KEHRC

Kalinga Eye Hospital & Research Centre

An Approach for

Community Based, High Quality & Low Cost Eye Care

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An Approach for Community Based, High Quality & Low Cost Eye Care

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Abbreviations

BPL	*Below Poverty Line*
CBO	Community Based Organization
CDMO	Chief District Medical Officer
CHC	Community Health Center
CME	Continuing Medical Education
CMO	Chief Medical Officer
DBCS	District Blindness Control Society
DPI/ NGO	Department of Public Information
ECCE	Extra Capsular Cataract Extraction
GoI	Government of India
GoO	Government of Orissa
ICARE	International Centre for Advancement of Rural Eye Care
IEC	Information, Education and Communication
IOL	Intra-Ocular Lens
KEHRC	Kalinga Eye Hospital and Research Centre
LAICO	Lions Arvind Institute of Community Ophthalmology
LVPEI	L V Prasad Eye Institute
NDI	National Development Index
NGO	Non-Government Organization
NPCB	National Program for Control of Blindness
NYSASDRI	National Youth Service Action and Social Development Institute
OPD	Out Patients Department
PHC (N)	Primary Health Centre (New)
PPP	Public Private Partnership
PRI	Panchayati Raj Institutions
SHG	Self-Help Group
SICS	Small Incision Cataract Surgery
WHO	World Health Organization
YAP	Young Ambassador Program

Introduction

Eye Care in Orissa face the same challenges as the problems faced by the overall Health Sector. As a result, the state has higher rate blindness prevalence. Non availability of eye care services and limited capacity of the existing units to serve people are the greatest barriers for channeling eye care services to the rural poor.

Non-government sector overtake the government and private hospitals in delivering eye health services to the community. It has been found that the NGOs, through their Hospitals and / or camps conducts about 60% of the total eye surgeries in the state, where as the contribution of the government hospital's is only about 15%.

In this scenario, Kalinga Eye Hospital and Research Centre (KEHRC), an Eye Hospital set up by Orissa's leading NGO, National Youth Service Action and Social Development Institute (NYSASDRI) has been doing significant work towards blindness prevention. Founded in 2002, the Hospital is one of the fastest growing Eye Hospitals in India. Limitations of resources did not affect its overall performance. The hospital's growth and contribution towards Vision 2020, is outstanding.

KEHRC has been successful in making eye health services accessible and affordable for People in and around Dhenkanal, the central part of Orissa. It has developed itself as a Community Eye Hospital by reaching to a larger section of the population and bringing the services away from the base hospital into the community.

This paper attempts to understand the approach of the hospital and its community based operations. The first section gives an idea about the problems of blindness and visual disability in India, in general and Orissa in particular. The next section describes about how the idea was conceive and the hospital took birth. The subsequent sections attempt to provide details about the hospitals, approach, management and strategy. Instead of quantitative review of the Hospital's performance, the paper gives more about the qualitative aspects of the hospital.

It is expected that the paper would be able to give an insight about KEHRC to the readers and encourage organizations / people to create similar facilities to provide community oriented high quality and low cost eye care to the community, as a whole.

Chapter 1

The Challenges of Vision

VISUAL impairment and blindness is a significant public health challenge. It has a severe economic impact, depriving people from livelihoods and education, generating social and economic dependency. Blindness and poverty are directly correlated. As people with severe visual impairments have fewer opportunities for gainful employment, they are more at risk of unemployment and poverty. The loss of visual orientation limits mobility and can often lead to social isolation. Research by Frick and Foster estimated the costs of global blindness and low vision at $42 billion in 2000. Without a decrease in the prevalence of blindness and low vision, it was projected that the total annual costs would rise to $110 billion by 2020. Blindness is most feared illness after AIDS.

Nearly, 75 percent of the visual impairment is avoidable and curable with very cost-effective interventions. Cataracts, the major cause of avoidable blindness can be corrected by a simple surgery. Similarly, other vision impairments like Vitamin A deficiency, trachoma and glaucoma can be prevented or managed by improving food and nutrition, hygiene or medication. In spite of this, the prevalence and incidence of eye problems is growing. A lot of cases of uncorrected refractive errors and cataract are found, mostly, in rural areas, often remote, underdeveloped areas, dominated by inadequate infrastructure, poverty and illiteracy.

- Every **5 second** one person goes blind and a child in every minute.
- **180 million** visual impaired people in the world.
- **7 million** people become blind in **each year**.

The prevalence of blindness and low vision is influenced by the socio-demographic factors like gender, age, literacy, occupational status and place of usual residence. Females had a higher prevalence of both social and economic blindness, and low vision compared to males. The prevalence of low vision, economic blindness and social blindness increases with age. Those, who had studied beyond Std. 10, had the lowest prevalence of blindness and low vision compared to others. The urban population had a lower prevalence than the rural people.

India is now home to the world's largest number of blind people. Out of 37 million people cross the globe who are blind, over 15 million are in India. An additional 52 millions is visually impaired. If the current trend of blindness remains unchanged, the number of blind persons in India is estimated to increase to 24.1 million in 2010, and to 31.6 million in 2020. The greatest prevalence of blindness in India is found in the rural areas. This is because the majority of the population lives in rural areas and these rural areas have the least access to eye care services in particular and health care services in general. This is evident from the low uptake of eye care services by rural people

Cataract is the leading cause of blindness, followed by refractive errors. Out of 18 million blind people in the country, about 9.5 million are cataract-related and 3 million refractive error-related.

Acute shortage of ophthalmic professionals and donated eyes for the treatment of corneal blindness accelerates the problems of blindness. While India needs 40,000 optometrists, it has only 8,000. On the other hand, while India needs 2.5 lakh donated eyes every year, the country's 109 eye banks (five in Delhi) manage to collect a maximum of just 25,000 eyes, 30% of which can't be used.

Other factors, which augment the problem, are quality equipment and infrastructure; poor eye banking, vision rehabilitation and sight enhancement services; inefficient operating systems; and insufficient data to plan focused interventions.

Factors for Higher prevalence of blindness:

- In adequate availability of service personnel.
- Lack of service availability in the locality / rural areas
- Rural / urban imbalance in availability of service
- Illiteracy and ignorance
- Prevalence of infections

Though India was the first country to launch the National Program for Control of Blindness in the year 1976 with a goal of reducing the prevalence of blindness, Control of blindness in India has neither been effective nor efficient. The focus has primarily been on cataract surgery in make-shift environments, particularly in rural India. The quality of eye care available to the people in rural India is sub-optimal because of the lack of infrastructure and of human resources, i.e., capable and well-trained personnel for providing quality eye care.

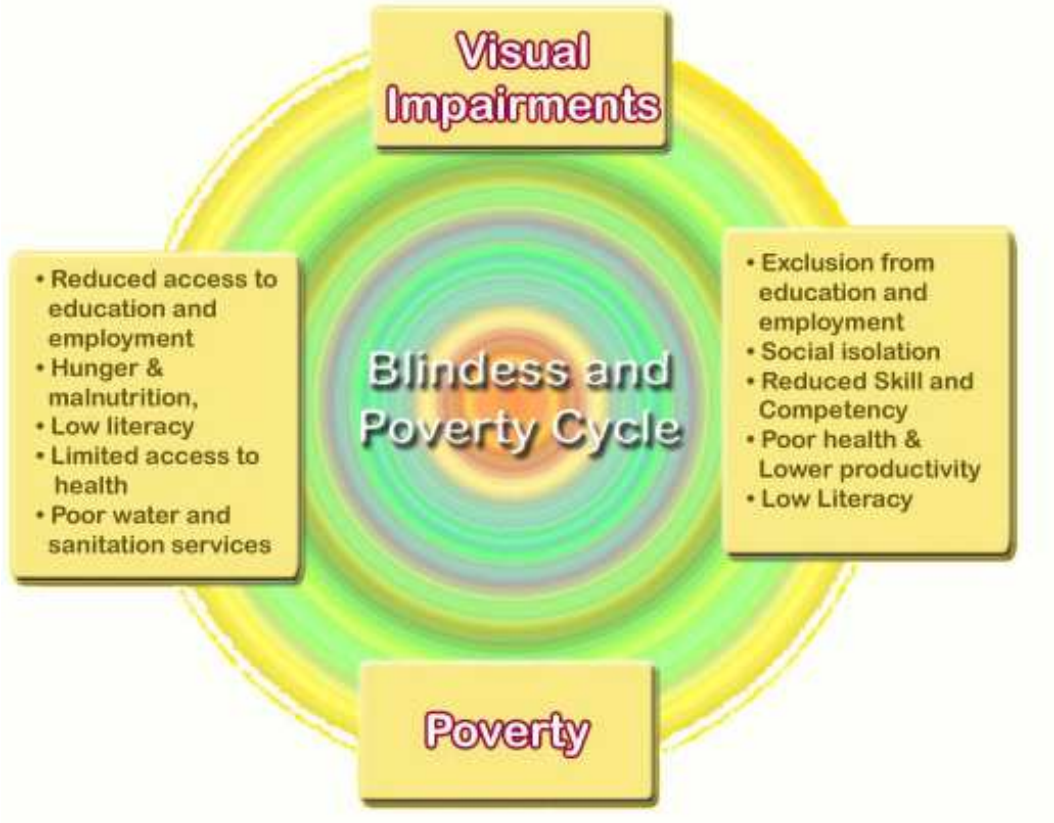
A public health strategy that addresses the issues of availability, accessibility, and affordability of good quality eye care services is needed to address current problems and to meet long-term plans for reducing blindness.

1.1 Poverty & Blindness

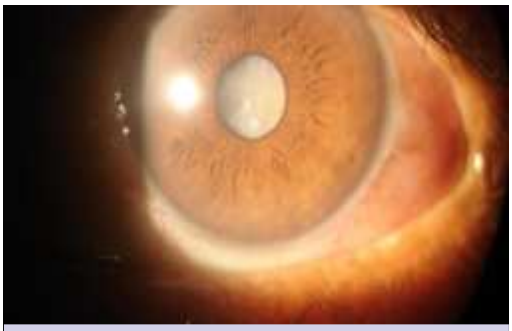
Poverty and blindness are closely interconnected. At the individual and household level, disability influences livelihood opportunities in many ways. Loss of vision leads to stoppage of income for the family and the individual becomes a liability on other family members. The visual impairment of one member in the family limits employment for other relatives, particularly women, as the person with visual ailment needs time for care and assistance. Average income is significantly lower for households affected by visual impairment. This affects the household productivity and income blindness increases the risk of becoming poor.

Families affected by vision impairment bear additional direct costs for medical expenses and care of the person. As a result of the loss of income and increased costs, the savings by the family is reduced and debts increases. They are more vulnerable to hunger and food insecurity.

The visually impaired people are isolated by the society due to community attitudes, and physical barriers. They have reduced marriage prospects, with less choice of



partner, higher dowries and a lower bride price, and greater risk of abandonment. Visually impaired Children less likely to enter remain in and succeed in schools, and literacy levels are lower among them. Participation in political activities is also lowered.



A Cataract Affected Eye

On the other hand, blindness in is often a consequence of poverty, including hunger, malnutrition and limited access to health, education, water and sanitation services.

1.2 Millennium Development Goal and Visual Impairment

MDG 1: Eradicate Extreme Poverty and Hunger

Poverty and Blindness are related each other in a cyclical pattern. One is the consequence of the other. Most of the world's visually impaired people live in rural and low economic regions, with poverty. Addressing the problem of Blindness is very important in achieving the MDG 1. A number studies have found that found visually impaired people who have lost their job as a result of blindness regained those jobs, after restoration of sight. This has reduced their economic vulnerability and helped to break the poverty-hunger-malnutrition pattern.

MDG 2 & 3: Achieve universal primary education & Promote gender equality and empower women

Education is a key increase individual income earning potential, to improve health and nutrition, and to empower people and tackle poverty. However, most of the visually impaired children have hardly any opportunity for schooling. Lack of infrastructure, production of accessible and specialized education materials and qualified teachers deprives visually impaired children from education. Literacy levels are lower among them.

Studies also show that blindness can also limit children's access to education indirectly. Visually impaired adult member in the family is often dependent on school-age children for care and support. In addition, low vision and refractive error among children may result in decreased school attendance and performance.

The National Sample Survey 2002 Data shows that 49% of people with disabilities (including visually impaired) were literate, compared to a national figure of 65%.

Only nine percent of the literate disabled population completed secondary education or above.

Studies show that prevalence of blindness among women is higher than that of men. Gender disparity among visually impaired person is very high. If a girl child becomes visually impaired, family member barely show any initiatives for her education. This evident from the fact that literacy rates is lower among the female disabled population, at around 37% compared to 58% for the male disabled population (versus a national average of over 54% for the female population and 76% for males).

Cataract does not leave Chidren: *A child affected with cataract*

Without tackling blindness the MDG 2&3 would be an unfinished task.

MDG 4: Reduce Child Mortality

Up to 60% of children who become blind are likely to die within one to two years of becoming blind. Many of the conditions associated with childhood blindness are also causes of child mortality for example, premature birth, measles, congenital rubella syndrome, vitamin A deficiency, and meningitis. In additional, children with visual impairment are at higher risk of contracting secondary disease due to poverty and marginalisation.

The literature also suggests that the chance of mortality is higher in children who are blind as they may have reduced access to food and other basic resources, including treatment if they fall ill. This is partly because parents may have more difficulty in caring for their blind children, and also because, when resources are limited, families may not give an equal share to a disabled child perceived as unable to provide for the family in the future.

To lower the risk of child mortality the childhood blindness control should be controlled.

MDG 6: Combat HIV/AIDS, malaria and other diseases

People with visual impairment, particularly for women, are equally or more vulnerable to the risk of HIV/AIDS and have very limited access to HIV/AIDS outreach and treatment services.

Major 'neglected diseases', which include blinding conditions such as trachoma and onchocerciasis, are endemic in rural and impoverished urban areas and can affect education and productivity. Eradicating blindness would be an important mean to achieve this goal.

1.3 Visual Impairment and Orissa

Orissa, situated in the eastern part of India with a population of about 37 millions, is one of the poorest states in India. Orissa has a low density of population with 236 persons per square kilometer as compared to 324 persons per sq. km. at the national level according to Census, 2001. About 85 percentage of the total population of the state resides in rural areas. Hardly, 2.5% of villages of the state exceed the population of 2000. Low density coupled with widely scattered small village posse problem in providing services close to the habitations. The Scheduled Caste and Scheduled Tribe Communities, most deprived sections of the society constitute 16.5% and 38.6% of total population, respectively. The literacy level in the state as per the census is 63.61%, whereas male literacy rate is 75.95% and female literacy is 50.97%.

Agriculture forms the primary occupation of people in the state and nearly 75% of the total working population is engaged directly or indirectly in agricultural activities. The

state ranks 23rd in National Development Index (NDI) with about 47% of people Below the Poverty Line. Food insecurity, illiteracy and remoteness of the area with ignorance have made the quality of lives poor. Chronic nutritional deficiency is found among children, almost in all areas. The poverty situation is reflected in the poor health indicators of the state; infant mortality rate 84.2, under five child mortality rate 126.6, children under weight 55.9; anemia in children 79.8 and children with recent diarrhea 21.1percent.

The provision of health services is insufficient and often inaccessible. Even primary healthcare institutions are defunct or partially functional in almost all remote areas. The health system is marred by adequate trained manpower and infrastructure. Key constraints are the poor socio-economic situation, socio-cultural attitudes, lack of infrastructure and facilities for healthcare provision and population growth.

Access to healthcare services is limited due to distance and money. Often the standard health service facility is available at district head quarters, which often is at a distance of more than 30 KM. A person has to loose wage for one day to visit a hospital. The cost of travel also adds to the problem. Though the health care service is cheap, compared to developed countries, hospitalisation or chronic illness leads to liquidation of assets or indebtedness. This is because of the earning of the family. It is estimated that more than 40% of hospitalised people borrow money or sell assets to cover medical expenses. Poor people in villages are coerced to seek treatment from village quacks or traditional healers, which leads to mortality, in case the problem is acute.

Insufficient levels of nutrition, inadequate medical services and lack of awareness regarding health and hygiene are the main factors that lead to eye disease in the state.

Prevalence of blindness in the rural areas remains high. Yet most of the blindness cases are treatable or preventable. The majority of the rural population is illiterate and blindness is mainly due to cataract. Due to the limited resources available for administering cataract operations in the rural areas the number of people suffering from cataracts is increasing every year.

They do not seek eye care mainly due to economic followed personal by reasons. Most

- **80%** population of Orissa resides below Poverty line.
- **1,02,779** become blind per year in Orissa
- 61,667 (60%) due to cataract.
- Current performance is 86,386 against 343,602 in Orissa.
- Surgery Performance
  - Govt.-25%,
  - NGO hospitals **58**%
  - Other eye Hospitals-17%

people do not try to get treatment despite noticing decreased vision mainly due to factors related to awareness. The prime barriers in providing qualitative eye-care in the state are ignorance, negligence about eye care and inaccessibility to timely quality treatment.

Prevalence of Eye disease is higher among senior Citizens: *Cataract is the major problem*

Eye care has been a neglected area both in government as well as non-government development programs. Though the state is categorised as one of the high prevalent (in blindness) states in India and is implementing the National Program for Control of Blindness (NPCB), there in no significant changes in the blindness scenario of the state. N.P.C.B was launched in the year 1976 and during 1994 to 2002 the World Bank assisted seven major states of India including Orissa. During the World Bank period the program activities were significantly revamped due to decentralization of the program implementation to the district level through the District Blindness Control Society (DBCS). This also increased the participation of NGOs and private sector in blindness control activities. However, the focus of the State's blindness control activity is on cataract.

Cataract Surgery Achievement in Orissa

Year	Target	Achievement	% of Achievement
1999-00	125000	63339	51
2000-01	130000	84231	65
2001-02	130000	86386	66
2002-03	130000	81619	63
2003-04	130000	82607	64
2004-05	130000	91509	70
2005-06	130000	101565	78
2006-07	130000	98000	75

Source: www.Orissa.gov.in

The performance Blindness Control Activities by the state government has always been low. They state has never achieved 100% target in cataract surgery, in last seven years. The report on Rapid Assessment of Avoidable Blindness – India comments, **'**Performance in the States of Orissa needs to be augmented so that the gains of the technological revolution in eye care can be effectively harnessed across the country'.

The Eye care service in Orissa is dominated by private sector. There are about 30 major eye hospitals / clinics in the state. Out of them about 20 are based at Cuttack –

Bhubaneswar, twin city area. The western region has about only four private Eye Hospitals, northern region has only one and the southern region has only two private eye care centre. The central region is deprived quality private eye hospital, except *Kalinga Eye Hospital and Research Centre at Dhenkanal*, managed by NYSASDRI. The ophthalmologists are also based primarily on city areas. As the services are urban based they are quite inaccessible for rural people and affordability is the added issue.

Only a surgery of 15 minutes can restore vision in many eyes: *Most of the people can not afford the same*

The government eye care facilities is found only in district headquarters hospitals, which often face the problem of shortage of doctor and paramedics as well as infrastructure. The DBCS attempts to take up blind ness control activities through NGOs and private eye hospitals. The approach is often camp based and in this case, quality is the matter of concern. The poor track record of the government clearly shows the incompetence and limited capacity of the public health system to control blindness in the state. Emergency other life threatening diseases such as HIV/AIDS and malaria has pushed blindness control agenda to back seat. In this situation, the role of NGOs and private players comes to the forefront in delivering appropriate eye care service. They need to provide the services through a community oriented approach and public health strategy. Primary socio-economic barriers in accessing eye care services – such as awareness, motivation, accessibility and affordability – should be taken into consideration. Quality should be maintained at all costs. On the other hand, improvement in infrastructure and human resource is required. Dr G Venkataswamy, Founder and Chairman, Aravind Eye Hospitals says, *"There is a WHO project called 'Vision 2020', aimed at eradicating blindness. But this is different from eradicating small pox or polio: you can't prevent blindness. You need to have good institutions – financially viable organizations with good human resources – all over the country that can provide eye care to all economic classes in a community".*

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EYE CARE STATUS IN ORISSA

	India	*Orissa*	*Remarks*
Population	1027 Million	36,706920 (37 Million) 18612340-Male 18094580-Female	
Estimated Prevalence of Blindness	1.1% Factors Affecting Prevalence Male: 0.91% Female: 1.29%	1.40%	**High Prevalence of Blindness** Major causes: • Cataract • Refractive Error
Cataract Operations performed (2001-2002)	38,00,000 (3.8Million)	86386 (0.086Million)	**Low performing state** The need is to do around 300,000 Cataract Surgeries per year
Cataract Surgical Rate (CSR/100,000)	403/100,000 population 4030/One Million Population	235/100,000 population 2350/One Million Population	**Cataract Surgical Rate need to increase** atleast double the current performance
Cataract Surgical Coverage *[No. of cataract operated persons/ No. of cataract operated persons + No. of Cataract Blindx100]*	65.7% Male-70.1 Female-62.4	42% Male-52.7% Female-33.5%	19% gap in male female coverage, although it is clear that, females have higher prevalence than male and longer life expectancy. More female need to be targeted for Cataract Surgery
Where the cataract surgeries have been done	Nearly 17% of operations is performed in Govt. fixed facilities. Rest in NGOs and Private sector	Government Fixed Facility-25.40% NGOs Fixed Facility-43.84% Eye Camps-14.21% Pvt. & Others-16.56	NGOs and Private providers need to be encouraged through more funding and support in each district
Eye Surgeons per one lakh population	1 Total Number-10,000 (Approx.) 50% surgically Inactive	<=0.5 Total Number-200 (Approx) 50% surgically Inactive	Although there is a list of 500 Ophthalmologists in the Orissa Ophthalmic Association, most of them may be working outside the state. Medical colleges need to increase the number of seats for PG-Ophthalmology & encourage Medical graduates to pursue PG-Ophthalmology which is perceived as low priority among the students
Eye Beds per one lakh population	7.12	3.1	Eye beds need to be added

(A situation analysis by Mr. Keerti Pradhan, Faculty, Lions Aravind Institute of Community Ophthalmology)

Chapter 2

A Vision for the Vision

VISUAL disabilities are prevalent in Orissa. Irrespective of age about 1.5 percent of total population is affected in various eye diseases. Due to low level of income coupled with poverty, lack of awareness and accessibility to the services, sufferings of visually impaired and sightless people are persisting. The situation is appalling in Dhenkanal and its surrounding areas, the central region of the state. The area is devoid of any quality eye care facilities. Most of the health service infrastructures are concentrated in coastal Orissa only. The people of central and western Orissa not have accessibility to these minimal infrastructures. On the other hand, local hospitals are not equipped enough to provide qualitative as well as quantitative service.

