploying ophthalmic staff to small permanent facilities in under-served remote areas, as well as the inclusion of private practitioners in outreach.

NEW TECHNOLOGIES IN EYE CARE AND OUTREACH

New technology is only viable in eye care for the unreached when it is made affordable, when staff members develop skills in using it, when it is possible to create infrastructure to "house" it, and when the target community is aware of it. Few new technologies fit these criteria, but those that do are making ophthalmic outreach more accessible. Certainly intraocular lenses, now that they are made more affordable, are a good example of this "fit" that leads to better eye care.

Innovative use of emergent wireless technology is allowing eye care institutions to take their services into the rural villages that most need them. This use of internet technology in rural vision centres allows people to be screened via webcam by ophthalmologists at base hospitals.

Cell phone technology is now being used in Africa to ensure high quality postoperative follow up. (See Chapter 5 for more information.)

INNOVATIONS IN HUMAN RESOURCE MANAGEMENT

One important innovation in HR management is the optimal organisation of workflow, from patient identification to postoperative care. Another important innovation is the local, community-based training of ophthalmic staff, with a focus on maximising the capacity and productivity of eye care workers at all levels. Workers drawn from local communities will improve staff retention.

CONCLUSION

This chapter has outlined some future directions of outreach in eye care. Dr. Taylor's caveat to focus on applying what we have already learned, which will help us achieve VISION 2020 targets. It is also important to look ahead for innovations in eye care generally and outreach specifically.

11. References Used in Reaching the Unreached

1. *It all adds up to cleaner air*. US Department of Transportation, Federal Highway Administration. Accessed at http://www.italladdsup.gov/tools/resourcetoolkit/ResourceToolKit_J_Outreach.asp
2. Cited in *A Model for New Hospital Development*. Ross School of Business, University of Michigan, 1999, with permission
3. *Changing patterns in global blindness: 1988–2008*. Allen Foster, Clare Gilbert, Gordon Johnson. *Community Eye Health J* 2008; 21(67): 37-39
4. *Evaluation of visual outcome of cataract surgery in an Indian eye camp*. Harpreet Kapoor, Arin Chatterjee, Richard Daniel, Allen Foster, *British Journal of Ophthalmology* 1999; 83:343-346
5. *Present Status of the National Programme for Control of Blindness in India*. Dr. R. Jose, *Community Eye Health Journal* 2008; 21(65): 103-104
6. *Integration of Traditional Healers into Primary Eye Care*. Harjinder S. Chana, *Community Eye Health Journal* 1997; 10(21): 3-4
7. *Traditional Healers in Prevention of Blindness*. Paul Courtright, Susan Lewallen, *Community Eye Health Journal* 1997; 10(21): 1-2
8. *Short-term visits by eye care professionals: ensuring greater benefit to the host community*. Andy Pyott, *Community Eye Health Journal* 2008; 21(68): 62-63
9. *Bridging the gaps*. Victoria Francis, *Community Eye Health Journal* 2004; 17(51): 33-34
10. *Results from a KCCO workshop on the cost of outreach services in eastern Africa*. Susan Lewallen, Edson Eliah, Suzanne Gilbert. Accessed at www.kcco.net/Outreach_costs_report_final.pdf
11. *Reaching into the district: strengthening the eye care team*. Hannah Faal, *Community Eye Health Journal*, 2004; 17(51): 36–37
12. *Training: Essential for Effective Eye Health Promotion (An Introduction)*. John Hubley, *Community Eye Health Journal* 2000; 13(33): 13-14
13. *Human Resources for Eye Care: Changing the Way We Think*, 8th General Assembly of IAPB. Speakers: Paul Courtright, Daniel Etya'ale, Hannah Faal, Ingrid Mason, Van Lansingh, Noel Chua; recorded by Usha Raman, *Community Eye Health Journal* 2009; 22(69): 12
14. *The Importance of Primary Eye Care*. Clare Gilbert, *Community Eye Health Journal* 1998; 11(26): 17-18
15. *Quality Cataract Surgery Series*, Aravind Eye Hospitals and Seva Foundation, edited by Julie D. Johnston. Accessed at <https://www.iceh.org.uk/display/LIB/2000+Book+series.+Quality+cataract+surgery+series.+Free+access>
16. *Gender and Blindness: Initiatives to Address Inequity*. Seva Canada and Seva Foundation. Accessed at http://www.seva.org/publications/SevaCanada_GenderandBlindness.pdf
17. *Prevention of Blindness and Priorities for the Future*. Sheila West and Alfred Sommer, *Bulletin of the World Health Organization* 2001 Volume 79(3) (Geneva) Accessed at http://www.scielosp.org/scielo.php?pid=S0042-96862001000300014&script=sci_arttext
18. *Engine of Growth: Project Discussion*. P. Desai, C. Hill, C. Lawrie, T. Naik and P. Ruettgers, Ross School of Business, University of Michigan, 2005, with permission