2.1 NYSASDRI: In service of sight

Realizing the alarming issue the local non-profit development organization, National Youth Service Action and Social Development Institute (NYSASDRI) started its interventions for providing eye care services in the locality in 1988. The intervention was necessary, because people were losing vision and the service was not available at the vicinity, said Mr. Sarangadhar Samal, Social Activist and Director of NYSASDRI. He explained that NYSASDRI's attempt to fight poverty and improve quality of life was obstructed by the problem of Blindness. The mission – 'to develop the latent capacity of the poorest men & women, in order to address the social inequalities and injustice and thus leading a dignified life – can hardly be achieved because visual impairment results in loss of productivity as well as spoils household economy. "Based on our experience we felt the need of comprehensive eye care service for rural poor. So, we started our fight against blindness and visual problems", added Mr. Samal. Since 1988, eye care activities were limited to eye camps. The organization used to conduct a few eye camps every year. It continued up to 1995. During the initial period the mobile services were provided through out-reach camps to the cataract affected people. A Medical team consisting of surgeons and paramedics visited remote areas and made a temporary camp, usually in winter seasons. They conducted eye surgeries, free of cost. The service was restricted to cataract only. Other eye services were not

possible in the temporary camps, said Dr. DN Parida, former Chief District Medical Officer of Dhenkanal. During From 1998 to 1995, more than 12000 cataract surgeries were conducted through about 1500 camps in remote villages. The camps team also took up activities to sensitize the community on eye diseases.

Though the initiatives were very successful to address the cataract problem and bring down number of cataract affected people in the region, which was devoid of basic medical facilities and requisite community sensitization. NYSASDRI was also encouraged by the impacts of the initiatives. Restoration of sights not only strengthened family economy or employability of individuals, but it also reinstated the self confidence and individual dignity. The organization made all efforts to extend preventive and rehabilitative measures to people affected by visual impairments.

However, NYSASDRI was committed to provide the quality and comprehensive eye care services to the disadvantaged people in need. The primary limitation of the temporary camp approach was quality. In a camp, which was set up in schools, proper hygiene and qualitative

About NYSASDRI

*Based in Santhasara, a village 30 KM from Dhenkanal, the district head quarters, **N**ational **Y**outh **S**ervice **A**ction and **S**ocial **D**evelopment **R**esearch **I**nstitute (NYSASDRI) has been undertaking various development activities related to health, education, environment, sanitation, agriculture, food security and livelihood support for approximately 2.2 million tribal and rural poor of nine districts in Orissa. These development initiatives are supported by the Central Government of India, the State Government of Orissa, various multilateral and bilateral organizations and several International NGOs. The organization is associated with Department of Public Information (DPI/ NGO) of the United Nations.*

Since its inception in 1973, it has developed an integrated strategy by combining direct service delivery and support activities like research, advocacy, networking etc. The organsation has pioneered several development initiatives in the state. Some of them are Public Private Partnership in health care, Circle of Support for Disabled and Sex Education in School. More information about NYSASDRI can availed at www.nysasdri.org.

service could not be rendered due to temporary set-up. It also prevented people to have access to eye care problems through out the year, when in need.

NYSASDRI CAMPUS: *The building from where NYSASDRI Eye Hospital was started*

"We critically analyzed our camp-based eye care program and we came to a conclusion that comprehensive care can only be provided on demand through a permanent hospital", remembered Mr. Sarangadhar Samal. Also NYSASDRI found that people preferred institutional based operation than operation in mobile camp. Moreover institutional base surgeries can be conducted even in rainy and summer season in a more hygiene and qualitative method, which is not possible in a mobile ephemeral camp. Then the idea to establish a base hospital with facilities like intra-ocular lenses transplantation was originated. Yet, financial constraints were the biggest barrier in delivering comprehensive and advanced ophthalmic service to poor rural people. The organization has to hold back its plan to set up a eye-hospital till the year 1995-96. Finally, after a long wait, the plan materialized.

Eye car by NYSASDRI

Year	No. of Surgery
Through Camps	
1988-1989	60
1989-1990	160
1990-1991	240
1991-1992	260
1992-1993	Nil
1993-1994	310
1994-1995	Nil
Through NYSASDRI Eye Hospital	
1995-1996	325
1996-1997	255
1997-1998	1340
1998-1999	1482
1999-2000	1600
2000-2001	1800
2001-2002	2500

In 1996-97, NYSASDRI, with the assistance from the Ministry of Health and Family Welfare, Government of India, was successful in establishing a 20-bedded eye-hospital in its campus at Santhasara- a remote village in Gondia Block of Dhenkanal district. The hospital was named as *'Nysasdri Eye Hospital'* and added a new chapter in comprehensive eye-care services in the region. Irrespective of caste and creed, rich and poor, people from all walks of the society availed the service. The

organization, based on its experience, combined both outreach as well as institutional based support to eradicate blindness in the area. The mobile screening camps carried the services to the doorsteps of the community. People from Dhenkanal, Jajpur, and Angul got comprehensive eye care service with better quality, at their convenience.

2.2 Origin of Kalinga Eye Hospital and Research Centre

Eye care services was a foremost priority for NYSASDRI and the organization, realizing the problem as well as its impact, has integrated the service its strategy to empower the poor and disadvantaged. However, in 2002, the Government of India ceased its grant for the hospital. The challenge re-emerged. After stoppage of the Government of India grant, continuing the ophthalmic service was a challenge, while it was necessary for the locality.

The farsighted and determined management team of NYSASDRI responded well to the challenge. Amid all uncertainties and resource constraints, the management decided to carry on the services without any external assistance. On October 20, 2002, Kalinga Eye Hospital and Research Centre was set up by NYASDRI at Dhenkanal with a bank loan of Rs 30 Lakhs. It was a reincarnation of the Nysasdri Eye Hospital at Santhasara. The initial infrastructure was taken from the old hospital. In stead of a non-profit model, they management made an entrepreneurship model and shifted the hospital to Dhenkanal, the district headquarter. Mr. Sarangadhar Samal justifies, “shifting was necessary to make the hospital more accessible to the patients all over Orissa and to attract quality talents”.

Since inception, KEHRC attempts to make eye care affordable and accessible to all, irrespective of economic and social barriers. It has two units – paid and free– to cover all sections of the society. The most vulnerable people without the capacity to pay the minimum fee towards registration are treated in the free section. The economically sound patients are provided paid service. There is no difference in quality of service. The objective is to mobilize money from the rich class to the poor, said Dr. Parida.

KEHRC: *A new begining in Orissa’s Eye Health Services*

The hospital was set up in a rented facility with inpatient capacity of 30 beds. It added latest technology and equipments

in eye care. Led by Dr. DN Parida, renowned Surgeon of the State, the hospital was successful in attracting well-qualified doctors and paramedics to offer the best services. Other well-known doctors from nearest Medical College Hospital also visit KEHRC. As a secondary care facility, the new hospital is capable of offering qualitative eye surgeries like cataract, glaucoma, aculoplastics, squint etc. (A secondary care centre as per VISION 2020 guidelines is defined as a eye care centre which covers 1 million population and provides primary eye care and have infrastructure for treating cataract, refractive error, glaucoma & Low vision). KEHRC covers a very large population covering the following five districts and a population of 58,16,842.

Kalinga Eye Hospital & Research Centre

Vision:

To promote quality of life in rural communities through providing affordable eye care services on a sustainable basis.

Mission:

- *To provide contemporary, affordable, basic eye care services in particular Restoration of eye sight among rural poor through cataract surgeries;*
- *To make the service self-sustainable through providing paid services for those who can afford to pay these services;*
- *To improve community education & awareness on eye diseases; and*
- *To undertake research and study on prevention & cure of eye diseases*

Population Covered by KEHRC

Sl.No.	District	***Population***
1	Denkanal	11,50,580
2	Angul	12,60,588
3	Jaipur	10,40,766
4	Jagathsingpur	11,36,954
5	Sampalpur	12,27,954
Total		**58,16,842**

The base hospital has two main sections – modern Operation Theater and OPD. Services like Refractometry, Keratometry, Contact Lenses and Refraseries are provided in the OPD section. It has also added an optical centre and medicine store to it. In brief, it can be said that KEHRC is a one-stop service centre for all kinds of visual impairments. The Hospital has latest infrastructure and services, which is at par with any hi-tech eye hospital in India of its class. It has been successful, in taking eye care services to rural and remote areas as well as to supports the poor, deprived sections of the society with free surgery, medicines, diagnosis & consultation.

KEHRC stands on community outreach program to eliminate the needless blindness. The needs of the poor and the helpless persons are also taken care in out-reach camps. A team is dedicated to conduct the outreach camps in villages to find their refractive errors, eye diseases are detected and community is sensitized on eye care. Cataract problems are identified and supported for surgery in the hospitals. Treatment for minor ailments is provided on the spot- without any cost. Cataract problems are identified and supported for surgery in the hospitals.

Chapter 3

KEHRC: Comprehensive and Community Eye Care

AS per the VISION 2020 Global Initiative for the Elimination of Avoidable Blindness: Action Plan 2006–2011, Eye-care services must be comprehensive, encompassing eye-health promotion, prevention, treatment and rehabilitation. The full range of these services must be integrated into health-care systems and delivered to the population in a stepwise manner. Kalinga Eye Hospital and Research Centre as one of the leading eye hospitals in Orissa has integrated all these components in its comprehensive eye care system to fight blindness. Its community based approach has made it a model of high quality, comprehensive eye care to be delivered to patients, in need, irrespective of paying capacity. It hospital brings marginalized populations into the eye care system, providing affordable or free eye care, without compromising quality.

The initial efforts to establish the hospital had the challenges of funding, building of physical facility and recruiting and training service personnel. Equipment purchases were made through donations from individuals and Bank loan. Over the years, the hospital has now initiated volunteer and fundraising activities who cultivated relations with philanthropic organizations and the industry. The hospital has also collaborated with several international and Government agencies for resource mobilization. It was started in a rented facility and has already laid the foundation for its own infrastructure. Cost effectiveness of the activities by the hospital is increased by the efficient utilization of resources and prudent financial management.

In association with the leading Eye hospitals in India like Lions Arvind Institute of Community Ophthalmology (LAICO), Vision 2020, LV Prasad Eye Institute etc, the hospital has been successful in developing its own set of human resource, who are skilled enough to provide qualitative ophthalmic services.

Community-based qualitative and affordable eye care with latest technology to all is the core objective of KEHRC. Reaching the un-reached through eye camps,

addressing the barriers in accessing eye care facilities, and community participation are guiding principles in growth and sustainability of the hospital.

KEHRC model is a social enterprise model, evolved around some of the renowned and successful Eye Hospitals in India. The model has been customized and strengthened through community based approach, compassionate service to the people, development of human resources and quality management. The strategy is to provide low cost and quality eye care and recover the cost for sustainability. The model's uniqueness stands in its low investment and coverage of a larger population. "*We operate in a rented building and have the least required number of human resources. And we conduct at least 5000 cataract surgeries in a year and have out reach as well as newly opened pediatric eye care units",* according to Mr. Sarangadhar Samal. Our focus is to provide appropriate, accessible and high quality eye care at an affordable price. Its strengths lie in partnership with community, government, PRIs and other organization. The hospital is growing as a 'Community Eye Hospital' to render of modern eye care facilities.

Important Features of KEHRC model

Demand Generation:

- Community outreach & community involvement
- Patients as Marketer

Human Resources

- Trained and technically skilled staff
- Regular skill up training
- Role clarity and team spirit

Equipments

- Advanced equipments

Management

- Quality Management
- Patients' centered system
- Clinical effectiveness and efficiency
- Commitment to fight blindness
- Partnership with different stakeholders

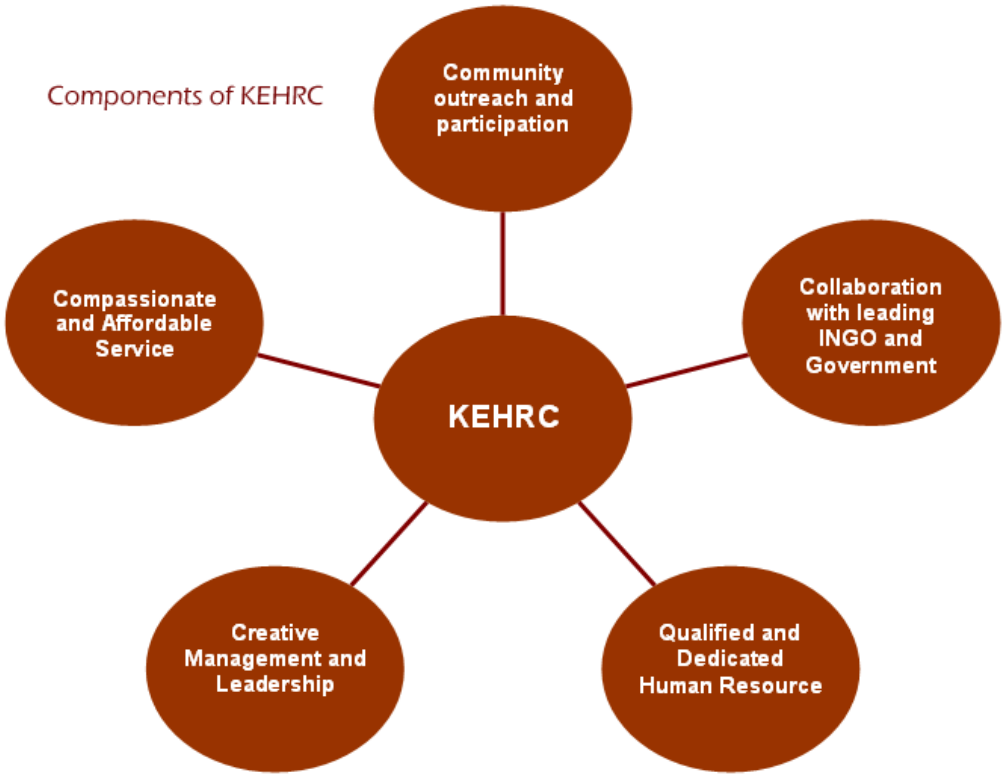
Financial

- Fee-paying patients
- Sale of spectacles, and medicines
- Grants from international organizations
- Local Fund Raining Program

Out Patient Department (OPD) of the hospital is open from 8:00 am to 1:00 pm and 3:00 pm to 5:00 pm everyday. Comprehensive eye examinations are performed at the base hospital with qualified ophthalmologist - supported trained paramedics. For the rural people, who are unable to access the service of hospital, outreach programs are organized. In these camps, KEHRC provides preventive as well as minor treatment to the patient at the camp. All the patients identified to have cataract are taken to the base

hospital for surgery in the hospital's vehicle. All the surgeries are conducted in the base hospital. Contemporary surgical procedures with quality clinical standards are core of the hospital's strategy. Post operative treatment is provided free of cost. In a year more than 200 camps are organized at the remote in accessible areas of the district. The hospital also organizes school screening camps to identify eye problems in the school going children's and distributes spectacles for the needy children free of cost. In addition to the hospital and outreach services, the hospital provides training to the Anganwari workers and local school teachers for screening of children as well as local people. People identified with vision problems are referred to the hospital by these local service personnel. The hospital has also established vision centre's to provide primary eye care and take care of refractive error problem at the community level. The hospital also emphasizes on promotion and awareness of eye care problems.

Efficient and competent leadership is strength in the model. The team is lead by Mr. Sarangadhar Samal, who is social development practioner and activist for last three decades. He has lead several pioneering development programs with success. The organizational structure is headed by the Chief Medical Officer (CMO). He is a



renowned eye surgeon and discharged several key functions with the Government of Orissa. He was the Chief District Medical Officer (CDMO) of Dhenkanal and also Joint Director, Department of Health and Family Welfare with the Government of Orissa. With his rich experience in health management and eye care service he is successful in operationalzing the vision.

The free hospital is based on community need, involving three significant stakeholders — the community, KEHRC, and a donor that supports with financial and material resources. Community participation and community ownership is core of the process.

Cataract operated patients

The hospital has been successful in attracting full time ophthalmologist to work and the grass root level work carried out by the KEHRC in the community are greatest advantage. Over the years, the eye hospital has successfully served more than 20,000 and the satisfied patients spread the image about KEHRC by word of mouth which brings in more patients and reputation to the hospital. *"We concentrate on satisfaction of the customer, whether free or paying. Because we believe they are the ambassadors of our hospital as well as our fight against blindness",* according to Dr. DN Parida.

Optimal resource utilization, appropriate policies and procedures, demand generation and demand management, quality check and improvement and management information system contributes to the success of the model.

3.1 An Institution for Community Eye Care

The organization lays emphasis on the importance of the local community for success of its approach. This community centric strategy ensures its services are integrated into and consistent with the wider societal and development goals of the target population. It tries to induce knowledge about eye care and there by generate the demand. NYSASDRI's experience and involvement with community mobilization activities provides a strong footing. It attempts to involve community members, local Panchayati Raj Institutions (PRI), local CBOs and private health institutions and volunteers. On the other hand, active participation of community enhances the level and effectiveness of the services.

What makes KEHRC a Community Eye Hospital?

Goal	• Community Participation • Comprehensive Eye Care • Preventive services • Eye Health Promotion
Target	• Entire Community
Service Delivery	• Hospital Bases • Screening Camps • Demand generation
Treatment	• Surgery • Medicine • Education • Counseling
Relationship	• Doctor • Patinet • Volunteers • Social Workers
Patient Mobilization	• High
Accessibility and Affordable	• Community Friendly
Drive	• Community Driven

Adapted from Pradhan KB, & Banerjee P, Community Ophthalmology-Dimensions, Illuminations, Vol. I, No.2, Apr-Jun 2001

As an Institution of Community Ophthalmology, KEHRC makes effort make its eye care service *easily accessible, effortlessly affordable and absolutely available to* the community. The hospital provides preventive, promotive, and curative services, covering a wider community to improve eye health status. The hospital raises awareness on eye heath and addresses the barriers in eye care through various social marketing and outreach activities. By providing comprehensive and quality eye care services, free or at subsidized rate, the hospital has made eye care accessible to the poor and deprived sections of the society. The outreach camp and free transportation has made the service available to the rural poor at their

vicinity. In the service delivery system, the hospital has also integrated key components such as Vitamin A supplement tablet distribution, primary eye care and school and organizational screening. Training of key persons from the community has also helped in early diagnosis and referral of patients, besides promotion of knowledge about eye.

Role of Community in KEHRC

- Publicity & organization of out reach camp
- Referral to the Eye Hospital
- Training of Service Personnel
- Eye Health Promotion
- Referal of patients to the Hospital

At KEHRC, the community members are not always in the receiving end. The Association with local community and CBOs facilitates the hospital's effort to raise awareness on eye care, publicity and promotion of the services of the hospital and its benefits as well as helps in hospitals service delivery. For every outreach program, KEHRC strives to have maximum community participation. The success of our outreach screening camp is evaluated in terms of the level of involvement by local community. In such activities, community members take lead in publicity of the program, logistic support and facilitation of the camp. In the social marketing strategy of the hospital, the community members take the leading role. They refer patients to hospital. The hospital has also trained a group of volunteers and key service personnel to identify people with visual disorder and refer them to the hospital. KEHRC is also highly dependent on community members and groups for highlighting its facilities and services among people. "In our strategy to fight against blindness, community members take the leading role. We just provide the facilities and required information", according to Dr. Rasananda Garanayak, CMO.

Anganawari Workers, after training by KEHRC on Eye Care

The Hospital also has been successful in establishing rapport with different community groups and leaders. It enjoys support and assistance from the community in all its activities.

Religious Leaders Fight against Blindness

The spiritual leaders of the Mahima religion, perhaps the youngest of all the religions in the world came out of their normal day to day activities of praying and preaching activities joined hand with KEHRC to fight against blindness.

Baba Dinabandhu Dash, a spiritual leader of the cult was worried about the visual problem among people around him. Even some of his followers and fellow spiritual leaders were also having the problems in their eye.

He approached Kalinga Eye Hospital and Research Centre for conducting a screening camp at Mahima Latashrama in Joranda- one of the remote villages of Gondia Block. He assured that he and other members of his cult would extend all help in organizing the screening camp.

Responding to his request and interest, KEHRC conducted a screening camp in the village. Keeping his words the spiritual leaders helped, wholeheartedly to make the camp a success. Prior to one week of the camp, they arranged for publicity of the camps, prepared banners and posters and displayed in different location of the area. They identified key person, who should visit the camp. On the day of camp, they provided the infrastructure to the team to conduct the screening test. Basic food and snacks was also arranged by them. The organizers visited each and every household to send people to attend the camp and get their eye checked.

In this camp KEHRC team provided primary treatment to 97 patients and identified 34 people with cataracts. These people were transported back to the hospital, where free cataract surgery was conducted. Among all Bhagaban Baba of Mahimagadi, who was suffering from both eye cataracts, showed his interest for paid surgery at the hospital as he was facing a lot of problems in his day to day activities. The hospital conducted a Phaco surgery to remove his cataract. On the 16th day of the surgery, Baba came up for the follow up visit with full excitement. He blessed the hospital team and ensured that he and his followers will spread message about eye health and KEHRC.

3.2 OUTREACH: Reaching the Un-reached

Several studies have confirmed that many of the rural population are deprived of eye health services, not only because of poverty, but also because of their physical inaccessibility to the available services. So, every successful eye care service delivery approach in developing countries has emphasized on outreach screening programs to reach the un-reached sections of the society. As a community eye care

service institution KEHRC has integrated community outreach camps as a Major strategic component for its efforts to eliminate the needless blindness. “Community outreach is an integral part of our approach. Over 90% of the patients who undergo surgery at KEHRC Hospital come through outreach camps in the communities,” says Sarangadhar Samal.

Identified Cataract Patients being taken to the Hospital for Surgery

With five outreach camps in a week the outreach screening camps, the hospital reaches maximum number of people, especially in rural areas. In a normal camp the hospital treats more than 100 patients and brings around 30 patients for surgery. The hospital’s outreach camp team comprises of several full-time staff; Ophthalmologist, Refractionist, & other support staff. To facilitate the transportation of the staff and patients two passenger vehicles are especially devoted. The team conducts diagnostic camps in the periphery areas and appropriate patients are moved to the Hospital for surgery. The patients are re- transported back to their village after the surgery.

The hospital adopts the following steps, while organizing and effective outreach Camp at the community:

Site Selection: This is the first step in organizing an outreach camp. The outreach team decides on the location where the camp should be organized. Need of the community, availability of health infrastructure, community cooperation, communication facilities, availability of local infrastructures and response to previous camps are considered for selecting a site for the camp.

Activities Implemented Under Community Outreach Program

- Screening of cataract patients
- Providing primary Eye Care Treatment.
- Supplying Spectacles and medicine as prescribed
- Raising awareness on eye diseases and eye care.
- Coordinating with Community Leaders, Clubs, and CBOs for eye care services.
- Developing Volunteers for raising awareness on eye health

Identification of Camp site: Once the area is selected, the outreach team works on identifying a suitable venue for the camp. They seek cooperation from the community members for this. And in most of the cases, the community members provide infrastructure and logistics support. The hospital prefers schools and community centers as suitable venue for camp, as these institutions are known to the villagers. Proximity to the target population and accessibility is the deciding factor for camp site.

Propaganda / Advertising: Before 2/3 days of the outreach camp, the Outreach team reaches the venue and organizes propaganda and advertising activities for the camp. Here also they seek community support. The propaganda team interacts with the villagers, local leaders, groups for inform them about the camp. They distribute IEC materials on eye heath and the facilities available at the camp. The propaganda activity is not only targeted to attract maximum number of patients to the hospital, but also it attempts to educate the villagers on various eye diseases and its proper treatment.

Villagers waiting for eye screening in a screening camp

Screening at Camp: The screening camp is conducted with the clinical team of the Hospital. Once a patient arrives, the team registers the patient's name and primary eye test such as vision test and refraction is conducted. If the problem found is primary in nature and can be treated with medication, the hospital provides them free medicine and spectacles, as required. However, if the patient is found with major problem such as Cataract, which requires surgery, the patient is taken back to the base hospital in the hospital's vehicle. Before taking to the base hospital, appropriate counseling of the patient is made, so that the fears or misconception about eye health can be removed. The outreach team also uses the opportunity to promote awareness about eye care. None of the patients in the camp charged any cost for consultation or medicine.

Surgery at Base Hospital: The patients brought from the camp are registered again at the base hospital. Appropriate counseling made to identify whether the patient can pay or not. The counselor explains about different surgical packages and its

'At least I don't require my grand children for my daily routine'

Rankanath Rout, 72 years, is a resident of Bangarkota, of Jajpur district. Being a retired postmaster he is quite affluent. After retirement he thought to lead a happy life, since he has adequate financial stability and has two sons and two daughters. But fate decided otherwise. He got into debt to get his daughters married. His elder son is employed as primary school master but does not help his parents, saying that he is burden for the family. His youngest son, a daily wage worker takes care of him. Sometimes they have to go hungry and when hunger becomes unbearable they beg for food. The problem further intensified with the cataract in his eyes. He could see nothing and has to depend upon his grand children while bearing the cutting remarks of his daughter-in-law.

He approached KEHRC in one of the camp at nearest village. As he was having cataract in his eyes, the outreach team of the hospital brought him to the hospital and cataract was removed from his eye through surgery.

Now he could able to see, as usual. During the first follow-up check up, when the doctor asked, how the life is, after the surgery, he promptly answered, "*At least I don't require my grand children for my daily routine".*

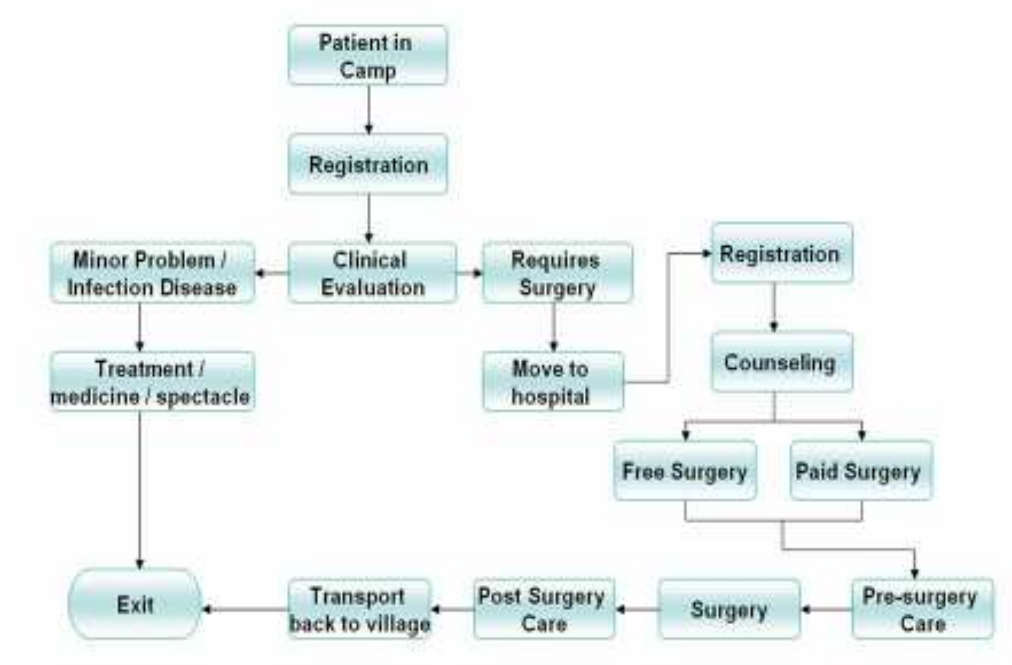
benefits. If the patient agrees for paying surgery, arrangement is made for preferred service pack. Other wise free surgery is conducted for the patient. The discretion lies with the patient and the hospital team never forces any patient for paying surgery.

After completion of the formalities, the paramedics start the pre-operative care for the patients. Surgery is performed on the next day of arrival. "As most of the patients are old people the hospital gives them rest for the day. This also gives us time to conduct pre-operation care and proper counseling of patients", says Dr. Susanta Jagadala, Surgeon. Like the paying patients, the outreach camp patients are evaluated using the slit- lamp biomicroscope, keratometry and A- scan, where necessary. They undergo planned extracapsular cataract extraction with a posterior chamber intraocular lens implant under a microscope with use of viscoelastics.

Drop back: The patients are transported back to their respective village after one day of the surgery. Prior to their departure from the hospital, the medical team examines the post-operative condition and explains them about the care required for the eye. The hospital provides them medicine and spectacle free of cost and

explains about how to take medicine and use spectacle. During the discharge, the patients are also communicated about the follow up date for post-operative care.

Follow Up: At each camp location, the hospital decides a date for follow up of the operated patients. The team reaches the patients on the decided date and conducts refraction for operated patients. It ensures the success of the surgery.



3.3 Affordable and Accessible Services with Satisfaction

Making eye care services affordable and accessible is the foundation of KEHRC. Affordability covers not only the patients' ability to pay for hospital services; it also considers the transportation as well as economic opportunity of the cost of hospitalization.

Majority of population in the catchments area of the KEHRC is poor and reside in rural areas. Agriculture is the dominant employment avenue. Average family income is less than Rs. 50. Health services and infrastructure are lesser than the basic. The hospital realizes this fact and hence a high proportion of its eye care services at no or low cost.

The hospital also offers different prices for different classes of surgeries to make the services affordable for the local community. The charges are decided, considering the basic socio-economic indices as well as the hospitals sustainability.

The hospital takes a cross-subsidization approach, in which revenue received from those who pay for services fund the services of those who can not afford to pay. For cataract surgery, price varies from the level of service and accommodations. Patient, who receive free treatment are provided with basic accommodation in a shared facility. Paying patients receive a better standard of accommodations. Individuals are counseled prior to surgery to determine the level of payment they can afford. They are encouraged to pay. They are made aware of the benefits of the payment, including both the clinical benefits of the surgery as well as indirect benefit to the society. However, the patient has the freedom to decide.

The approach also helps people to cross the barriers associated with the incapacity to pay for the transportation. Patients in remote areas are diagnosed in outreach screening camps and if found that the patient requires surgery, the camp team brings the patients to the hospital for surgery in its own vehicle at no cost. After treatment the patients are transported back their own village at no cost. Surgery is conducted free of cost. They are provided free food during their stay as well as glasses. However, if a patient desires to go for IOL, the hospital charges additional cost towards the IOL, sutures and medicines.

A cataract operated patient

Another barrier in seeking eye treatment is that eye treatment requires long period of hospitalization and hence it can keep the person away from the economic activities. People think that period of hospitalization is very costly. One person has to stay with patient and hence he will also loose his earning. However, at KEHRC a patient is required to stay one day or two, at best. Even the hospital discourages attendants from the patients' families to stay with them. To allay this barrier, the outreach camp team raises awareness of the service approach. They educate on the benefit of sight restoration.

The services of the hospital are also accessible to the target population. In addition to outreach camps, the hospital as set up screening centre at different locations, in which a team from the hospital visit the centre on fixed day in a week. Every year it increases the number of out-reach camps to cover more populations.

Service with a Human Touch

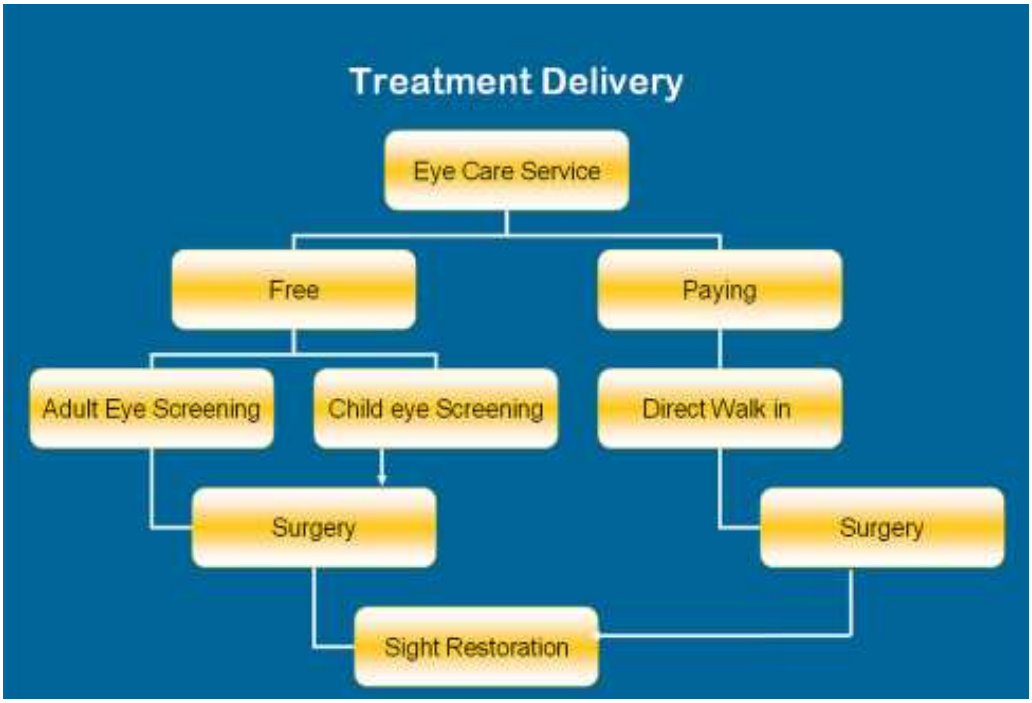
Doctor: Maa (mother), where do you live?
Patient: Santhasara
Doctor: What uncle does?
Patient: No, he died long ago.
Doctor: Who else are there in your home?
Patient: Son, daughter in law and grand child
Doctor: Since how long you are not able to see?
Patient: For last one year?
Doctor: Why didn't you visit the hospital?
Patient: From where I can bring money?
Doctor: Don't you have any fear for the surgery?
Patient: It's in your hand. You can save or kill. Now also I am not able to do any thing.
Doctor: Nothing will happen. Every will be all right. you can see like before. What will you do after you get you sight?
Patient: I will help my daughter in law, who is facing a lot of problem for me. I will also pay with my grand child. (with smiles)
Doctor: Everything will be OK. What I will get?
Patient: What this poor woman can give you. I can only bless you

This is a sample conversation between the doctor and patient, during the fist interaction between the both. In the first instance doctors and other paramedics develop an excellent personal rapport with the patients. They make all effort to make the patient comfortable and feel like home, away from home.

The paramedics help the patients; above 95% of them are senior citizens - above 60, in all aspects. "It gives immense pleasure to assist the old person. They are like our family members", says Ranjan with contented eyes.

Out patients services are offered on weekdays of the Hospital. There is no distinction of paying and non-paying services. The waiting hall is same for all. Patients first undergo visual acuity assessment by trained paramedics and then examined by the ophthalmologist. If the ophthalmologist feels that the patient needs refraction test, then the patient goes for refraction.

The surgical services start after completion of the OPD for the day. Cataract Surgery is conducted with phacosandwich technique. Prior to surgery the patients need to stay in the hospital for one night and patients are released on the next day of operation. Post-operative follow ups are made regularly.



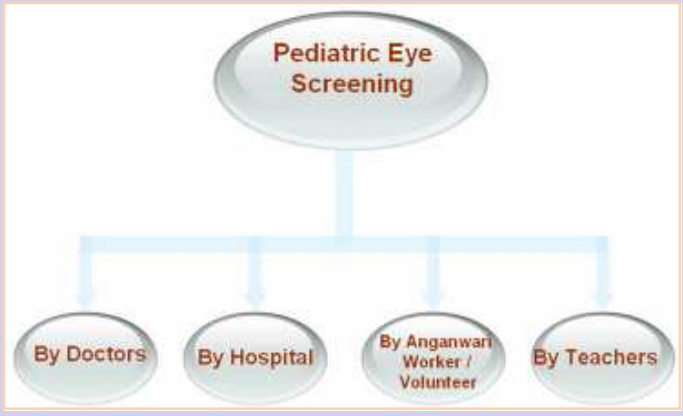
Patient Satisfaction is the utmost priority

Patient satisfaction, both clinical as well as psychological, is the ultimate measure of the quality of service. The hospital maintains all qualities to bring overall patient satisfaction. However, non-clinical factors like personalized service, overall comfort and communication enhances the satisfaction level. The social workers, counselors, paramedics and nurses spend a lot of time with each patient. They develop a personal relationship and assist them in clarifying their doubts, allaying their fears and making their stay as comfortable as possible. Through conversations they understand the patients need and act accordingly. They also use the opportunity to educate them about the eye care and hospitals rules. “If they patient is satisfied with our service and go back to his family with good experience he may refer others to attend the hospital”, says Sunil, Hospital Manager. Special attention is paid to both the clinical and non-clinical needs of the patients before, after and during the surgery / treatment.

First Pediatric Eye Care Unit of Orissa

The problem of visual impairment does not spare children, too. According to an estimation made by the Government of India (*Vision 2020 Action Plan, 2002*), prevalence of refractive error (visual acuity <6/9) among children could be as high as 5%. In most of the cases, refractive error in children, if untreated, always results in poor academic performance and students dropping out of the school. Like most of the visual problems, refractive error in children can easily be corrected by providing a pair of spectacles.

However, in Orissa pediatric eye care services is poorer than adult eye care in Orissa. As eye care services for children require specific expertise, equipment and training, most of the hospitals are unable to provide pediatric ophthalmic services. Major barriers to childhood eye care / cataract surgery in Orissa are: 1) absence of adequate trained pediatric eye care personnel and anesthetists, 2) lack of high volume cataract surgical setup where pediatric eye care facility can be developed, 3) lack of awareness and skill to detect congenital cataract in children 4) absence of outreach services to identify and treat children with cataract and refractive error.



In line with its attempt to provide comprehensive eye care services, KEHRC has added pediatric ophthalmology service unit under its banner. For the purpose, the hospital has made required development in infrastructure as well as human resources. It sent a doctor to Aravind Eye Care System, Madurai in March 2007 for one-year fellowship program on Pediatric Ophthalmology. Another optometrist was also trained at the same institute to support the pediatric unit of the hospital.

Like the cataract screening camps, the hospital also organized pediatric screening camps to identify children with visual impairment. It has trained a group of Anganwari Workers, School Teachers and local Doctors to identify and send children, having problem in their eye.

“We are the first eye hospital having the Pediatric Ophthalmology unit in Orissa”, said Mr. Sunil Kumar Mishra, Hospital Manager

Restoring Childhood

She is has not celebrated her first birth day yet. She is only 11 and being only girl child of the family she enjoys love and affection of all members.

However, the family was disturbed because this little girl, Jaya was not engaging herself in any activities. She was always sitting in the same place where their parents put her. She was having problem in her eyes. Her parents took her to near by Community Health Center (CHC) at Danagadi. As the doctors there had no idea about pediatric ophthalmology they could not identify the visual problem of the child. Even the Ophthalmic Assistant of the CHC could not identify. They referred to Kalinga Eye Hospital & Research Centre for proper diagnosis & treatment.

Top: Jaya having Cataract, Below: Jaya after Cataract Surgery

The hospital team was surprised to find that Jaya was suffering from conginental cataract with strabismus. However, KEHRC was not able to provide treatment to this small baby, as the hospital was in the process of developing its pediatric unit and the surgeon was under training.

Her aggrieved parent took her to another reputed hospital at Cuttack. However, the cost of the surgery was beyond their affordability and the Doctors there could not able to assure the percentage of successes of the surgery. The family was anxious again. Fortunately, Dr. Mihir Kothari, Pediatric Ophthalmologist from Jyotirmayee Eye Clinic & Pediatric Low vision Centre, Mumbai was on a visit to KEHRC to perform pediatric eye surgeries and train KEHRC Ophthalmologists.

The hospital contacted Jaya's family and found that the little girl was still suffering from the visual problem. Her parent took her to KEHRC and Dr. Mihir Kothari identified Jaya having bilateral conginental cataract. Assuring her parents, he conducted the cataract surgery. The next few hours after the surgery were very much crucial both for her parents and for the hospital as well. Finally, the surgery was successful and Jaya could get back her vision and all her childish joy.

After few days she was responding to words and her inactive life turned into a jous life full of childish naughtiness.

3.4 Social Marketing: *Linking up people with hospital*

KEHRC understands that establishing eye care service facility is not enough. Health awareness on eye care is an important component in comprehensive ophthalmic service delivery. It can help in attracting patients and generating demand for services that is vital in eliminating avoidable blindness. As discussed, many factors act as barriers in people's attitude to seek ophthalmic services. Research shows that awareness is a significant barrier to uptake of eye care services, especially in rural areas. People are unaware about the availability pf the services and think that they wont be able to pay for it. Some people are afraid of the surgery. KEHRC makes all efforts to make people overcome these barriers and access eye care services.

Social Marketing Tools

- Out reach Camps
- Other Out-reach Activities
- Comprehensive Patient Care
- Community Training
- Advertising

The hospital has developed a social marketing and out-reaches programs; a key tool for enhancing community awareness and hence demand for service. The social marketing and community outreach efforts is strengthened with the support and contribution of local community organizations, including CBOs, schools, village leaders etc. NYSASDRI's work for more than three decades in the region provides a better access to community members and helps in generating awareness and education on eye care. In the social marketing strategy, major elements are: outreach activities, Patient Satisfaction, service personnel Training and advertising.

Out reach Camps

Out-reach camps is the most important component in of the social marketing strategy. The hospital conducts four five out-reach camps in a week and this provides an opportunity for person to person communication opportunity. In this camps, the hospital not only provides primary treatment to eye disease but also the out-reach team sensitizes the community on various eye care. Through these

camps the hospital reaches more and more people and educates them about the service available in the hospital as well as generates demand for the services. The out-reach organizer visits the village one-day before the camp and makes propaganda about the camp. He also distributes pamphlets in local language about eye problems as well as the solution to it. The organizers interact with and educate the key village leaders, such as the teacher, Panchayati Raj Institution members, health workers and others, who act as referral agents for the hospital. IEC materials also displayed at the camp location and distributed among the people. Villagers also get opportunity to interact directly with the ophthalmologists and paramedics and get their queries clarified. The outreach camp team members explain about eye diseases to the services of KEHRC in a very simple language and allay all their fear about eye care.

With The Commnity: KEHRC Staff conducing a screenig session

Other Out-reach Activities

Besides, out reach camps the hospital also organizes other outreach activities for promotion of eye care and services available in the hospital. School screening camps and Screening camps in organizations are organized regularly to identify children with visual disorders. The hospital has a team for the purpose. They visit different schools and organizations / companies to conduct screening test and simultaneously they spread awareness about eye care. The organizational screening camp are conducted for employees of companies, government offices (such Police) etc. Like the outreach screening camps in villages, here also the hospital team finds opportunity for person to person communication and hence the result is better than other mode. Educational materials on eye care disorders such as cataract, pediatric eye problem and other impairments are distributed among them. Dr. Rasananda Garanayak, CMO says, “out reach activities are, in fact, our marketing tool. We reach a wider section of the population and attract maximum patients from this outreach both types of out reach programs.

“School screenings simply involved testing the visual acuity of each child. I acknowledge and agree that to refract children at the camp would involve huge resources and time which is perhaps not feasible. In this aspect KHERC is doing wonderful jobs with a couple of human resource and little funding.”

Maria McGill, *International Volunteer*

Comprehensive Patient Care

KEHRC believes on the fact that a satisfied patient can help in promoting good awareness about eye care as well as good image for the hospital. The hospital takes care of the patients with all compassion. The hospital members make all effort to establish a personal rapport with the patient. During the counseling, the hospital staff educates the patients on care and treatment of eye diseases in addition to facilities available in the hospital. On the other hand, a patient spreads information about the simplicity of eye treatment and cataract surgery, besides the comprehensive services of the hospital. They motivate other villagers to seek treatment from the hospital. They act as ambassadors of the hospital, according to Rebati, Sr. Counselor.

Community Training

Capacity building of key service personnel in the community, especially in rural areas to identify person with eye disorders and refer them to the hospital is another important component in KEHRC's social marketing strategy. The hospital regularly trains local service personnel such as school teachers, Anganwaree Workers, health workers, Physicians and other members of the society, who act as volunteer in the hospital's endeavor to fight blindness. During the school screening camps the hospital team trains the school teachers. For other members specialized training sessions are conducted. They are given awareness about the basics of eye care, common eye problems, methods to identify the disorder and the services available at the Hospital. As they spend most of the time with the community, these personnel help in promoting awareness on eye care among the villagers. They also help in motivating people and generating demand for the hospital. Hospital team consistently interacts with them and helps them in spreading awareness by providing required information and materials.

Capacity Buliding of School Teachers

Advertising

Social advertising - though a least prioritized area in social marketing program of KEHRC – also contributes in spreading awareness about eye care in the area and promoting the services of the hospital. Considering the high illiteracy in the region, the hospital has developed an audio cassette for infotainment of people. The

cassette, developed in local language, gives message about common visual disorders and the cure methods. Common misconceptions about eye care are also explained in the audio pack. It simultaneously highlights the facilities available in the hospital. In addition, the hospital spreads message on eye care and its services through display boards and wall paintings in different rural areas.

“Our strategy is to promote eye care through person to person communication, which is more effective. So stress on outreach programs and advertisement is the next priority for us”, says Mr. SD Samal.

3.5 Local Resource Mobilization: *Key to Sustainability*

Kalinga Eye Hospital and Research Centre to continue its comprehensive community eye care service must have sustainable income sources that are not influenced by the external funding. Since the eye care services of the hospital is largely targeted towards people, who are mostly live below the poverty line. In order to ensure that the service is also accessible these poor and needy KEHRC has initiated a specialized program for mobilizing resources from local areas as Grants and donations for free surgeries provided and for capital and infrastructure development.