19. Utilisation of Community-based Rehabilitation Services for Incurably Blind Persons in a Rural Population of Southern India. V. Vijayakumar, D. Datta, A. Karthika, R. D. Thulasiraj, P. K. Nirmalan, *Indian Journal of Ophthalmology* 2003;51:273-277
20. GLOBAL: Vitamin A Deficiency and Malaria. UN Office for the Coordination of Humanitarian Affairs. Accessed at <http://www.irinnews.org/Report.aspx?ReportId=85015>
21. People Who Don't Use Eye Services: 'Making the Invisible Visible.' Martine Donoghue, *Community Eye Health Journal* 1999; 12(31): 36-38
22. Barriers to Uptake of Cataract Services in South-Western Nigeria. A. I. Ajaiyeoba, M. O. Ul-aikere, *European Journal of Scientific Research* 2007 Volume 16 (1), pp. 59-65.
23. Popular Beliefs Regarding the Treatment of Senile Cataract. Edméa Rita Temporini, Newton Kara Junior, Newton Kara José, Nilo Holzchuh, *Rev. Saúde Pública* 2002 Volume 36(3) (São Paulo, Brazil)
24. Increasing Gender Equity in Eye Care in Egypt, *Seva Canada*. Accessed at <http://www.seva.ca/docs/egypt%20gender%20and%20blindness.pdf>
25. Cost Containment in Eye Care. R. D. Thulasiraj and A. K. Sivakumar, *Community Eye Health Journal* 2001; 14(37): 4-6
26. Monitoring Partners' Road to Sustainability, BS Ganesh Babu, Aravind Eye Care System. Accessed at <http://v2020eresource.org/displaydetails.aspx?bid=M0000000001216001> (Powerpoint, registration needed to access)
27. Eye health in the future: what are the challenges for the next twenty years? Hugh R Taylor, *Community Eye Health Journal*. 2008; 21(67): 48-49.
28. VISION 2020: The Global Initiative for Right to Sight. R. D. Thulasiraj and R. Muralikrishnan, *Journal of Kerala State Ophthalmology Society*, 2000 Volume XII (1)
29. The Magnitude and Cost of Global Blindness: An Increasing Problem that Can Be Alleviated. K. D. Frick and A. Foster, *American Journal of Ophthalmology* 2003; 135:471-476
30. Advocacy to Improve the Delivery of Eye Care. R. D. Thulasiraj, *Journal Community Eye Health*. 2007 December; 20(64): 66-67
31. Optical services through outreach in South India: A case study from Aravind Eye Hospitals, R. D. Thulasiraj and R. Meenakshi Sundaram, *Community eye health journal*. 2006 June; Vol (19): No.58: 29-30
32. Cataract surgery at Aravind Eye Hospitals: 1988-2008, Dr. G. Natchiar, R.D. Thulasiraj and R. Meenakshi Sundaram, *Community eye health journal*. 2008 Sept; Vol (21)67 : 40-42
33. Low Uptake of Eye Care Services in Rural Area : 1999, Astrid E. Fletcher, R.D.Thulasiraj, et al., *ARCH Ophthalmology*.1999 Oct; Vol 117

SEVERAL QUOTES FROM:

1. *Beyond the Clinic: Approaches to Outreach*. Daniel Etya'ale, *Community Eye Health Journal*. 2006; 19(58): 19-21
2. *The Global Initiative Vision 2020: The Right to Sight Childhood Blindness*. D. Yorston, *Community Eye Health Journal* 1999; 12(31): 44-45



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