Besides approaching, the international funding agencies, the hospital now focuses more on local resource mobilization. The local fund raising activities are led by an experienced Fund Raiser.

A screening camp supported by Local Truck Owners’ Association

It has started a Young Ambassador Program (YAP), in which the hospital reaches the young population, especially school children. It conducts awareness sessions, screening camps in schools and appeals for support from the younger generation for eliminating blindness in the society. Many students take active participation in the YAP and contribute their support for cataract surgery and eye care camps by appealing to their family, friends, relatives and neighbor. They become the young ambassador for spreading messages on Eye Health. The effort of the schools and students are recognized through school certificates, bronze / copper certificate, silver certificate, golden certificate, memento, T. shirt, caps, student’s pen, principal pen, coordinators pen set and teacher’s pen. The program not only helped in mobilizing local resources but also helped in spreading messages on eye care among the school children.

In addition to YAP, it has set up donation boxes in major locations of the city. The Fund Raising wing of the hospital also appeals the local corporate houses for their support to remove avoidable blindness. These corporate organizations have responded well as it strengthens their Corporate Social Responsibility programs. Besides, the team also approaches different individuals, community based organization like SHG, Business persons etc for support. “Initial Responses to our fund raising appeal has been encouraging. We expect more and more support, especially from business persons and individuals’, according to Akshaya Mishra, Team Leader of Fund Raisinig at KEHRC.

Contributors in Local Fund Raising Program:

Schools

1. Gandhi Public School, Bhubaneswar
2. Kendriya Vidyalaya, Niladrivihar, Bhubaneswar
3. Govt. Boys High School, Unit – 8, Bhubaneswar
4. Amarbani English Medium School, Angul
5. Kendriya Vidyalaya, Angul
6. Govt. High School, Angul
7. Aurobindo Purnango Sikshya Kendra, Dhenkanal
8. Prabhuji English Medium School, VSSNagar, Bhubaneswar
9. Monfort English Medium School, Dhenkanal.

Corporate:

1. IMFA
2. BRG Steel
3. Nav Bharat Ventures

3.6 Critical Success Factor

A number of successful approaches and models have been developed and implemented to expand delivery of eye care services to the community. The approach of KEHRC focuses on comprehensive community eye care services through development organizational capacity and sustainability. Several factors influence the functions of the hospital and effectiveness the services.

Critical Success Factor

- Comprehensive Eye Care
- Excellent & Equitable Services
- No Charity
- Team Approach
- Community Participation
- Partnership

The distinguishing aspect of the hospital is its ability to strengthen itself as a reliable and competent eye care institution, with minimum investment, that also in a rented building. . “We are surprised to see that the hospital is providing eye care services to such a huge population with very basic infrastructure”, says Shagun Arora, a Student of Medicine in the USA and Volunteer at KEHRC. The critical aspects in success of the KEHRC are as follows.

1) Comprehensive Eye Care

KEHRC provides comprehensive eye care to a wider section of the society. Its service encompasses preventive, promotive and curative eye care facilities. The social marketing strategy has been helpful in generating demand for the hospital services. This is evident from steady rise in number of surgeries. As a primary and secondary eye institution, the hospital is capable of managing 90% of eye diseases. It also reaches the remote areas, where the need and demand for Eye Health services is very high. 'We have developed the hospital as a one-stop solution centre', said Sunil Mishra, Hospital Manager.

2) *Excellent & Equitable Services:*

KEHRC functions with the philosophy of 'Eye care for all'. It maintains all care for excellence in quality of the services, be it clinical or programmatic. For the purpose the hospital has successfully developed basic infrastructure such as equipments and instruments as well as a team of skilled and dedicated service team to provide the contemporary ophthalmic services. Similarly, the hospital removes the physical and monetary constraints that inhibit most of the community members to access eye heath service. Its free service covers most of the needy and poor people in the locality.

3) No Charity

Though the most of the patient access free of cost for the treatment and surgeries the hospital is not a Charitable Hospital. Rather the model is a "Development Model", according to Mr. SD Samal, Director. The hospital attempts to become self-supporting through income-generating activities and cross-subsidization of its services. Operating costs are met by the operating revenues from user fees. Local resource mobilization has also helped in mobilizing finance for most of its free services.

4) Team Approach

The biggest achievement of the hospital in since inception is development of a team of highly dedicated and skilled professional.

The surgeon and the Kalinga Eye Hospital nursing staff keep two operating tables rotating at once (while one patient is having their cataract removed the other patient is being prepared for surgery). The surgery lasts for about 7 minutes, although there is some time required for pre-operative and immediate post-operative care.

Matthew Noble and Erin Law, *International Volunteer*

Each member plays a complementary role for the other, enhancing efficiency and cost-effectiveness of the system. The motivation level and team spirit of the hospital is excellent. Each member understands the role he/she plays and attempt to perform his work with excellence. The hospital also takes necessary steps for development of technical as well as management skill for the hospital staff. As more than 50% of the service staff are recruited from the community, the care and compassion of the team members is unmatchable.

5) Community Participation

KEHRC's enjoys a strong community support at all level. It has developed an excellent rapport with the individuals, community based organizations, clubs, self-help groups and private health centers. They support in the social marketing activities of the hospital. They sensitize the villagers on eye heath problems and its cure as well as promote the services available at the hospital and its impact. They refer patients to the hospital. Through local fundraising activities the hospital has been successful in attracting contributions from the community in cash and kind.

6) Partnership

Above all, the journey of KEHRC to fight blindness has been enriched and strengthened by active support from several government and non-government organizations. The hospital has excellent relationship with District Blind Control Society (DBCS), which supports the hospital in providing free cataract surgical services to people in rural areas. The hospital has also developed partnership with some of the leading International NGOs, like ORBIS International, Unite for Sight, DIK and others. These INGOs, in line with their organizational objective, has supported in infrastructure development and service delivery by the hospital to the poor and deprived. For capacity building of Human Resources, KEHRC has a linkage with leading Eye Care Training Institutions, such as Lions Aravind Institute for Community Ophthalmology, Madurai and LV Prasad Eye Institute, Hyderabad.

The objective is no patient should shy away from eye care because of affordability

"Resource Constraint Has Improved Our Productivity"
- Sarangadhar Samal

*Born in a remote village of Santhasara, Dhenkanal, **Sarangadhar Samal** is known as one of the leading Social Activists in Orissa. As the Director of NYSASDRI, he has been leading the organization for last three decades with excellence. The organization is now Associated with the Department of Public Information (DPI/NGO) of United Nations. Under his leadership NYSASDRI has pioneered many social interventions in the state.*

KEHRC is a demonstration of his entrepreneurial spirit and commitment to serve the poor and disadvantaged. With his foresight, resourcefulness in harnessing support and efficient management the hospital is now a leading eye care institution in the region.

1. **What are the important elements of the KEHRC model? How you have achieved such success in a very short span.**

   We started this hospital with a single point focus – sustainable eye care for all. No patient shall be denied of the eye care in our catchment-area because of accessibility and affordability. Since inception, we are dedicated to our mission and developed this hospital as a community eye hospital. We have been improving our efficiency almost daily. Our doctors and other staff have attended better productivity. Efficient and optimal resource usage, support from and partnership with the community members, qualitative and compassionate service, dedication of our staff and people's need are the major success factor.

2. **Talking about productivity, how have you achieved such high productivity?**

   Our mission and dedication towards the mission has made us more productive. Our productivity is also influenced by the constraints for resources. In order to have sustainability with limited resources, we have to improve our productivity.

We have also attended greater efficiency and effectiveness through adoption of technology, strategic management practices and commitment of our staff.

4. You have free services as well as paid services. How these are balanced?

We adopt cross subsidization method, in which we attempt to mobilize resources from people who have sound financial status to provide services to people who can not afford. The objective is no patient should shy away from eye care because of affordability. Though the percentage of paying surgery about 5-10 percent of total surgery, we are making all effort to make it at least 30%. To cover the cost of free surgery, we request different organizations and individuals for donation and or grant.

5. The number of free patients outnumbers the number of paid patients. How the paying section perceives about the hospital?

The objective is no patient should shy away from eye care because of affordability.

As I said about 10% of total patients are paying patients. To distinguish the service, we have different treatment / surgical package for paying patients. For example, the free patients are given the basic IOL in cataract surgery, whereas the paying patients get a better IOL, may be imported one, if he pays more. There has been a steady increase in the number of paying patients.

6. Who are the major partners? In what way does your relationship with these partners inhibit or enhance the effectiveness of your operations?

The role of partner organization in growth and development of KEHRC, as a full-fledged community eye care centre is indispensable. These partners have helped us in financial support to provide free surgery to poor and need. Besides, they have also helped us a lot in improving skill of our staff, infrastructure development and strengthening our management systems. With their support we have enhanced our effectiveness and efficiency.

7. Orissa has few trained and qualified doctors and paramedics. How you are successful in attracting the talents?

Recruiting and retaining good ophthalmologist is a challenge. However, we try to attract them by providing industry standard salary and continuous career development training. For example, the present surgeon we have has learned pediatric surgery through a training program we arranged. Besides, the volume of work and personal satisfaction also motivates them. For paramedics, we recruit young people from the locality who have interest for serving people and

commitment. We train them in-house or through various training programs at reputed eye hospitals. We build a personal rapport with all the staff and try to incorporate the sense for compassion among all our staff, through various motivational activities.

8. It is normally found that ignorance is barrier eye care service delivery. How you attract patients for your service?

We understand the low level of eye health awareness. In addition, there are also other barriers like affordability and accessibility. Hence, we not only focus on quality eye care service delivery, we also focus on demand generation. As a community eye hospital eye health promotion and education constitute a major component in our activities. We try to build awareness about eye care disease prevention and treatment through our out-reach activities.

Multi-tasking of our staff and support from various sectors and a strong community relationship has given us the confidence to face the challenges

9. As you extend your attempts to eradicate needless blindness what challenges are you facing?

The major challenge is resource – financial, material and human. To face financial challenge we stress on optimal resource utilization. Recently, we have started a local fund raising initiative with good response. Multi-tasking of our staff and support from various sectors and a strong community relationship has given us the confidence to face the challenges.

10. Looking ten year from now, where do you want to stand?

First of all our focus is to build a international quality eye hospital, which is affordable and accessible to all community. Very soon we are going to start a pediatric unit. We have trained our doctors and paramedics and have other resources ready for this. Later, we will start all advanced eye care services. After this, our focus will be on research and advocacy about eye health with a post-graduate study centre for ophthalmology. We want to be the largest eye care provider in Orissa. However, in all our activities, community will be at the centre stage.

Chapter 4

Strategic Management

STRATEGIC Management is an important organizational practice that accelerates growth and operational effectiveness of any institution. It focuses on continual planning and implementation of activities and cross-functional management within the organization. The Strategic Management System aligns organizational planning and performance measurement, facilitates an appropriate balance between organizational priorities and resolving "local" problems, and encourages behaviours that are consistent with the values upon which the organization is built. The process of strategic management assists the organization in specifying objectives, developing policies and plans to achieve the same. It also concentrates on optimal utilization of resources. Organization adopting strategic management process watches the environment carefully. Setting performance indicators and periodic measurement and evaluation of the performance is an integral part of the process. Deviations of actual achievements from the pre-set objectives provide learning to the organization and help in improving the strategies.

As eye care institutions face the challenge of organization sustainability and catering free services, they necessity of strategic approach to management is enhanced. For eye care service provider Strategic management to enhance the efficiency requires: human resources management; quality management; and financial sustainability. Most of the models of eye care in India have been successful due to their operational effectiveness and efficiency through prudent management practices.

Kalinga Eye Hospital and Research Centre is successful in adopting strategic management practices to develop its operational capacity and enhance its performance. The principle of strategic

"The need for this hospital is great… and from what I have seen so far, the productivity and efficiency of this institution are impressive and the efforts of the Kalinga team is exceptional"

Alyssa Titus, *International Volunteer*

management for KEHRC emphasizes on Operational Capacity, Human Resource Management, Quality Management and application of appropriate Technology to provide comprehensive and quality eye health services.

Though the hospital is part of NYSASDRI, its management is independent of NYSASDRI board and has its own management board. This board provides strategic directions and manages strategic level functions of the hospital. The management of the hospital is led by the Chief Medical Officer. He is responsible for overall performance of the plans and policies as well as realization of organizational objectives. Management of the clinical facilities is headed by the full-time Ophthalmologist. The Hospital Manager is responsible for the non-clinical and administrative activities of the hospital.

4.1 Strategic Goals and Plan: *Road map for future*

Identification and clarification of the strategic goals and objectives is the first step in strategic management process. The success of the organization is a measure of to what extent the goals and objectives are achieved. The goals and objectives specify what an organization aspires to achieve and give a framework for focus and direction of the organization. Strategic operational plan is guided by strategic goals. Hence, a mistake in identifying appropriate goals and objectives may result in overall failure of the institution. The strategic goals and the operational plan to achieve these goals need to be clear to all members of the organization for better impact.

Objectives of KEHRC in the Business Plan

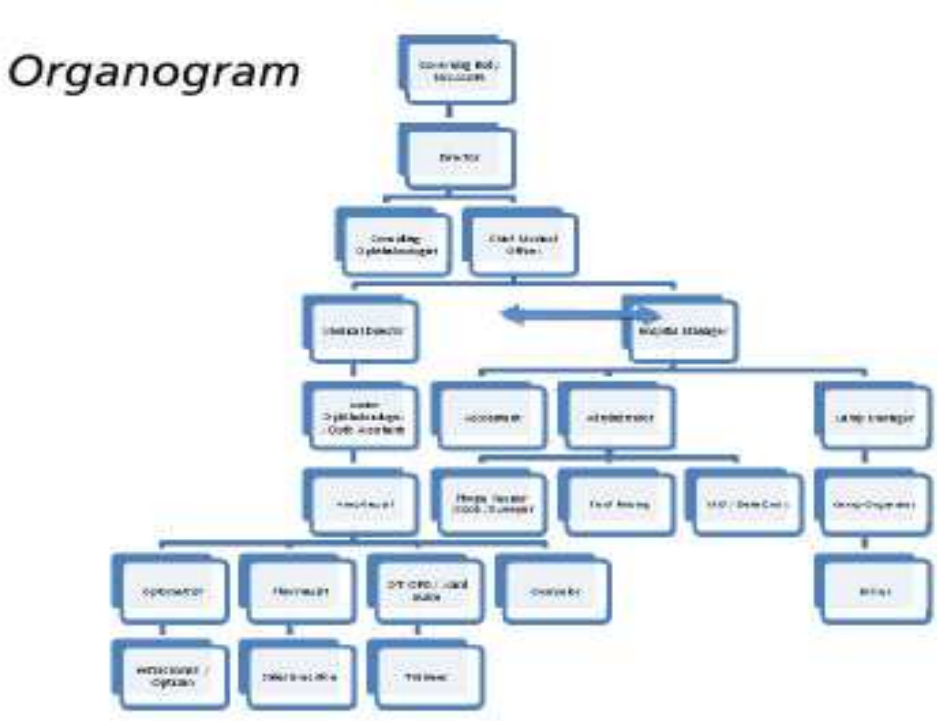
- To increase the number of cataract surgeries from 5000 to 7500 by end of 2009
- To improve service provision for refractive error to cover at least 30% of the service area by 2009
- To provide childhood eye care services in the service area
- To increase the direct walk-in and paying patients for financial self-sufficiency to at least 25% of the total load of patients at the hospital

KEHRC's Strategic management process starts with a clear and transparent vision, followed by situational analysis. Like other community centered eye care institutions, KEHRC has two broad goals: reduction of blindness and sustainability. Strategic objectives are decided after analyzing the magnitude of visual impairments in the locality, gap in service delivery, demand generation, socio-economic profiles of the catchments area and organizational capacity of KEHRC.

The hospital has developed a Strategic Business Plan for its Growth and Sustainability. The business plan spells out the objectives for next three years and the catchments area for the hospital. The document, prepared in consultation with eye care management experts, analyses the prevalence of eye disorders in the catchments area and demand for the services. Segmentation of the market has been done and target market has been identified. Market need with respect to specific eye-disorders such as Cataract, Refractive Errors, Childhood blindness, Diabetic Retinopathy and Glaucoma has been analyzed. A strategic implementation plan has been devised in the business strategy to achieve each of the objectives.

In addition to this, the business plan also analyses the existing competitors in the market. It gives the personnel plan, pricing strategy, promotion strategy and marketing strategy. Local Fund Raising and Financial Sustainability plan has been devised in the document.

Most importantly, the business plan of hospital is clearly understood by each and every staff of the hospital. In fact, the plan was prepared after several consultations with the hospital team members. “Each and every members of our team know where we want to reach and what kind of service we should provide”, says Dr. Rasananda Garanayak, CMO.



4.2 Human Resource Management: *Committed and Satisfied Team*

Human Resource Management, skill and competency of staff,, commitment and motivation level and employee satisfaction has a direct impact on service delivery of any hospital and patient satisfaction. KEHRC has been able to continually develop and improve its human resource over the years. With its consistent effort, an appropriately trained and skilled, motivated and adaptable human resource that assimilates with and appreciates the organizational mission has been developed. With standard salary, benefits and professional development opportunity the hospital has been successful in attracting and retaining skilled and dedicated workforce. Through the salary provided by the hospital is not at par with other private hospitals / nursing homes, KEHRC is successful in retaining its workforce by paying attention to needs of the staff, creating an environment for participation, excellence and satisfaction. Attrition rate is very low as employees understand the impact of the service they offer.

"Though ORBIS did not specify the target of 5000 cataract surgery during the project period, the hospital team set this as a target for themselves and in fact exceeded it by performing 5006cataract surgeries. This speaks the volumes for the strength of the staff of KEHRC to function as a productive team and their dedication to the cause," write Mr. S. Sarvanan & Dr. Rahul Ali of LV Prasad Eye Institute (ICARE), Hyderabad, while evaluating a project funded by ORBIS International.

In fact, dedicated and motivated human resource of the hospital is strength for KEHRC. Only due to their hard work and passion to service the un-served, the small eye hospital could able to perform high volume and high quality services to the community. On the other hand, KEHRC respects its people as 'service partners' and organizes programs for their empowerment, continuous training and development. It has a personnel policy that covers benefits for each and every staff.

As a community based eye hospital, KEHRC employs people from the locality with standard educational backgrounds. Later on, the hospital organization arranges specialized training at reputed eye care training institutions, such as LAICO and LVPEI. "This reduces the cost of hiring professionally qualified personnel", says Mr. Sunil Mishra. It also helps the hospital in overcoming the challenge of human resource shortage in the eye care domains of Orissa. The quality of service by these trained personnel remains at par with any other eye hospital.

The hospital continuously attempts enhance employee satisfaction, skill and competency and team spirit. The Staff Members participate in meetings and decision making processes of the hospital. As a small hospital, the hospital enjoys personal relationship with all staff members. Human resource issues are addressed appropriately. Appropriate performance appraisal system has been established. To encourage staff performance the hospital has reward system.

Optimum use of human resource is also a focus for the hospital. Almost all of the staff members are skilled in more than one service area. This helps in overcoming the constraints of limited human resource. In-service skill development training for employees is a major component of KEHRC's human resource strategy.

All the staff members are competent enough in their respective role. The job description is clearly defined and explained to the employees. They were consistently aware about the broad goal and objectives of the hospital. They understand the value of the services offered by KEHRC and hence enjoy their work.

Recently attended Training Programs

- SICS & Pediatric Ophthalmology
- Phaco Emulsification
- Optometry
- OT Skills
- Project Management
- Patients Counseling

4.3 Quality Management: *An Organizational Culture*

Quality of eye care has become an important factor in demand generation and sustainability of the Hospital. It distinguishes KEHRC from other service providers. KEHRC focuses on patient centered care and patient satisfaction to ensure qualitative services - clinical care, education or community outreach.

The Quality management process of KEHRC is guided by the philosophy that delivery of quality of eye care services will enhance patient's satisfaction, which in turn shall encourage more and people to seek eye care treatment from the hospital. "Quality management is a strategy for us to fight blindness", said Dr. Jagadala, Surgeon.

The Quality Management Focus

- Patient's need and expectations
- System s and processes.
- Technical Competency of Staff
- Equipments / instruments
- Team-Work

The hospital continuously thrives to improve its 'clinical quality' and 'quality service'. Promptness, accuracy, and accessibility of services provided by the hospital are the basic values of quality. Major components of the quality management process in the hospital are given in next pages.

In-house Training on Pediatric Ophthalmology

KEHRC has been working striving to develop its human resources to provide pediatric eye care team of international. As a part of Continuing Medical Education (CME) Program and with an objective to strengthen the knowledge and skills of the clinical team in the pediatric unit a hospital based program in-house training program was conducted from March 31 ~ April 4, 2008 to

The training focused on the management of pediatric cataracts. The visiting faculty doctor, Dr. William David Newman, a consultant pediatric ophthalmologist from Liverpool Children's Hospital, Liverpool, United Kingdom visited conducted the training program, as a part of support by ORBIS International.

Dr. William David Newman, pediatric ophthalmologist from Liverpool Children's Hospital, United Kingdom at KEHRC

Dr. William Newman taught two surgeons, Dr. Susanta Kr. Jagadala and Dr. S.H.S. Patra the up-to-date method of surgical management of cataract cases in the pediatric age group.

The Hospital based training program strengthened clinical skills and confidence of the ophthalmologists to provide latest pediatric ophthalmology by KEHRC. Dr. Newman also presented a lecture to four Ophthalmologists, ten General Physicians, two pediatricians and eight media poersons on the tools and techniques for identifying ocular problems in pediatric cases.

Technical competency: The Eye Hospital has team of skilled and dedicated human resource. This staffs are competent in both clinical and non-clinical services. The hospital also facilitates their in-service training and skill upgradation programs. It has also a set of advanced equipments to provide quality eye treatment. The hospital follows standard clinical and non-clinical procedures, in line with the best eye hospitals of India. Modern health care service delivery is incomplete without application of appropriate technology. KEHRC has deployed latest equipments for operational efficiency and quality of care.

Interpersonal relations: The interpersonal relationship with the patients and hospital staff is unmatched. At the first interaction, a personal rapport is developed. The hospitals attends to need and expectation of each and every patients – direct walk in or from out reach camp – with much compassion and passion. The counseling and psychological support also results higher patient satisfaction.

Efficiency & Effectiveness: The hospital's efficiency demonstrated in its performance to handle high volume. All the resources are optimally utilized to have maximum productivity and extent necessary care. The hospital also concentrates on high clinical outcome for the diagnosis and surgeries.

The Hospital has all the required equipments to provide latest eye care services

Safety & Amenities: The hospital attempts to provide best possible measure for safety and amenities of the patients. Precautions are taken to prevent and minimize the risk of infections, side effects and injury, during and after treatment. With basic infrastructure the hospital also ensures comfort and cleanliness for higher patient satisfaction.

Clinical qualities are maintained by controlling infection, monitoring complications, visual acuity, follow-up, and safe medication. Maintenance is carried out at different levels: routine maintenance, for example cleaning and dusting; preventive maintenance, for example the schedule of planned maintenance actions carried out by in-house maintenance staff to prevent breakdowns or the failure of equipment before it actually occurs; scheduled maintenance through contracts with outside specialist agencies; availability of spare parts for equipment. Non-clinical qualities are maintained by effective management system of the hospital.

Following equipments are available at KEHRC

1. Phaco emulsification
2. Auto Refractometer
3. Slit Lamp Microscope
4. Appalation Tonometer
5. Keratometer
6. Operating Microscope
7. A-Scan
8. Indirect Ophthalmoscope
9. Direct Ophthalmoscope

Quality monitoring is a routine activity and a part of the management process. The management regularly observes the attitude,

Visual Outcome of the Surgeries performed by KEHRC during 2005-06

Pre and Post operative visual acuity in 5005 eyes undergoing cataract surgery

Visual Acuity	Eyes pre-operative	Percentage	Eyes post-operative after 4 weeks	Percentage
6/6 – 6/18	21	0.4	3332	66.6
6/24 – 6/60	434	8.7	1350	27
Less than 6/60 – 3/60	1060	21.2	179	3.6
Less than 3/60	3490	69.7	144	2.8
Total	5005	100	5005	100

Out Come	
Good (6/6 – 6/18)	66.6%
Borderline (6/24 – 6/60)	27%
Poor (Less than 6/60)	6.4%

Source: Evaluation Report of Project Funded by ORBIS Internationa by Dr. Rahul Ali and Mr. S. Saravanan, LV Prasad Eye Institute (ICARE)

cleanliness and activities of the eye care service personnel. Patients are encouraged to write their feedback on the quality of the service. The management often consults the visiting patients to check the quality standards and identify areas of improvement.

4.4 Financial Sustainability: *Way to Organizational Sustainability*

Financial Sustainability is an important element of strategic management process and organizational sustainability. It includes efficient management of finance, pricing and cost control and resource mobilization. In view of limited resources availability for long-term support of eye care service delivery and increased patient's demand, financial sustainability is a major challenge for KEHRC.

The cost and clinical effectiveness of services has been enhanced by optimal utilization of available resources and practice of standardized procedures. According to Mr. Sarangadhar Samal, since the resource generated is limited, emphasis is on control of expenditures. Material cost is controlled through efficient purchase policy, simple inventory techniques, standardization of supplies and equipment, and consumption report correlating to the level of activity. Unnecessary investigations, drugs and therapies are eliminated to save the use of supplies and facilities. Simple and effective procedure has been developed for maintenance of accounts and financial control.

> *As far the way the hospital itself is run, I am quite impressed by what the staff and administration has done in terms of making do with limited resources.*
>
> ***Jake Tulipan,***
>
> *International Volunteer*

For revenue generation the hospital is dependent on cross subsidization of user fee, local resource mobilization and grant from International NGOs and Government. As a strategic management process, the hospital has set up an optical shop and pharmacy that also contributes to the revenue of the hospital.

Service Differentiation and Pricing Strategy of KEHRC

In order to target all segment of population Kalinga will adopt the following pricing strategy based on the estimated household monthly income in the population

Population Segment	% of Population	House hold Monthly Income	Cataract Surgery Price	Remarks/Facilities
Poor cannot pay anything	30%	< 500	Free	General ward/restricted visiting hours & attendant
Poor can pay something	30%	500-1600	800-1500	General ward with curtains, etc to show some difference in comfort
Lower middle income	13%	1600-3500	3000	Semi private rooms (6-10 patients sharing one room with attached toilet, etc)
Upper Middle Income	12%	3500-5000	4000	Semi private rooms (2-3 patients sharing one room with attached toilet, etc)
Rich	10%	5000-7000	Market price or 6000	Private room with attached toilet and other facilities (cooler, etc)
Very Rich	5%	>7000	Market price or 8000+	Private room with attached toilet and bed for attendant and other facilities (A/C, etc)

In the cross subsidization model user fee is collected from patients who can pay, so that services for those, who can't afford, can be subsidized. The different pricing system for different variety of services helps in cost recovery and revenue generation for the hospital. The multi-tier pricing with service differentiation attracts people of different economic backgrounds. With consistent initiatives of the hospital team, there has been a significant increase in direct walk in patients, major contributor for revenue. Similarly, the current paying surgeries contribute to 15% of the total surgery by the hospital in a month, unlike before - when

Paying Patients are the major source of revenue generation

THE TREATMENT PACK		
Cataract Services (Inclusive of A-Scan, Keratometry and all other preliminary check ups, Surgery, Bed Charges Food and post operative medicine for one week to one month as per requirement.)		
Phaco Emulsification Procedure	Specified Lens (*Alcon, Zeiss, AMO,etc)	Rs 15,000 /-
	Imported Standard Quality Multifocal soft Lens	Rs 12,500 /-
	Imported Standard Quality Soft Lens	Rs 10,000 /-
	Indian Standard Quality Soft Lens	Rs 8000 /-
	Paediatric Cataract Surgery (0-15 yr)	Rs 7500 /-
Small Incision Cataract Surgery Procedure	Imported Standard Quality Soft Lens	Rs 8000 /-
	Indian Standard Quality Soft Lens	Rs 6500 /-
	Imported Standard Quality Hard Lens	Rs 4500 /-
	Indian-USA collaborated Hard Lens	Rs 3000 /-
Squint Surgery	Paediatric	Rs 7000 /-
	Adult	Rs 3000 /-
DCR Surgery		Rs 3000 /-

paying surgeries were less than 5%. Social marketing of its services is an important program of the hospital.

As discussed, the hospital approaches different individuals and organizations in the locality to mobilize financial and material support for its free services. Initial response has been encouraging, as most of the corporate houses and schools have expressed their solidarity for the cause. In addition, the hospital receives grant from different INGOs and Government. DBCS is an important partner in the growth of the hospital. Other organizations like ORBIS International, Vision Foundation, BASAID, DIK (Germany), Unite for Sight, USA and Pass World has also supported this community eye care centre with Financial and Material resource.

Chapter 5

International Volunteers

Shagun Arora, a student of medicine in at Emory in USA wants to become a doctor and pursue career in ophthalmology.

Eva Perbet, a student of languages from France also has a passion to serve people and build career in international health care management.

Both of them are interested to learn the community health management and eye care service at grassroots level. And hence they are volunteers at KEHRC to learn about 'eye care service delivery at people's convenience' with minimum resources.

The role of international volunteers in KEHRC's service delivery approach is exceptional. The hard working, highly motivated and committed international volunteers, primarily from American and European Countries significantly contributed to the delivery of quality service to the community by the hospital. They help in overcoming the human resource challenge and bring newer skill and management practice.

Every month, KEHRC accommodates about 3~4 international volunteers, most of them are students. They come from different backgrounds of education and experience. The profile of volunteers at KEHRC ranges from students of medicine, health management, arts and culture as well as languages to public health professionals, paramedics, educators, opticians, optometrists, ophthalmologists, and others. They stay from 1~4 weeks or more in the hospital. The regular volunteers involve themselves in the day-to-day functions of the hospital. However, the Entrepreneurial Volunteers develop their own projects and programs in sync with the hospital. "Most importantly, these young volunteers are willing to live and work in remote areas and involve them selves with the community", according to Mr. Sarangadhar Samal. This motivates the hospital team.

5.1 Role of Volunteers

The volunteers get fully hands-on clinical experience about comprehensive community eye care. After initial orientation and training they assist the paramedics and doctors in pre-operative care and during operation at the base hospital. They are trained through observational learning.

The paramedics train them on the use of auto-refractometer, and A-scan. Then the volunteer extend these services to the patients from OPD as well as camps. They provide preoperative and postoperative care by checking patient's blood pressure, performing xylocaine sensitivity tests, dressing for surgery, confirming the effects of the anesthesia, and bandaging eyes after the surgery. They also watch the surgery processes and help the doctor at operation theatre. This gives the volunteers an enriching experience as they get a chance to interact with the patients and get first-hand skill on the clinical activities. "I've been observing and helping a bit with both. On my first day I simply watched; my biggest contribution was probably the masking tape I procured from my bag for sticking up the eye charts. However, I now get to help with nurse duties like blood pressure and IOP measurements, xylocaine tests, eyelash cutting, and helping with the school screenings," writes Alysa Titus, a volunteer at KEHRC in 2006. The best part of the experience was watching the surgeries and learning new things in the lectures, writes *Sandra Boyce Smith.*

What do volunteers do at KEHRC?

- **Clinical Service:** The volunteers get a hand-on experience about clinical activities by assisting ophthalmologist and paramedics the hospital, out-reach camps, and school education programs
- **Outreach Programs:** The volunteers accompany the doctors and out-reach program team to facilitate the out-reach activities of the hospital.
- **Fund-Raining:** The volunteers help in mobilizing resources for KEHRC, so that free service can be provided to the needy.
- **Management:** The volunteers help in strategic planning and administrative functions of the hospital.
- **Exchange of Learning:** The volunteers build capacity of the hospital staff and also learn from them through mutual exchange of knowledge and experience.

However, the most exciting experience for the volunteers is outreach camps. This gives them an opportunity to visit the remote parts of Orissa and understand the healthcare service at community level. In their experience note most of the volunteers has written about this as the most stimulating activities for them. Here they travel for 2~4 hours along with the outreach team and extend their support to the team and people. They basically, perform the role of paramedics at the out-reach camps. After the doctor confirms that the patient has cataract, the volunteers help the staff in test of lOP, and BP Check-up, injecting patients with Xylocaine and giving them Xylocaine drops. Volunteers also help in dispensing medicines and glasses to villagers after they had been seen by the ophthalmic nurse. Their excitement and passion to serve for people is unmatched. They try to involve in all the activities during the camp, as they can hardly have similar exposure to associate with the people, back home. Some of the volunteers visit the village and speak to people about their general health problems and attitudes. "They take all pain and

"The hospital experience has been eye-opening. It's impressively efficient from diagnosis all the way up to surgery"

Alyssa Titus

Within the hospital itself we made ourselves useful during surgery, Matt as an assistant OT nurse and Erin in a pre-op/post-op patient preparation/ care role (although we did swap roles occasionally). The training we undertook to take on these roles was mainly observational learning; we found that most tasks were easy to pick up, with the staff of the hospital being very happy to teach and monitor our work.

Matthew Noble and Erin Law

It seemed like I was beginning to get a hang of the camp routine, and I actually felt useful giving patients injections, putting drops in eyes, organizing pre-prep and post-prep patients, and handing out glasses. I was hot and exhausted by the end of each camp, but strangely it was this same feeling of exhaustion that made me feel like we had accomplished our goal.

- Micah Hahn

Handing out glasses was also rewarding; seeing the satisfied faces of the patients that receive their eye glasses felt amazing.

- Jessie Kang

hardship to help people and relieve our workload. During the journey they tell us about their experience of home their home country", said Narottama Behera, Outreach Program Manager. The volunteers also participate in school screening programs and training programs for different groups. They develop innovative training and eye care educational tools to facilitate their work. And at later stage it helps the hospital staff.

In addition to the service in clinical activities and outreach camps, they also support the hospital in management and administration as well as fund-raising. They assist in patient record, help in front office and development of Management Information System. Some of them also conduct research activities, to fulfill their academic requirement. One of the volunteer from management background had made a market analysis and suggested the marketing strategy for the hospital. They also help in writing and editing of the newsletter of the hospital.

They not only serve people with their time and skill, they also mobilize resources – financial and materials – for people. Most of them mobilize fund from their friends and relatives in their home countries, before coming to the hospital for volunteering. They donate the same to the hospital for free surgery to poor and needy. Most of them donate eye glasses and sunglasses to the villagers free of cost. Even after completion of the volunteering and experiencing the services of the hospital and need of the community, the volunteers mobilize financial and other resources for the hospital in their home countries and send them to the hospital.

> *All of the surgeries I watched were ones that were funded by my donations so was incredible to watch my efforts and see the direct result.*
> ***Claire J. Anderson***

5.2 An Unforgettable Experience

During the volunteering, most of the volunteers associate with the patients and share their problems and concern. Like the staff of the hospital, they also try to build the rapport with the people. They chat with the patients, play with them and

help to make them comfortable at the hospital. In most cases, language becomes the barrier, however, it does not inhibit the volunteers to develop bond with the patients. They get blessings of the old persons, for who eye surgery is a distance dream. “Learning more about medicine while assisting and bonding with patients has been great fun, and was exactly what I was hoping this summer experience would be,” writes Bianca Calderon.

The accommodations were better than I expected. The paramedics, who were the female staff, made a daily effort to be helpful and include the volunteers in various activities.

Sandra Boyce Smith

The hospital provides basic food and accommodation to its volunteers. They stay along with the lady staff of the hospital. They are given standard facilities and food of Indian standard. The hospital staffs extend all cooperation and support to make the volunteers comfortable. They befriend with the volunteers and even take them to local celebrations and functions. They teach them about various activities of patient care and clinical services and try associate them in all the functions, depending upon their interest.

The major problems faced by the volunteers are difference of language, cultural gap and most importantly transition from an urban life to a rural life. The adjustment is a bit difficult for most of the volunteers. First one week becomes difficult, agree most of the volunteers. However, the things become simple once the hospital staffs develop friendship with them and they involve themselves in the hospital’s activities. The hospital makes understands this and hence has a planned orientation program for the volunteers. After the arrival of the volunteer, the hospital organizes a orientation program, in which they are informed about the culture, language, basic etiquette, manner etc to make their stay easy.

The staff was also very concerned with making sure that we understood everything that was going on and that we felt involved.

Nicole Green

I want to thank every member of the staff of Kalinga Eye Hospital for their great hospitality, their constant preoccupation of our well being and eagerness to answer my professional questions.

I have met great people who have taught me a little bit of their culture. Without them, I would have never been able to eat properly with my hands!!!

Francine Labrie

They are told to make their own schedule, after knowing the functions of the hospital. They also learn few commonly used Oriya words, from the paramedics. One of the volunteers Jake Tulipan writes, "I spent my first week here learning my way around the hospital and the eye camps. I would watch doctors in the out-patient department, and, in addition to learning about some basic eye diseases, watched the nurses perform vision exams, keratometer, ultrasound eye scanning, and refraction. By the end of that first week, the nurses would let me perform some of the procedures myself." The hospital staffs accompany the volunteers, whenever they come to public and act a translator, when they interact with local people.

A Volunteer Serving food to the patients at the hospital

Anothe Volunteer conducting vision test at KEHRC

Interested volunteers visit the local tourist places and the picturesque campus of NYSASDRI. they are also welcomed by other development programs by NYSASDRI, like the educational complex for tribal girls at Muniguda, primary hospital under Public Private Partnership program, micro-finance and women empowerment programs etc.

The degree of pathology seen in the eye camps I attended was astonishing and NYSASDRI 's strive towards achieving its goal through provision of much needed healthcare services to these underprivileged so that they could enhance their lives immensely is rather invaluable.

Rajeshvar Kumar Sharda, M.D.
International Volunteer at KEHRC

NYSASDRI has done a great job by creating such an outstanding facility. The KEHRC does a phenomenal work in treating both outdoor patients, as well as indoor (meaning those who undergo surgery). Jessie and I have had a chance to attend all of the programs the hospital offers, the main one being its outreach programs. The outreach programs consist of a fully equipped vehicle (staff members, equipment, and food) traveling to very remote areas in the region and screening patients for any eye disease they may have. If the situation applies, the patients are transported back to the hospital and undergo surgery, free of cost. The majority of the patients who came back are elders, but it is amazing to see how determined they are to undergo surgery.

KEHRC has an outstanding staff; they are prepared to handle any type of situation. About a week ago a gentleman came in with half of his face cut open and all of his skin peeled off his face. The staff immediately attended him. However it being an eye clinic they were not able to cure him. The doctors are amazing people they dedicate their lives to helping the poor. I remember having a talk with Dr. Patra (who I must say is an amazing human being, and the best doctor the hospital has) he told me that after all the studying he has done, he could easily go abroad an make thousands of dollars. However, money for him is not an issue as there is no greater satisfaction in his life than making the poor happy, as well as helping those in need.

Volunteer's Diary

Cristina Valencia

Jessie and I also had the chance to attend a school screening, in which small children from the region are checked. I must say this has been by far the best experience of all, as the children were quite amused to see strange looking faces (ours) in their school. However, this did not stop them from being as friendly as they possibly could. They would just smile at us and push each other to get in front of the cameras.

Finally, I would like to mention the biggest project Jessie and I took place in, this was the negotiation with POSCO to fund the hospital. POSCO is the third largest steel industry in the world, and now they have expanded their grounds and are creating the biggest steel plant in the world in Jagatsinghpur. One of KEHRC outreach programs is in Jagatsinghpur, so they have had contacts with POSCO in order to fund and pay far the surgeries of those people in that region. Jessie and I got to meet with the head of POSCO, we presented the proposals as well as our personal experience with the hospital, the final decision has not been made yet, and hopefully Sarang will notify us, whether or not POSCO will be helping KEHRC.

I would like to end this r by thanking you (Sarangadhar Samal & Jennifer Staple) both for making this experience possible for me. Every time I finish a volunteer program I analyze all that I did and the people who I impacted, however the one thing that is always true about my experiences is that I leave a piece of my heart behind, I have made true friendships here the kind that cannot even be broken with distance. I know I shall never forget the people of KEHRC as they have opened my eyes into a world which surpasses anything I have ever experienced.

5.3 Impact of Volunteers

The volunteers have strengthened the hospital's efficiency and effectiveness in many aspects. They train the hospital staff on better hygiene and sanitation. The volunteer ophthalmologist trains the doctors and paramedics on advanced eye care system. They bring experience, commitment and resource (funds, medicines and glasses), which enhances improved coverage of services in the locality, improved motivation and capacity building of KEHRC staff. The influence of the volunteers on overall growth and operation of KEHRC can be summarized as:

- Innovations: They bring new knowledge and experience and help in designing innovative programs for the hospital;
- Capacity Building: They transfer their technical skills to the hospital staff, while volunteering through on-the-job training and teaching;
- Resources Mobilization: They bring financial and material resources, which enable the hospital to cover more number of people.
- Improved efficiency: With their advanced management practices, they enhance the efficiency of the hospital team.
- International Relationship: They act as brand ambassador for KEHRC and help in resource mobilization and international linkage

According to Mr. Sarangadhar Samal, "we are very thankful to the volunteers for their growing interest in KEHRC and their valuable contribution. Their contribution is beyond the service delivery and we see them as an expression of international solidarity for eye care in Orissa and Vision 2020".

Chapter 6

Conclusion

"She is Boita Behera - a 75 year widow from Baragadia in Jajpur district. Her one eye was defunct and other eye had cataract. She was completely defunct and was cursing her fate. Her son was a daily wage worker and the family had no land. Boita had lost hope on life. Everybody though the visual problem is a natural disease due to old age and none of his family member never bothered to consult the doctor. She was identified by KEHRC in an Outreach Camp and was brought back to hospital and cataract surgery was performed in her eye. Within few days she could see the world".

Krushna Chandra Naik, an 11 years old a boy is from Mangalpur village of Dhenkanal district. He belongs to a below the poverty line (BPL) Scheduled Caste family. When Krushna was of six years old and started going to school, his parent found some white spots in both his eyes. However, they had a little knowledge that one day this white spot could lead to visual impairment of their child. Day by day Krushna was loosing his eye sight. And finaly he stopped studying and confined himself to isolation. What else a child with very poor eye sight can do?

Fortunately, KEHRC outreach team spotted cataract in his eyes and performed cataract surgery free of cost. Eye sight was restored and he restarted education and life.

Boita and Krushna are the few persons, whose quality life was changed by KEHRC's effort to eradicate avoidable blindness in the area. These two persons could hardly able to buy eye health services from places like Cuttack or Bhubaneswar or any private hospital. There are many people like Boita and Krushna, who struggling with various types of visual impairments, but are unable to access and afford eye care.

Spearheading the revolution of providing quality eye health services to the poor and disadvantaged, Kalinga Eye Hospital and Research Centre has established itself as one of the leading eye care institution in Orissa. Its community oriented approach has been successful in taking the hospital to the bottom of pyramid and contributed towards overall growth and success.

The success of the hospital can attributed to two important aspects of its management. First being its focus on providing quality eye care, accessible and affordable to the community through outreach camps. And the second one is its continuous drive for building its own capacity. The capacity building is not only in the ways of infrastructure development but also it has developed its human resource to meet the growing need of the community.

As a Community Eye Hospital, services of KEHRC extend from the patient-based traditional clinical practice of ophthalmology to the promotion and facilitation of eye health for the entire community in the region. ”Our biggest strength is the community with whom we are working,” says Mr. Sarangadhar Samal.

6.1 High Volume with High Quality

While the national average surgery per ophthalmologist is only 500, at KEHRC each ophthalmologist performs 2500 surgeries per year. This demonstrates the commitment and capacity of the eye hospital to handle high volume. However, ‘with volume the

Once, the outreach camp team was in a small village in Atthamallick, Angul district, being invited by the villager leader. An innocent boy aged about 13 entertained the team members with devotional songs.

However, the Ophthalmologist in the team called him and made him sit in his lap. He talked to him. The boy touched asked the doctor - Aapna kemiti dekhibaku? (How do you look?). The entire team was shocked to know that this cute little boy had lost his vision.

He had stopped going to school, had not played with his friends and not clapped his hands seeing the plane flying over his head. His uncle, who was a Rickshaw puller narrated that when the boy was 12 yrs, he got affected by eye problems without any symptoms and pain. He was loosing his vision day by day. He was taken to a village quack, but it did not work. His uncle had no enough money for his treatment in a Eye hospital. As a result Ramu is completely blind now.

But his eye sight could have been restored earlier, had he got the timely and proper treatment.

Still the doctors did not loss the hope. A surgery was required to restore his eyesight. The Village leader and many other kind persons came forward to bear the cost of medicines and Lens.

This little boy, Ramu got back his sight again. He started going to school, playing with children and smiling...

hospital does not compromise on quality', says to Dr. S. K Jagadala, Surgeon. The quality of visual outcome is most important consideration. As the hospital conducts only IOL surgery, the visual outcome of patients is very good.

I was amazed to see Dr Jangdola operated on 17 cataract patients during the day taking an average 11 to 14 minutes for an operation.

***Claire J. Anderson**, International Volunteer*

According to Mr. Sarangadhar Samal, "We have to handle high volume of surgery, especially cataract, because there is a huge backlog and it is increasing." Considering the eye health infrastructure in the region and affordability and accessibility of people, his statement is quite pertinent. Higher demand for the services also enables the hospital for high volume achievement.

6.2 Way forward

There is no question that visual impairments impact on the lives of many people in Orissa. In order to reduce the incidence of vision loss and prevent avoidable blindness strategic interventions, which enables the community to access the services at an affordable cost is imperative. It is also important to reduce the impact of vision loss through the provision of quality services which maximizes the use of remaining vision, for those who have some useful remaining vision, and through the vision substitution services for those who have no remaining useful vision. For this contribution of eye hospitals like KEHRC through its community bases approach is undoubtedly immense.

A hospital founded on the vision of NYSASDRI and with enterprising spirit of Mr. Sarangadhar Samal , KEHRC is now not just an Eye Hospital, it has become a dominant player in the eye care domain of Orissa with its community oriented, comprehensive high quality eye care services at low cost. Over the years the hospital has significantly strengthened its capacity to provide specialty eye care services. The hospital has the latest technology, good number of ophthalmologists and paramedics, good system of management, and strong networking among the community as well as organizations of similar nature. It is all set to add sub-speciality eye care ophthalmic services such as such as retina, cornea, glaucoma, very shortly. Now, KEHRC is capable of proving higher volume of service with high quality at an affordable cost to achieve the vision of eliminating unnecessary blindness by 2020.

Appendix 1

Performance of KEHRC (2003~2007)

Appendix 1: Performance of KEHRC (2003~2007)						
Activities	2007	2006	2005	2004	2003	Total
OPD -Base Hospital	14,314	13,650	12,691	11,694	10,173	62,522
Paediatric at Base Hospital	2197	2383				4580
No.of School Children Screened	17,577	5303	15,581	6520		44,981
No.of Children Referred	640	502				1142
No. of Schools covered	104	52	137	45		338
Camp Held	177	169	189	119	92	746
Camp OPD	14,381	12,917	15,330	7886	7746	58,260
Paying Surgeries	343	271	339	385	289	1627
Camp Surgeries	3717	4156	3861	1176	553	13,463
Total Surgery	4060	4427	4200	1561	842	15,090
Refraction at Base Hosp	6734	4739	2793			14,266
Free Glass Distribution	144	132				276
School Teachers Trained	122	42	70			234
Doctors Trained	38	17	10			65
Hospital Staff Trained	6	4	2			12

Appendix 2

WORLD HEALTH ASSEMBLY

RESOLUTION WHA 56.26

Elimination of avoidable blindness

The Fifty-sixth World Health Assembly,

Having considered the report on elimination of avoidable blindness;

Recalling resolutions WHA22.29, WHA25.55 and WHA28.54 on prevention of blindness,

WHA45.10 on disability prevention and rehabilitation, and WHA51.11 on the global elimination of blinding trachoma;

Recognizing that 45 million people in the world today are blind and that a further 135 million people are visually impaired;

Acknowledging that 90% of the world's blind and visually impaired people live in the poorest countries of the world;

Noting the significant economic impact of this situation on both communities and countries;

Aware that most of the causes of blindness are avoidable and that the treatments available are among the most successful and cost-effective of all health interventions;

Recalling that, in order to tackle avoidable blindness and avoid further increase in numbers of blind and visually impaired people, the Global Initiative for the Elimination of Avoidable Blindness, known as Vision 2020 – the Right to Sight, was launched in 1999 to eliminate avoidable blindness;

Appreciating the efforts made by Member States in recent years to prevent avoidable blindness, but mindful of the need for further action,

1. URGES Member States:

(1) to commit themselves to supporting the Global Initiative for the Elimination of Avoidable Blindness by setting up, not later than 2005, a national Vision 2020 plan, in partnership with WHO and in collaboration with nongovernmental organizations and the private sector;

(2) to establish a national coordinating committee for Vision 2020, or a national blindness prevention committee, which may include representative(s) from consumer or patient groups, to help develop and implement the plan;

(3) to commence implementation of such plans by 2007 at the latest;

(4) to include in such plans effective information systems with standardized indicators andperiodic monitoring and evaluation, with the aim of showing a reduction in the magnitude of avoidable blindness by 2010;

(5) to support the mobilization of resources for eliminating avoidable blindness;

2. REQUESTS the Director-General:

(1) to maintain and strengthen WHO's collaboration with Member States and the partners of the Global Initiative for the Elimination of Avoidable Blindness;

(2) to ensure coordination of the implementation of the Global Initiative, in particular by setting up a monitoring committee grouping all those involved, including representatives of Member States;

(3) to provide support for strengthening national capability, especially through development of human resources, to coordinate, assess and prevent avoidable blindness;

(4) to document, from countries with successful blindness prevention programmes, good practices and blindness prevention systems or models that could be modified or applied in other developing countries;

(5) to report to the Fifty-ninth World Health Assembly on the progress of the Global Initiative.

Tenth plenary meeting, 28 May 2003

A56/VR/10

Appendix 3

WORLD HEALTH ASSEMBLY
RESOLUTION WHA 59.25
Prevention of avoidable blindness and visual impairment

The Fifty-ninth World Health Assembly,

Having considered the report on prevention of avoidable blindness and visual impairment;

Recognizing that more than 161 million people worldwide are visually impaired, of whom 37 million are blind, and that an estimated 75% of blindness is avoidable or curable using established and affordable technologies;

Recalling resolution WHA56.26 on the elimination of avoidable blindness;

Noting that many Member States have committed themselves to providing support for the Global Initiative for the Elimination of Avoidable Blindness, known as Vision 2020 – the Right to Sight;

Noting with concern that only 32% of targeted countries had drafted a national Vision 2020 plan by August 2005;

Acknowledging the links between poverty and blindness, and that blindness places a heavy economic burden on families, communities and countries, particularly developing countries;

Further acknowledging that control of both onchocerciasis and trachoma has come about through the commitment of broad international alliances;

Welcoming the important actions undertaken at regional, subregional and international levels by Member States with a view to achieving substantial progress in the elimination of avoidable blindness through greater international cooperation and solidarity,

1. URGES Member States:

(1) to reinforce efforts to set up national Vision 2020 plans as called for in resolution WHA56.26;

(2) to provide support for Vision 2020 plans by mobilizing domestic funding;

(3) to include prevention of avoidable blindness and visual impairment in national development plans and goals;

(4) to advance the integration of prevention of avoidable blindness and visual impairment in primary health care and in

existing health plans and programmes at regional and national levels;

(5) to encourage partnerships between the public sector, nongovernmental organizations, the private sector, civil society and communities in programmes and activities for prevention of blindness at all levels;

(6) to develop and strengthen eye-care services and integrate them in the existing health-care system at all levels, including the training and re-training of health workers in visual health;

(7) to promote and provide improved access to health services both with regard to prevention as well as treatment for ocular conditions;

(8) to encourage integration, cooperation and solidarity between countries in the areas of prevention and care for blindness and visual impairment;

(9) to make available within health systems essential medicines and medical supplies needed for eye care;

2. REQUESTS the Director-General:

(1) to give priority to prevention of avoidable blindness and visual impairment, and to provide necessary technical support to Member States;

(2) to provide support to collaboration among countries for prevention of avoidable blindness and visual impairment in particular in the area of training of all categories of relevant staff;

(3) to monitor progress in the Global Initiative for the Elimination of Avoidable Blindness in collaboration with international partners, and to report to the Executive Board every three years;

(4) to ensure that prevention of blindness and visual impairment are included in the implementation and monitoring of WHO's Eleventh General Programme of Work, and to strengthen global, regional and national activities for prevention of blindness;

(5) to add prevention of blindness and visual impairment to WHO's medium-term strategic plan 2008-2013 and proposed programme budget 2008-2009 which are currently in preparation;

(6) to strengthen cooperation through regional, subregional and international efforts with the view to achieving the goals set out in this resolution.

(Ninth plenary meeting, 27 May 2006 – Committee A, sixth report)

Appendix 4

ppendix iv: Cataract Surgery Market - Orissa, India

I	Row	Estimation of Blindness - Number of Persons:			Rate
1	A	Population	36,706,920	Persons	
2	B	Prevalence of blindness total population	513,897	Persons	1.40%
3	C	Proportion of blindness in ? 50 years age group	462,507	Persons	90.00%
4	D	Proportion of blindness in 16 - 50 years age group	41,112	Persons	8.00%
5	E	Proportion of blindness in ? 15 years age group	10,278	Persons	2.00%
II		Estimation of Blindness - Number of Eyes:			
6	F	Number of bilateral blind eyes in the ? 50 age group	925,014	Eyes	
7	G	Number of unilateral blind persons (eyes) (age>50 years)	693,761	Eyes	150.00%
8	H	Estimate of Blind eyes in the above ? 50 years age group	1,618,775	Eyes	
9	I	Estimate of Blind Eyes in the 15 - 50 age group	143,891	Eyes	350.00%
10	J	Estimate of Blind Eyes in the ? 15 years age group	35,973	Eyes	350.00%
III		Estimation of Cataract Blind Eyes (Backlog)			
11	K	Estimate of Cataract Blind eyes in the ? 50 years age group	971,265	Eyes	60.00%
12	L	Estimate of Cataract Blind Eyes in the 15-50 age group	21,584	Eyes	15.00%
13	M	Estimate of Cataract Blind Eyes in the ? 15 years age group	3,597	Eyes	10.00%
14	N	Total existing Cataract Blind Eyes	996,446	Eyes	
IV		Estimation of Cataract Burden = Number of eyes (operated + Backlog)			
15	O	Cataract Surgical Coverage			42.00%
	P	Total existing Cataract Blind Eyes - same as Step 14 (Represents unoperated eyes)	996,446	Eyes	58.00%
16	Q	Number of eyes operated for cataract (using the surgical coverage)	721,564	Eyes	
17	R	Total Eyes affected by Cataract (Cataract Burden)	1,718,010	Eyes	
V		Estimation of Annual Cataract Market:			
18	S	Estimated number of years of accumulation of eyes affected by cataract			5
19	T	Estimated Annual incidence of cataract (Target CSR)	343,602	Eyes	
20	U	Current number of surgeries done by all providers	86,386	Eyes	
21	V	Unmet need (potential demand)	257,216	Eyes	
VI		Estimated Revenue:	%	Unit (Rs) charges	US$
		Free Patients (Subsidized)	60%	700	15
		Middle Class (Actual charges ++)	30%	2000	42
		Upper class (Actual + more charges)	10%	5000	104
		Estimated Revenue from cataract surgery per Million population:		522,275,171	10,880,733
		Estimated Revenue per cataract surgery		1,520	32

An estimation by Lions Aravind Institute of Community Ophthalmology, India

Appendix 5

Appendix - V: ESTIMATION OF CATARACT SURGICAL LOAD			
Parameters	**Norm**	**Calculate**	**Number**
Total Population of identified service area			5816842
% Population 50+ years	13.70%	13.70	
Actual Population 50+	50000		796907
Prevalence of Blindness+ SVI (<6/60) 50+	8.50%	10.8	
No. of Bilaterally Blind Persons 50+			86066
% of Bilateral Blindness due to Cataract	62%	53.2	
No. of Bilaterally Blind due to Cataract			45787
No. of Bilateral Blind Cataract Eyes			80127
Prevalence of low vision (< 6/18-6/60)	24%	27.3	
No. of persons with bilateral low vision among 50+			217556
% of Low Vision due to Cataract	25%	25	
No. of Bilateral Low Vision due to Cataract			54389
No. of Bilateral Low Vision Cataract Eyes			81583
Prevalence of one eye blindness (< 6/60 in worse eye)	5%	3.4	
No. of persons with one eye blindness among 50+			27095
% of one eye blindness due to Cataract	45%	45	
No. of one eye blindness due to Cataract			12193
No. of One Eye Cataract Blind Eyes			12193
Prevalence of Blindness 50+	**5%**	**5**	
No. of 50+ Blind			39845
% 50+ Blind due to Cataract	**60%**	**60**	
No. of 50+ Cataract Blind			23907
Annual Incidence (new cataract blind cases) expected each year	20% Blind	20	4781
No. of new operable cataract blind eyes			8368
TOTAL CATARACT SURGICAL EYES LOAD IN SERVICE AREA			**182271**
FEASIBLE CATARACT LOAD IN A YEAR			43148
MINIMUM NEEDED CATOPS TO ELIMINATE BLINDNESS			69694

Appendix 6

ppendix - VI: ESTIMATION OF REFRACTION LOAD			
EEDS ASSESSMENT		**Calculation**	**Number**
ARAMETER	**NORM**		
otal Population			**5816842**
% Population 5-9 yrs	12.50%	12.5	
opulation 5-9yrs			727105.25
% Population 10-15 yrs	14%	14	
opulation 10-15 yrs			814357.88
% Population 0-4 years	10.80%	10.8	
lo. of children aged 0-4 years			628218.936
% Population 16-44 y	44%	44	
otal Population aged 16-44 y			2559410.48
% Population aged 45+	18%	18	
otal Population aged 45+yrs			1047031.56
revalence of RE 5-9 yrs (< 6/12)	3%	3	
lo. of 5 - 9 yrs children with RE			21813.1575
% of school enrolment	80%	75	
lo. of children in primary schools			16359.86813
revalence of RE 10-15 yrs (< 6/12)	6%	6	
lo. of 10-15 yrs children with RE			48861.4728
econdary school enrollment rate(% 10-15 in school)	50%	40	
lo. of children in secondary schools			19544.58912
revalence of RE 16-45 yrs	10%	10	
lo. of 16-45 yr old persons with RE			255941.048
revalence of RE 45+ yrs	30%	30	
lo. of people aged 45 yrs with RE			314109.468
revalence of Presbyopia among 45+	75%	75	
lo. of 45+ with presbyopia			785273.67
ifference in refraction load in 45+ due to presbyopia			471164.202
eplacement of spectacles in children	every year	1	
pectacles required per year in children			**70674.6303**
eplacement of spectacles among 16-44 y	every 2 yrs	2	
pectacles required per year in 16-44 y			**127970.524**
eplacement of spectacles among 45+	every 3 yrs	3	
pectacles required per year in 45+ y			**259140.3111**
pectacle covereage in children	10%	10	
nmet need for RE correction in children	90%	90	
lo. of children with unmet need in 10-15 y			**43975.32552**
pectacle coverage in adults	25%	25	
nmet need for RE correction in adults	75%	75	
lo. of adults with unmet need			**1134284.19**
. of presbyopes who can be covered by CW/CV	70%	70	
lo. of presbyopes who can be covered by CW/CV			549691.569
lo.of refractions needed in catchment population			**457785.4654**
revalence of Low Vision	25%	25	1454210.5
lo. with low vision in catchment area			1454210.5
lo. needing low vision devices	10% of LV	10	145421.05

Appendix 7

Appendix - VII: ESTIMATION OF CHILDHOOD BLINDNESS			
NEEDS ASSESSMENT - PARAMETER	**NORM**		**Number**
Total Population			**5816842**
% Population 0-15 yrs	37%	37	
Population 0-15 yrs			2152232
% Population 10-15 yrs	14%	14	
Population 10-15 yrs			8144
Secondary school enrollment rate(% 10-15 in school)	50%	50	
No. of children in secondary schools			4072
% Population 0-4 years	10.80%	10.8	
No. of children aged 0-4 years			628219
Prevalence of blindness/SVI 0- 15 years	0.8/1000	.8/1000	0.80
No. of blind/SVI children			1721.79
Major Causes of Blindness/SVI			
Birth Rate / 1000 population	30/1000	30	
No. of births per year			174505
New Congenital Cataract per 1000 births	1/6000 births	1	29.08
New Congenital Glaucoma per 1000 births	1/10,000 births	1	17.45
Prevalence of clinical Vitamin A Deficiency (0-5y)	2%	2	
No. of children with clinical VAD (0-5 yrs)			12564
Premature births <1,500 g (%)	10%	10	
No. of premature births < 1500 g			17451
Access to neonatal care for babies <1,500 grams	30%	30	
No. of babies with access to Neonatal care			5235
Survival of babies < 1,500g in neonatal care units	25%	25	
No. of babies surviving in neonatal care			1309
% babies developing threshold ROP	10%	10	
Number developing threshold ROP			131
Number of examinations for ROP		2.5	327
Estimate of low vision	3 times X Blind	3	5165
Proportion of population below poverty line	25%	25	
% of Blind/SVI children below poverty line			431
Proportion of population with good paying capacity	20%	20	
No. of blind children with good paying capacity			344

Appendix 8

Appendix - VIII: ESTIMATION OF DIABETIC RETINOPATHY			
NEEDS ASSESSMENT			Number
PARAMETER	NORM		
Total Population			**5816842**
% Population 40+	24%	24	
Population 40+ yrs			1396042
Prevalence of Diabetes in general population	5%	5	
No. of diabetics in the general population			290842
Prevalence of diabetes (40 + population)	11-15%	12	
No. of diabetics in 40+ population			167525
Prevalence of Diabetic Retinopathy (40+) among diabetics	15%	15	
No. with DR among 40+ Diabetics			25129
Proportion with DR becoming blind	2%	2	
No. of 40+ Diabetic Retinopathy becoming blind			503
Proportion with DR becoming visually impaired	10%	10	
No. of 40+ Diabetic Retinopathy becoming visually impaired			2513
Proportion needing laser treatment	10% of DR	10	
No. needing laser treatment			2513
Proportion of population below poverty line	25%	50	
No. of 40+ with DR below poverty line			12564
Proportion of population with good paying capacity (Upper / middle)	20%	20	
No. of 40+ with DR with good paying capacity			5026
No. of lasers which need to be done free or low price			1256
No. of lasers which can be costed at a good profit			503

Appendix 9

Appendix - IX: ESTIMATION OF GLAUCOMA			
NEEDS ASSESSMENT			**Number**
PARAMETER	**NORM**		
Total Population			**5816842**
Population aged 40 +	24%	24	
Total Population aged 40+			1396042
Prevalence of Glaucoma 40+	1-4%	2	
No. of people with Glaucoma 40+			27920.84
Proportion of Early Glaucoma 40+	50%	50	
No. with Early Glaucoma 40+			13960.42
Proportion of Moderate Glaucoma 40+	35%	35	
No. with Moderate Glaucoma 40+			9772.295
Proportion of Advanced Glaucoma 40+	15%	15	
No. with Advanced Glaucoma 40+			4188.126
Proportion of population below poverty line	25%	50	
No. of 40+ with Moderate Glaucoma below poverty line			13960.42
Proportion of population with good paying capacity (Upper / middle)	20%	20	
No. of 40+ with Moderate Glaucoma with good paying capacity			5584.168
No. of people with moderate glaucoma who need to be treated free or low price			13960.42
No. of people with moderate glaucoma who need to be treated at good profit			5584.168

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An Approach for high quality low cost eye care

Chapter 1

The Challenges of Vision

VISUAL impairment and blindness is a significant public health challenge. It has a severe economic impact, depriving people from livelihoods and education, generating social and economic dependency. Blindness and poverty are directly interrelated. As people with severe visual impairments have fewer opportunities for gainful employment, they are more at risk of unemployment and poverty. The loss of visual orientation limits mobility and can often lead to social isolation. Research by Frick and Foster estimated the costs of global blindness and low vision at $42 billion in 2000. Without a decrease in the prevalence of blindness and low vision, it was projected that the total annual costs would rise to $110 billion by 2020. Blindness is most feared illness after AIDS.

Nearly, 80 percent of the visual impairment is avoidable and curable with very cost-effective interventions. Cataracts, the major cause of treatable blindness, can be corrected by a simple surgery. Similarly, other vision impairments like Vitamin A deficiency, trachoma and glaucoma can be prevented or managed by improving food and nutrition, hygiene or medication. In spite of this, the prevalence and incidence of eye problems is growing. A lot of cases of uncorrected refractive errors and cataract are found, mostly, in rural areas, often remote, underdeveloped areas, dominated by inadequate infrastructure, poverty and illiteracy.

- Every **5 second** one person goes blind and a child in every minute.
- **180 million** visually impaired people in the world.
- **7 million** people become blind in **each year**.

The prevalence of blindness and low vision is influenced by the socio-demographic factors like gender, age, literacy, occupational status and place of usual residence. Females had a higher prevalence of both social and economic blindness, and low vision compared to males. The prevalence of low vision, economic blindness and social blindness increases with age. Those, who had studied beyond Std. 10, had the lowest prevalence of blindness and low vision compared to others. The urban population had a lower prevalence than the rural people.

India is now home to the world's largest number of blind people. Out of 37 million people across the globe who are blind, over 15 million are in India. An additional 52 millions are visually impaired. If the current trend of blindness remains unchanged, the number of blind persons in India is estimated to increase to 24.1 million in 2010, and to 31.6 million in 2020. The greatest prevalence of blindness in India is found in the rural areas. This is because the majority of the population lives in rural areas and these rural areas have the least access to eye care services in particular and health care services in general. This is evident from the low uptake of eye care services by rural people

Cataract is the leading cause of blindness, followed by refractive errors. Out of 18 million blind people in the country, about 9.5 million are cataract-related and 3 million refractive error-related.

Acute shortage of ophthalmic professionals and donated eyes for the treatment of corneal blindness accelerates the problems of blindness. While India needs 40,000 optometrists, it has only 8,000. The problem is further aggravated by 1) absence of adequate trained eye care personnel and anaesthetists, 2) lack of high volume cataract surgical setup 3) lack of awareness and skill to detect eye diseases 4) absence of outreach services to identify and treatment of cataract and refractive error.

On the other hand, while India needs 2.5 lakhs donated eyes every year, the country's 109 eye banks (five in Delhi) manage to collect a maximum of just 25,000 eyes, 30% of which can't be used. Other factors, which augment the problem, are quality equipment and infrastructure; poor eye banking, vision rehabilitation and sight enhancement services; inefficient operating systems; and insufficient data to plan focused interventions.

Factors for Higher prevalence of blindness:

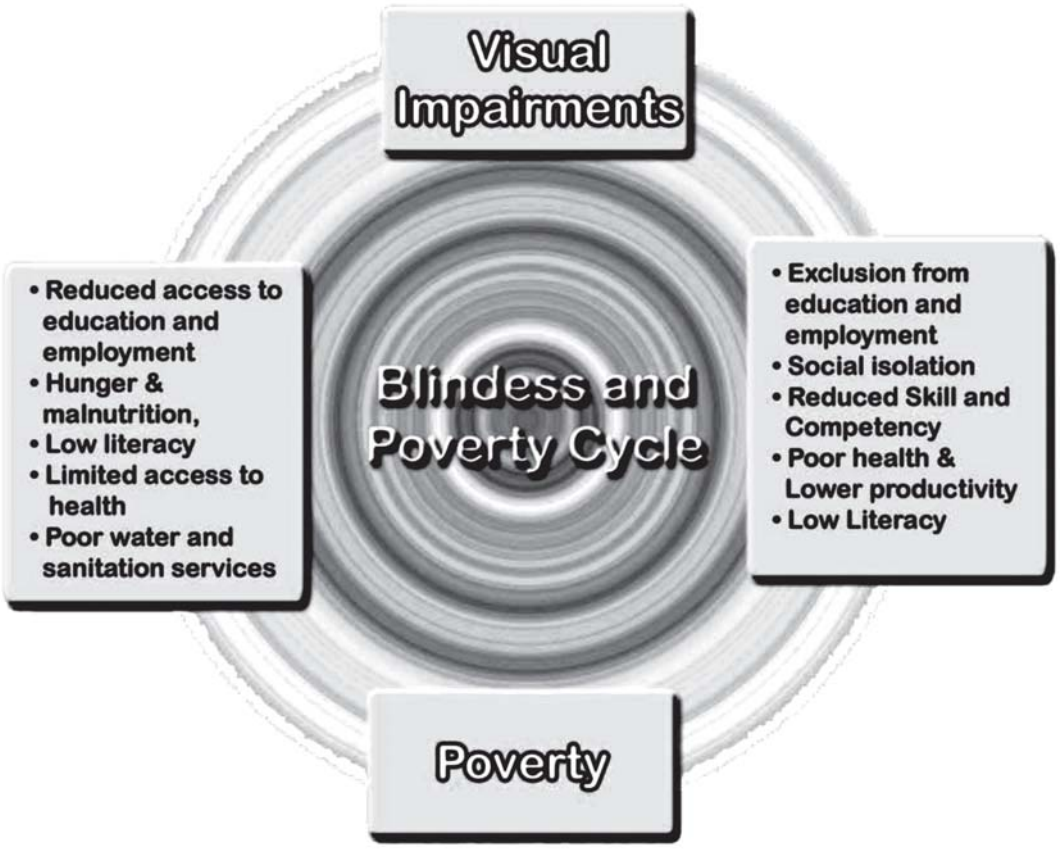
- Inadequate availability of service personnel.
- Lack of service availability in the locality / rural areas
- Rural / urban imbalance in availability of service
- Illiteracy and ignorance
- Prevalence of infections
- Lack of Accessibility and Affordability.
- Cultural & social barriers.
- Trust in surgical outcome

Though India was the first country to launch the National Program for Control of Blindness in the year 1976 with a goal of reducing the prevalence of blindness, Control of blindness in India has neither been effective nor efficient. The focus has primarily been on cataract surgery in make-shift environments, particularly in rural India. The quality of eye care available to the people in rural India is sub-optimal because of the lack of infrastructure and of human resources, i.e., capable and well-trained personnel for providing quality eye care.

A public health strategy that addresses the issues of availability, accessibility, and affordability of good quality eye care services is needed to address current problems and to meet long-term plans for reducing blindness.

1.1 Poverty & Blindness

Poverty and blindness are closely interconnected. At the individual and household level, disability influences livelihood opportunities in many ways. Loss of vision leads to stoppage of income for the family and the individual becomes a liability on other family members. The visual impairment of one member in the family limits employment for other relatives, particularly women, as the person with visual ailment needs time for care and assistance. Average income is significantly lower for households affected by visual impairment. This affects the household productivity and income blindness increases the risk of becoming poor.



A Cataract Affected Eye

Families affected by vision impairment bear additional direct costs for medical expenses and care of the person. As a result of the loss of income and increased costs, the savings by the family is reduced and debts increase. They are more vulnerable to hunger and food insecurity.

The visually impaired people are isolated by the society due to community attitudes, and physical barriers. They have reduced marriage prospects, with less choice of partner, higher dowries and a lower bride price, and greater risk of abandonment. Visually impaired children less likely to enter, remain in and succeed in schools, and literacy level is lower among them. Participation in political activities is also lowered.

Impact of cataract surgery on individuals in India

The impact of cataract surgery has been manyfold in for individuals. The 15 minute surgery not only regaining economic activties, but also restores the psychosocial confidence of the individual. A survey among patients at Aravind Eye Hospital in Madurai, India, found that 85% of males and 58% of the females who had lost their jobs as a result of blindness regained those jobs following cataract removal. Some of those who did not return to work relieved other family members from household duties, enabling them in turn to return to work. 88% of male patients and 93% of female patients who reported having lost authority within their family and their community stated that they had regained their social standing. The results also demonstrated that the average individual who regained functional vision through cataract surgery generated 1,500 percent of the cost of surgery in increased economic productivity during the first year following surgery. This benefit was raised both by the patients and their family members who were able to return to work.

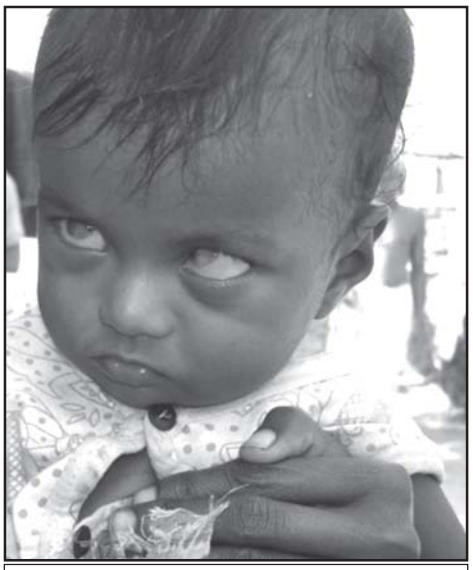
(Javitt J.C. Cataract. Chapter 26 – Jamison D.T. et al. Disease control Priorities in Developing Countries. New York. Oxford University Press for the World Bank. 1993)

On the other hand, blindness is often a consequence of poverty, including hunger, malnutrition and limited access to health, education, water and sanitation services.

1.2 Millennium Development Goal and Visual Impairment

MDG 1: Eradicate Extreme Poverty and Hunger

Poverty and Blindness are related with each other in a cyclical pattern. One is the consequence of the other. Most of the world's visually impaired people live in rural and low economic regions, with poverty. Addressing the problem of Blindness is very important in achieving the MDG 1. A number of studies have found that visually impaired people who have lost their job as a result of blindness regained those jobs, after restoration of sight. This has reduced their economic vulnerability and helped to break the poverty-hunger-malnutrition pattern.



Cataract does not leave Chidren:
A child affected with cataract

MDG 2 & 3: Achieve universal primary education & Promote gender equality and empower women

Education is a key to increase individual earning potential, to improve health and nutrition, and to empower people and tackle poverty. However, most of the visually impaired children have hardly any opportunity for schooling. Lack of infrastructure, production of accessible and specialized education materials and qualified teachers deprives visually impaired children from education. Literacy level is lower among them.

Studies show that blindness can also limit children's access to education indirectly. Visually impaired adult member in the family is often dependent on school-age children for care and support. In addition, low vision and refractive error among children may result in decreased school attendance and performance.

The National Sample Survey 2002 Data shows that 49% of people with disabilities (including visually impaired) were literate, compared to a national figure of 65%. Only nine percent of the literate disabled population completed secondary education or above.

Studies show that prevalence of blindness among women is higher than that of men. Gender disparity among visually impaired persons is very high. If a girl child becomes visually impaired, family members barely show any initiatives for her education. This is evident from the fact that literacy rate is lower among the female disabled population, at around 37% compared to 58% for the male disabled population (against a national average of over 54% for the female population and 76% for males).

Without tackling blindness the MDG 2&3 would be an unfinished task.

MDG 4: Reduce Child Mortality

Up to 60% of the children who become blind are likely to die within one to two years of becoming blind. Many of the conditions associated with childhood blindness are the causes of child mortality, for example, premature birth, measles, congenital rubella syndrome, vitamin A deficiency, and meningitis. In addition, children with visual impairment are at higher risk of contracting secondary disease due to poverty and marginalisation.

The literature also suggests that the chance of mortality is higher in children who are blind as they may have reduced access to food and other basic resources, including treatment if they fall ill. This is partly because parents may have more difficulty in caring their blind children, and also because, when resources are limited, families may not give an equal share to a disabled child perceived as unable to provide for the family in the future.

To lower the risk of child mortality the childhood blindness control should be controlled.

MDG 6: Combat HIV/AIDS, malaria and other diseases

People with visual impairment, particularly women, are more vulnerable to the risk of HIV/ AIDS and have very limited access to HIV/AIDS outreach and treatment services.

Major 'neglected diseases', which include blinding conditions such as trachoma and onchocerciasis, are endemic in rural and impoverished urban areas and can affect education and productivity. Eradicating blindness would be an important means to achieve this goal.

- **80%** population of Orissa resides below Poverty line.
- **1,02,779** become blind per year in Orissa
- 61,667 (60%) due to cataract.
- Current performance is 86,386 against 343,602 in Orissa.
- Surgery Performance
  - Govt.-25%,
  - NGO hospitals **58**%
  - Other eye Hospitals-17%

1.3 Visual Impairment and Orissa

Orissa, situated in the eastern part of India with a population of about 37 millions, is one of the poorest states in India. Orissa has a low density of population with 236 persons per square kilometre as compared to 324 persons per sq. km. at the national level according to Census, 2001. About 85 percentage of the total population of the state resides in rural areas. Hardly, 2.5% of villages of the state exceed the population of 2000. Low density coupled with widely scattered small villages pose problem in providing services close to the habitations. The Scheduled Caste and Scheduled Tribe Communities, most deprived sections of the society, constitute 16.5% and 38.6% of total population, respectively. The literacy level in the state as per the census is 63.61%, whereas male literacy rate is 75.95% and female literacy is 50.97%.

Agriculture forms the primary occupation of people in the state and nearly 75% of the total working population is engaged directly or indirectly in agricultural activities. The state ranks 23rd in National Development Index (NDI) with about 47% of people Below

Prevalence of Cataract is higher among senior Citizens

the Poverty Line. Food insecurity, illiteracy and remoteness of the area with ignorance have made the quality of lives poor. Chronic nutritional deficiency is found among children, almost in all areas. The poverty situation is reflected in the poor health indicators of the state; infant mortality rate 84.2, under five child mortality rate 126.6, children under weight 55.9; anaemia in children 79.8 and children with recent diarrhoea 21.1.

The provision of health services is insufficient and often inaccessible. Even primary healthcare institutions are defunct or partially functional in almost all remote areas. The health system is marred by inadequate trained manpower and poor infrastructure. Key constraints are the poor socio-economic situation, socio-cultural attitudes, lack of infrastructure and facilities for healthcare provision and population growth.

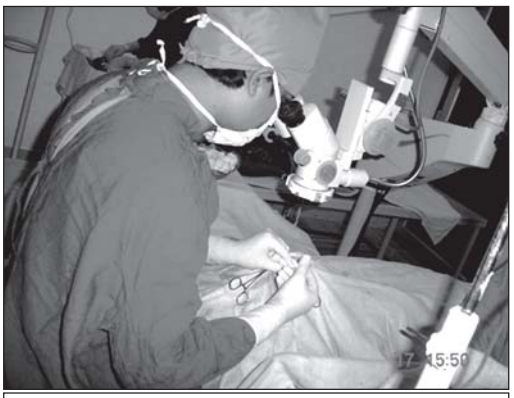
Cataract Surgery Achievement in Orissa

Year	Target	Achievement	% of Achievement
1999-00	125000	63339	51
2000-01	130000	84231	65
2001-02	130000	86386	66
2002-03	130000	81619	63
2003-04	130000	82607	64
2004-05	130000	91509	70
2005-06	130000	101565	78
2006-07	130000	98000	75

Source :www.Orissa.gov.in

Access to healthcare services is limited due to distance and money. Often the standard health service facility is available at district head quarters, which often is at a distance of more than 30 KMs. A person has to loose wage for one day to visit a hospital. The cost of travel also adds to the problem. Though the health care service is cheap, compared to developed countries, hospitalisation or chronic illness leads to liquidation of assets or indebtedness. This is because of the earning of the family. It is estimated that more than 40% of hospitalised people borrow money or sell assets to cover medical expenses. Poor people in villages are coerced to seek treatment from village quacks or traditional healers, which leads to mortality, in case the problem is acute.

Insufficient levels of nutrition, inadequate medical services and lack of awareness regarding health and hygiene are the main factors that lead to eye disease in the state.



Only a surgery of 15 minutes can restore vision in many eyes

Prevalence of blindness in the rural area remains high. Yet most of the blindness cases are treatable or preventable. The majority of the rural population is illiterate and blindness is mainly due to cataract. Due to the limited resources available for administering cataract operations in the rural areas the number of people suffering from cataracts is increasing every year.

They do not seek eye care mainly due to economic followed by personal reasons. Most people do not try to get treatment despite noticing decreased vision mainly due to factors related to awareness. The prime barriers in providing qualitative eye-care in the state are ignorance, negligence about eye care and inaccessibility to timely and quality treatment.

Eye care has been a neglected area both in government as well as non-government development programs. Though the state is categorised as one of the high prevalent (in blindness) states in India and is implementing the National Program for Control of Blindness (NPCB), there are no significant changes in the blindness scenario of the state. N.P.C.B was launched in the year 1976 and during 1994 to 2002 the World Bank assisted seven major states of India including Odisha. During the World Bank period the program activities were significantly revamped due to decentralization of the program implementation to the district level through the District Blindness Control Society (DBCS). This also increased the participation of NGOs and private sector in blindness control activities. However, the focus of the State's blindness control activity is on cataract.

The performance of the Blindness Control Activities by the state government has always been low. The state has never achieved 100% target in cataract surgery, in last seven years. The report on Rapid Assessment of Avoidable Blindness – India comments, **'**Performance in the States of Orissa needs to be augmented so that the gains of the technological revolution in eye care can be effectively harnessed across the country'.

The poor surgical performance is also attributed to the fact that more than 50% of ophthalmologists in Orissa are surgically inactive or do not have the confidence, skill and scope to perform eye surgeries.

The Eye care service in Orissa is dominated by private sector. There are about 30 major eye hospitals / clinics in the state. Out of them about 20 are based at Cuttack – Bhubaneswar twin city area. The western region has about only four Private Eye Hospitals, northern region has only one and the southern region has only two private eye care centre. The central region is deprived of quality private eye hospital, except *Kalinga Eye Hospital and Research Centre at Dhenkanal*, established by NYSASDRI. The ophthalmologists are also based primarily in city areas. As the services are urban based they are quite inaccessible for rural people and affordability is the added issue.

The government eye care facilities are found only in the district headquarters hospitals, which often face the problem of shortage of doctor and paramedics as well as infrastructure. The DBCS attempts to take up blindness control activities through NGOs and private eye hospitals. The approach is often camp based and in this case, quality is the matter of concern. The poor track record of the government clearly shows the incapacity and limited capacity of the public health system to control blindness in the state. Other emergency other life threatening diseases such as HIV/AIDS and malaria have pushed blindness control agenda to back seat. In this situation, the role of NGOs and private players comes to the forefront in delivering appropriate eye care service. They need to provide the services through a community oriented approach and public health strategy. Primary socio-economic barriers in accessing eye care services – such as awareness, motivation, accessibility and affordability – should be taken into consideration. Quality should be maintained at all costs. On the other hand, improvement in infrastructure and human resource is required. Dr G Venkataswamy, Founder Chairman, Aravind Eye Hospitals says, *"There is a WHO project called 'Vision 2020', aimed at eradicating blindness. But this is different from eradicating small pox or polio: you can't prevent blindness. You need to have good institutions – financially viable organizations with good human resources – all over the country that can provide eye care to all economic classes in a community".*

	India	*Orissa*	*Remarks*
Population	1027 Million	36,706920 (37 Million) 18612340-Male 18094580-Female	
Estimated Prevalence of Blindness	1.1% Factors Affecting Prevalence Male: 0.91% Female: 1.29%	1.40%	**High Prevalence of Blindness** Major causes: • Cataract • Refractive Error
Cataract Operations performed (2001-2002)	38,00,000 (3.8Million)	86386 (0.086Million)	**Low performing state** The need is to do around 300,000 Cataract Surgeries per year
Cataract Surgical Rate (CSR/100,000)	403/100,000 population 4030/One Million Population	235/100,000 population 2350/One Million Population	**Cataract Surgical Rate need to increase** atleast double the current performance
Cataract Surgical Coverage *[No. of cataract operated persons/ No. of cataract operated persons + No. of Cataract Blindx100]*	65.7% Male-70.1 Female-62.4	42% Male-52.7% Female-33.5%	19% gap in male female coverage, although it is clear that, females have higher prevalence than male and longer life expectancy. More female need to be targeted for Cataract Surgery
Where the cataract surgeries have been done	Nearly 17% of operations is performed in Govt. fixed facilities. Rest in NGOs and Private sector	Government Fixed Facility-25.40% NGOs Fixed Facility-43.84% Eye Camps-14.21% Pvt. & Others-16.56	NGOs and Private providers need to be encouraged through more funding and support in each district
Eye Surgeons per one lakh population	1 Total Number-10,000 (Approx.) 50% surgically Inactive	<=0.5 Total Number-200 (Approx) 50% surgically Inactive	Although there is a list of 500 Ophthalmologists in the Orissa Ophthalmic Association, most of them may be working outside the state. Medical colleges need to increase the number of seats for PG-Ophthalmology & encourage Medical graduates to pursue PG-Ophthalmology which is perceived as low priority among the students
Eye Beds per one lakh population	7.12	3.1	Eye beds need to be added

(A situation analysis by Mr. Keerti Pradhan, Faculty, Lions Aravind Institute of Community Ophthalmology)

Chapter 2

A Vision for the Vision

VISUAL disabilities are prevalent in Orissa. Irrespective of age about 1.5 percent of total population is affected in various eye diseases. Due to low level of income coupled with poverty, lack of awareness and accessibility to the services, sufferings of visually impaired and sightless people are persisting. The situation is appalling in Dhenkanal and its surrounding areas, the central region of the state. The area is devoid of any quality eye care facilities. Most of the health service infrastructures are concentrated in coastal Orissa only. The people of central and western Orissa do not have accessibility to these minimal infrastructures. On the other hand, local hospitals are not equipped enough to provide qualitative as well as quantitative service.

2.1 NYSASDRI: In service of sight

Realizing the alarming issue the local non-profit development organization, National Youth Service Action and Social Development Institute (NYSASDRI) started its interventions for providing eye care services in the locality in 1988. The intervention was necessary, because people were losing vision and the service was not available at the vicinity, said Mr. Sarangadhar Samal, Social Activist and Director of NYSASDRI. He explained that NYSASDRI's attempt to fight against poverty and improve the quality of life was obstructed by the problem of Blindness. The mission – 'to develop the latent capacity of the poorest men & women, in order to address the social inequalities and injustice and thus leading a dignified life – can hardly be achieved because visual impairment results in loss of productivity as well as spoils household economy. "Based on our experience we felt the need of comprehensive eye care service for rural poor. So, we started our fight against blindness and visual problems", added Mr. Samal. Since 1988, eye care activities were limited to eye camps. The organization used to conduct a few eye camps every year. It continued up to 1995. During the initial period the mobile services were provided through out-reach camps to the cataract affected people. A Medical team consisting of surgeons and paramedics visited remote areas and made a temporary camp, usually in winter seasons. They conducted eye surgeries, free of cost. The service was restricted to cataract

only. Other eye services were not possible in the temporary camps, said Dr. DN Parida, former Chief District Medical Officer of Dhenkanal. During From 1998 to 1995, more than 12000 cataract surgeries were conducted through about 1500 camps in remote villages. The camps team also took up activities to sensitize the community on eye diseases.

The initiatives were very successful to address the cataract problem and bring down the number of cataract affected people in the region, which was devoid of basic medical facilities and requisite community sensitization. NYSASDRI was also encouraged by the impacts of the initiatives. Restoration of sights not only strengthened family economy or employability of individuals, but it also reinstated the self confidence and individual dignity. The organization made all efforts to extend preventive and rehabilitative measures to people affected by visual impairments.

About NYSASDRI

Based in Santhasara, a village 30 KM from Dhenkanal, the district head quarters, ***N**ational **Y**outh **S**ervice **A**ction and **S**ocial **D**evelopment **R**esearch **I**nstitute* (NYSASDRI) has been undertaking various development activities related to health, education, environment, sanitation, agriculture, food security and livelihood support for approximately 2.2 million tribal and rural poor of nine districts in Orissa. These development initiatives are supported by the Central Government of India, the State Government of Orissa, various multilateral and bilateral organizations and several International NGOs. The organization is associated with Department of Public Information (DPI/ NGO) of the United Nations.

Since its inception in 1973, it has developed an integrated strategy by combining direct service delivery and support activities like research, advocacy, networking etc. The organization has pioneered several development initiatives in the state. Some of them are Public Private Partnership in health care, Circle of Support for Disabled and Sex Education in School.

However, NYSASDRI was committed to provide the quality and comprehensive eye care services to the disadvantaged people in need. The primary limitation of the temporary camp approach was quality. In a camp, which was set up in schools, proper hygiene and qualitative service could not be rendered due to temporary set-up. It also prevented people to have access to eye care problems through out the year, when in need.

"We critically analyzed our camp-based eye care program and we came to a conclusion that comprehensive care can only be provided on demand through a permanent hospital", remembered Mr. Sarangadhar Samal. Also NYSASDRI found that people preferred institutional based operation than operation in mobile camp. Moreover institutional base surgeries can be conducted even in rainy and summer seasons in a more hygienic and qualitative method, which is not possible in a mobile ephemeral camp. Then the idea to establish a base hospital with facilities like intra-ocular lens transplantation was originated. Yet, financial constraint was the biggest barrier in delivering comprehensive and advanced ophthalmic service to poor rural people. The organization has to hold back its plan to set up an eye-hospital till the year 1995-96. Finally, after a long wait, the plan materialized.

NYSASDRI CAMPUS :
The building from where NYSASDRI Eye Hospital was started

Eye car by NYSASDRI	
Year	**No of Surgery**
Through Campus	
1988-1989	60
1989-1990	160
1990-1991	240
1991-1992	260
1992-1993	Nill
1993-1994	310
1994-1995	Nill
Through NYSASDRI Eye Hospital	
1995-1996	325
1996-1997	255
1997-1998	1340
1998-1999	1482
1999-2000	1600
2000-2001	1800
2001-2002	2500

In 1996-97, NYSASDRI, with the assistance from the Ministry of Health and Family Welfare, Government of India, was successful in establishing a 20-bedded eye-hospital in its campus at Santhasara- a remote village in Gondia Block of Dhenkanal district. The hospital was named as *'Nysasdri Eye Hospital'* and added a new chapter in comprehensive eye-care services in the region. Irrespective of caste and creed, rich and poor, people from all walks of the society availed the service. The organization, based on its experience, combined both outreach as well as institutional based support to eradicate blindness in the area. The mobile screening camps carried the services to the doorsteps of the community.

People from Dhenkanal, Jajpur, and Angul got comprehensive eye care service with better quality, at their convenience.

2.2 Origin of Kalinga Eye Hospital and Research Centre

Eye care services was a foremost priority for NYSASDRI and the organization, realizing the problem as well as its impact, has integrated the service its strategy to empower the poor and disadvantaged. However, in 2002, the Government of India ceased its grant for the hospital. The challenge re-emerged. After stoppage of the Government of India grant, continuing the ophthalmic service was a challenge, while it was necessary for the locality.

The farsighted and determined management team of NYSASDRI responded well to the challenge. Amid all uncertainties and resource constraints, the management decided to carry on the services without any external assistance. On October 20, 2002, Kalinga Eye Hospital and Research Centre was set up by NYASDRI at Dhenkanal with a bank loan of Rs 30 Lakhs. It was a reincarnation of the Nysasdri Eye Hospital at Santhasara. The initial infrastructure was taken from the old hospital. Instead of a non-profit model, the management made an entrepreneurship model and shifted the hospital to Dhenkanal, the district headquarter. Mr. Sarangadhar Samal justifies; “Shifting was necessary to make the hospital more accessible to the patients all over Orissa and to attract quality talents”.

KEHRC: *A new begining in Orissa’s Eye Health Services*

Since inception, KEHRC attempts to make eye care affordable and accessible to all, irrespective of economic and social barriers. It has two units – paid and free– to cover all sections of the society. The most vulnerable people without the capacity to pay the minimum fee towards registration are treated in the free section. The economically sound patients are provided paid service. There is no difference in quality of service. The objective is to mobilize money from the rich class to the poor, said Dr. Parida.

The hospital was set up in a rented facility with inpatient capacity of 30 beds. It added latest technology and equipments in eye care. Led by Dr. DN Parida, renowned Surgeon of the State, the hospital was successful in attracting well-qualified doctors and paramedics to offer the best services. Other well-known doctors from the nearest Medical College

Hospital also visit KEHRC. As a secondary care facility, the new hospital is capable of offering qualitative eye surgeries like cataract, glaucoma, aculoplastics, squint etc. (A secondary care centre as per VISION 2020 guidelines is defined as a eye care centre which covers 1 million population and provides primary eye care and has infrastructure for treating cataract, refractive error, glaucoma & Low vision)

KEHRC covers a very large population covering the following five districts and a population of 58,16,842.

Kalinga Eye Hospital & Research Centre

Vision:

To promote quality of life in rural communities through providing affordable eye care services on a sustainable basis.

Mission:

- *To provide contemporary, affordable, basic eye care services in particular Restoration of eye sight among rural poor through cataract surgeries;*
- *To make the service self-sustainable through providing paid services for those who can afford to pay these services;*
- *To improve community education & awareness on eye diseases; and*
- *To undertake research and study on prevention & cure of eye diseases*

The base hospital has two main sections – modern Operation Theatre and OPD. Services like Refractometry, Keratometry, Contact Lenses and Refraseries are provided in the OPD section. It has also added an optical centre and medicine store to it. In brief, it can be said that KEHRC is a one-stop service centre for all kinds of visual impairments. The Hospital has latest infrastructure and services, which is at par with any hi-tech Eye hospital in India of its class. It has been successful, in taking eye care services to rural and remote areas as well as to support the poor and deprived sections of the society with free surgery, medicines, diagnosis & consultation.

KEHRC stands on community outreach program to eliminate the needless blindness. The needs of the poor and the helpless persons are also taken care of in outreach camps. A team is dedicated to conduct the outreach camps in villages to find their refractive errors, eye diseases are detected and community is sensitized on eye care. Cataract problems are identified and supported for surgery in the hospitals. Treatment for minor ailments is provided on the spotwithout any cost. Cataract problems are identified and supported for surgery in the hospitals.

The hospital is registered under the Orissa State Clinical Registration Act and functions as an independent unit of NYSASDRI. It has absolute autonomy in its management. It has an excellent brand image in the community and people are willing to actively participate in and support the social cause. With very short span of time, the hospital has carved out a niche for itself in eye care domain of Orissa and has been ranked third best eye hospital in the state, in terms of volume of surgery in a year.

Population Covered KEHRC		
Sl No.	**District**	**Population**
1	Dhenkanal	1066878
2	Angul	1140003
3	Jajpur	1624341
4	Deogarh	274108
5	Keonjhar	1561990
6	Jagatsinghpur	1057629
7	Sambalpur	935613
	Total	7660562

Chapter 3

Comprehensive and Community Eye Care

VISION 2020 Global Initiative for the Elimination of Avoidable Blindness: Action Plan 2006–2011, emphasizes that Eye-care services must be comprehensive, encompassing eye-health promotion, prevention, treatment and rehabilitation. The full range of these services must be integrated into health-care systems and delivered to the population in a stepwise manner. Kalinga Eye Hospital and Research Centre as one of the leading eye hospitals in Orissa has integrated all these components in its comprehensive eye care system to fight blindness. Its community based approach has made it a model of high quality, comprehensive eye care to be delivered to patients, in need, irrespective of paying capacity. The hospital brings marginalized population into the eye care system, providing affordable or free eye care services, without compromising quality.

The initial efforts to establish the hospital had the challenges of funding, developing physical facility and infrastructure, recruiting as well as training service personnel. Equipment purchases were made through the donations from individuals and bank loan. Over the years, the hospital has now initiated volunteering and fundraising activities that cultivated relationship with philanthropic organizations and the industry. The hospital has also collaborated with several international and Government agencies for financial support. It was started in a rented facility and going to have its own infrastructure. Cost effectiveness of the activities by the hospital is increased by efficient utilization of resources and prudent financial management. In association with the leading eye hospitals in India like Lions Aravind Institute of Community Ophthalmology (LAICO), Vision 2020, LV Prasad Eye Institute Aditya Jyoth Eye Hospital, Lions NAB eye Hospital, Netra Niramaya Niketan etc, the hospital has been successful in developing its own set of human resources, who are skilled enough to provide qualitative ophthalmic services.

Community-based qualitative and affordable eye care with latest technology to all is the core objective of KEHRC. Reaching the un-reached through eye camps, addressing the barriers in accessing eye care facilities, and community participation are the guiding principles in growth and sustainability of the hospital.

KEHRC model is a social enterprise model, evolved around some of the renowned and successful Eye Hospitals in India. The model has been customized and strengthened through community based approach, compassionate service to the people, development of human resources and quality management. The strategy is to provide low cost and quality eye care and recover the cost for sustainability. The model's uniqueness stands in its low investment and coverage of a larger population. "*We operate in a rented building and have the least required number of human resources. And we conduct at least 5000 cataract surgeries and screen about 20000 people through outreach camps in a year",* according to Mr. Sarangadhar Samal. Our focus is to provide appropriate, accessible and high quality eye care at an affordable price, he adds. Its strengths lie in partnership with community, government, PRIs and other organization. The hospital is growing as a 'Community Eye Hospital' to render modern eye care services.

Important Features of KEHRC model

Demand Generation:
- Community outreach & community involvement
- Patients as Marketer

Human Resources
- Technically trained and motivated staff
- Regular skill up training
- Role clarity and team spirit

Equipments
- Advanced equipments

Management
- Quality Management
- Patient centered system
- Clinical effectiveness and efficiency
- Commitment to fight blindness
- Productive Partnership with stakeholders

Financial
- Fee-paying patients
- Sale of spectacles, and medicines
- Grants from Government and INGO
- Local Fund Raising Program

The Out Patient Department (OPD) of the hospital is open from 8:00 am to 1:00 pm and 3:00 pm to 6:00 pm everyday. Comprehensive eye examinations are performed at the base hospital with qualified ophthalmologist – assisted by trained paramedics. For the rural people, who are unable to access the service of hospital, outreach programs are organized in villages. In these camps, KEHRC provides preventive as well as minor treatment to the patient. All the patients identified to have cataract are taken to the base hospital for surgery in the hospital's vehicle. The surgeries are conducted in the base hospital only. Contemporary surgical procedures with quality clinical standards are core of the hospital's operations. Post operative treatment is provided free of cost. In a year

more than 200 camps are organized at the remote inaccessible areas of the district. The hospital also organizes school screening camps to identify eye problems among the school going children and distributes spectacles to the needy children at no cost. In addition to the hospital and outreach services, the hospital provides training to the Anganwari workers and local school teachers for screening of children as well as local people. People identified with vision problems are referred to the hospital by these trained service personnel. The hospital has also established vision centres to provide primary eye care and take care of refractive error problem at the community level. Promotion of and awareness on eye care is also emphasized by the hospital.

Efficient and competent leadership is the strength of the model. The team is lead by Mr. Sarangadhar Samal, who is social development practioner and activist for last three decades. He has lead several pioneering development initiatives with success. The organizational structure is headed by the Chief Medical Officer (CMO). The first Chief

Components of KEHRC

Medical Officer was a renowned eye surgeon and had discharged several key functions with the Government of Orissa. He was the Chief District Medical Officer (CDMO) of Dhenkanal and also Joint Director, Department of Health and Family Welfare with the Government of Orissa. With his rich experience in healthcare management and eye care service he was successful in setting up the hospital and operationalising the vision.

Cataract operated patients

The free hospital is based on community need, involving three significant stakeholders — the community, KEHRC, and a donor that supports with financial and material resources. Community participation and community ownership is core of the process.

The hospital has been successful in attracting full time ophthalmologist to work at the grass root level. Over the years, the eye hospital has successfully served more than 20,000 people and the satisfied patients spread the image about KEHRC by word of mouth which brings in more patients and reputation to the hospital. *"We concentrate on satisfaction of the customer, whether free or paying. Because we believe they are the ambassadors of our hospital as well as our fight against blindness",* according to Dr. Rasananda Garanayak, Chief Medical Officer.

Optimal resource utilization, appropriate policies and procedures, demand generation and demand management, quality check and improvement and management information system has strengthened the functioning of the hospital and contributes to the success of the model.

3.1 An Institution for Community Eye Care

KEHRC lays emphasis on the importance of the local community for success of its approach. This community centric strategy ensures that its services are integrated into and consistent with the wider societal and development goals of the target population. It tries to induce knowledge about eye care and there by generate the demand. NYSASDRI's experience and involvement with community mobilization activities provides a strong footing to the community approach. It attempts to involve community members, local Panchayati Raj Institutions (PRI), local CBOs and private health institutions and volunteers. On the other hand, active participation of the community enhances the level and effectiveness of the services.

What makes KEHRC a Community Eye Hospital?

Goal	• Community Participation • Comprehensive Eye Care • Preventive services • Eye Health Promotion
Target	• Entire Community
Service Delivery	• Hospital Based • Screening Camps • Demand generation
Treatment	• Surgery • Medicine • Education • Counseling
Relationship	• Doctor • Patient • Volunteers • Social Workers
Patient Mobilization	• High
Accessibility and Affordable	• Community Friendly
Drive	• Community Driven

Adapted from Pradhan KB, & Banerjee P, Community Ophthalmology-Dimensions, Illuminations, Vol. I, No.2, Apr-Jun 2001

As an Institution of Community Ophthalmology, KEHRC attempts to make its eye care service *easily accessible, effortlessly affordable and absolutely available to* the community. The hospital provides preventive, promotive, and curative services, covering a wider community to improve eye health status. The hospital raises awareness on eye heath and

Role of Community in KEHRC

- Publicity & organization of out reach camp
- Referral to the Eye Hospital
- Training of Service Personnel
- Eye Health Promotion
- Patient Referral

addresses the barriers in eye care through various social marketing and outreach activities. By providing comprehensive and quality eye care services, free or at subsidized rate, the hospital has made eye care accessible to the poor and deprived sections of the society. The outreach camp and free transportation has made the service available to the rural poor at their vicinity. In the service delivery system, the hospital has also integrated key components such as Vitamin A supplement tablet distribution, primary eye care and school and organizational screening. Training of key persons from the community has been helpful in early diagnosis and referral of patients, besides promotion of knowledge about eye.

Anganawari Workers, after training by KEHRC on Eye Care

At KEHRC, the community members are not always in the receiving end. The association with local community and CBOs facilitates the hospital's effort to raise awareness on eye care, publicity and promotion of the services of the hospital and its benefits as well as helps in service delivery. For every outreach program, KEHRC strives to have maximum community participation. The success of the outreach screening camp is evaluated in terms of the level of involvement by the local community. In such activities, community members take lead in publicity of the program, logistic support and facilitation of the camp. In the social marketing strategy of the hospital, the community members take the leading role. They refer patients to the hospital. The hospital has also trained a group of volunteers and key service personnel to identify people with visual disorder and refer them to the hospital. KEHRC is also highly dependent on community members and groups for highlighting its facilities and services among people.

Identified Cataract Patients being taken to the Hospital for Surgery

Religious Leaders Fight against Blindness

The spiritual leaders of the Mahima religion, perhaps the youngest of all the religions in the world came out of their normal day to day activities of praying and preaching activities to join hand with KEHRC to fight against blindness.

Baba Dinabandhu Dash, a spiritual leader of the cult was worried about the visual problem among people around him. Even some of his followers and fellow spiritual leaders were also having the problems in their eye. Knowing about Kalinga Eye Hospital and Research, he approached the hospital Centre for conducting a screening camp at Mahima Latashrama in Joranda- one of the remote villages of Gondia Block. He assured that he and other members of his cult would extend all help in organizing the screening camp.

Responding to his request and respecting his concerns, KEHRC conducted a screening camp in the village. Keeping his words the spiritual leaders helped, wholeheartedly to make the camp a success. Prior to one week of the camp, they arranged for publicity of the camps, prepared banners and posters and displayed in different location of the area. They identified key person, who should visit the camp. On the day of camp, they provided the infrastructure to the team to conduct the screening test. Basic food and snacks was also arranged by them. The organizers visited each and every household to send people to attend the camp and get their eye checked.

In this camp KEHRC team provided primary treatment to 97 patients and identified 34 people with cataracts. These people were transported back to the hospital, where free cataract surgery was conducted. Among all Bhagaban Baba of Mahimagadi, who was suffering from both eye cataracts, expressed his interest for paid surgery at the hospital as he was facing a lot of problems in his day to day activities. The hospital conducted a Phaco surgery to remove his cataract.

On the 16th day of the surgery, Baba came to the hospital for the follow up visit with full excitement. He blessed the hospital team and ensured that he and his followers will spread the message about eye health and KEHRC among the followers and the community.

"In our strategy to fight against blindness, community members take the leading role. We just provide the facilities and required information", according to Dr. Rasananda Garanayak, CMO.

The Hospital has also been successful in establishing rapport with different community groups and leaders. It enjoys the support and assistance from various quarters of the community in all its activities.

3.2 OUTREACH: Reaching the Un-reached

Several studies have confirmed that many of the rural population are deprived of eye health services, not only because of poverty, but also because of their physical inaccessibility to the available services. So, every successful eye care service delivery approach in developing countries has emphasized on outreach screening programs to reach the un-reached sections of the society. As a community eye care service institution KEHRC has integrated community outreach camps as a Major strategic component for its efforts to eliminate the needless blindness. "Community outreach is an integral part of our approach. Over 90% of the patients who undergo surgery at KEHRC come through outreach camps in different villages," says Mr. Sarangadhar Samal.

Activities in an Outreach Camp

- Screening of cataract patients
- Providing primary Eye Care Treatment.
- Supplying Spectacles and medicine as prescribed
- Raising awareness on eye diseases and eye care.
- Coordinating with Community Leaders, Clubs, and CBOs for eye health promotion.
- Developing Volunteers for raising awareness on eye health

With five outreach camps in a week, the hospital reaches maximum number of people, especially in rural areas. In a typical camp the hospital treats more than 100 patients and brings around 40 patients for surgery. The hospital's outreach camp team comprises of several full-time staff; Ophthalmologist, Refractionist, & other support staff. The team conducts diagnostic camps in the periphery areas and appropriate patients are moved to the Hospital for surgery. In order to facilitate the transportation of the staff and patients two passenger vehicles are especially devoted. The patients are re- transported back to their village after the surgery.

The hospital adopts the following steps, while organizing and effective outreach camp at the community:

Site Selection: This is the first step in organizing an outreach camp. The outreach team decides on the location where the camp should be organized. Need of the community, availability of health infrastructure, community cooperation, communication facilities, availability of local infrastructures and response to previous camps are considered for selecting a site for the camp.

Villagers waiting for eye screening in a screening camp

Identification of Camp Location: Once the area is selected, the outreach team works on identifying a suitable venue for the camp. They seek cooperation from the community members for this. And in most of the cases, the community members provide infrastructure and logistics support. The hospital prefers schools and community centres as suitable

'At least I don't require my grand children for my daily routine'

Rankanath Rout, 72 years, is a resident of Bangarkota, of Jajpur district. Being a retired postmaster he was quite affluent. After retirement he thought to lead a happy life, since he has adequate financial stability and has two sons and two daughters. But fate decided otherwise. He got into debt to get his daughters married. His elder son is employed as a primary school master but does not help his parent, saying that he was a burden for the family. His youngest son, a daily wage worker takes care of him. Sometimes they have to go hungry and when hunger becomes unbearable they beg for food. The problem further intensified with the cataract in his eyes. He could see nothing and has to depend upon his grand children while bearing the cutting remarks of his daughter-in-law.

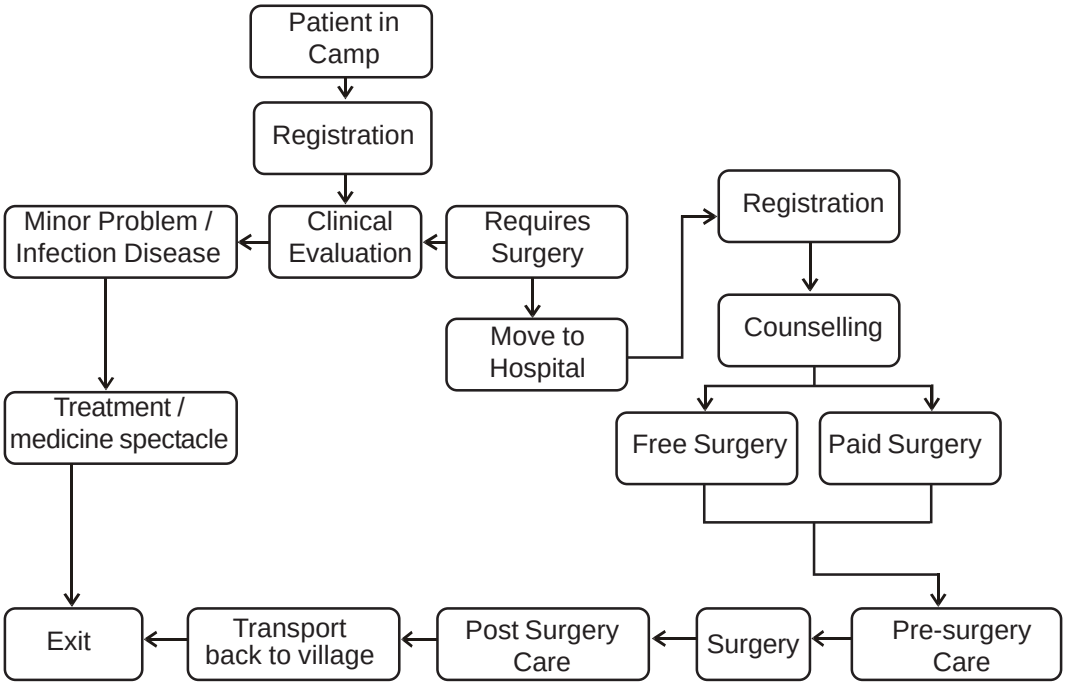
He approached KEHRC in one of the camp at nearest village. As he was having cataract in his eyes, the outreach team of the hospital brought him to the hospital and cataract was removed from his eye through surgery.

Now he could able to see, as usual. During the first follow-up check up, when the doctor asked, how the life is, after the surgery, he promptly answered, "*At least I don't require my grand children for my daily routine".*

venue for camp, as these institutions are known to the villagers. Proximity to the target population and accessibility is the deciding factor for camp site.

Propaganda / Advertising: Before 2/3 days of the outreach camp, the Outreach team reaches the venue and organizes propaganda and advertising activities for the camp. Here also they seek community support. The propaganda team interacts with the villagers, local leaders, groups to inform them about the camp. They distribute IEC materials on eye heath and the facilities available at the camp. The propaganda activity is not only targeted to attract maximum number of patients to the hospital, but also it attempts to educate the villagers on various eye diseases and its proper treatment.

Screening at Camp: The eye screening activities is conducted with the clinical team of the Hospital. Once a patient arrives, the team registers the patient's name and primary eye test such as vision test and refraction is conducted. If the problem found is primary in nature and can be treated with medication, the hospital provides them free medicine and spectacles, as required. However, if the patient is found with major problem such as Cataract, which requires surgery, the patient is taken back to the base hospital in the hospital's vehicle. Before taking to the base hospital, appropriate counselling of the patient is made, so that the fears or misconception about eye health can be removed. The outreach team also uses the opportunity to promote awareness about eye care. None of the patients in the camp charged any cost for consultation or medicine.



Surgery at Base Hospital: The patients brought from the camp are registered again at the base hospital. Appropriate counselling is done to identify whether the patient can pay or not. The counsellor explains about different surgical packages and its benefits. If the patient agrees for paying surgery, arrangement is made for preferred service pack. Otherwise free surgery is conducted for the patient. The discretion lies with the patient and the hospital team never forces any patient for paying surgery.

After completion of the formalities, the paramedics start the pre-operative care for the patients. Surgery is performed on the next day of arrival. “As most of the patients are old people the hospital gives them rest for the day. This also gives us time to conduct pre-operation care and proper counselling of patients”, says Dr. Susanta Kumar Jagadala, Surgeon. Like the paying patients, the outreach camp patients are evaluated using the slit- lamp biomicroscope, keratometry and A- scan, where necessary. They undergo planned extracapsular cataract extraction with a posterior chamber intraocular lens implant under a microscope with use of viscoelastics.

Drop back: The patients are transported back to their respective villages after one day of the surgery. Prior to their departure from the hospital, the medical team examines the post-operative condition and explains them about the care required for the eye. The hospital provides them medicine and spectacle free of cost and explains about how to take medicine and use spectacle. During the discharge, the patients are also communicated about the follow up date for post-operative care.

Follow Up: At each camp location, the hospital decides a date for follow up of the operated patients. The team reaches the patients on the decided date and conducts refraction for the operated patients. It ensures the success of the surgery.

A cataract operated patient

3.3 Affordable and Accessible Services with Satisfaction

Making eye care services affordable and accessible is the foundation of KEHRC. Affordability covers not only the patients’ ability to pay for hospital services; it also considers the transportation as well as economic opportunity of the cost of hospitalization.

The service area of KEHRC is primarily inhabited by tribal groups, namely, Kolha, Santala, Lohar, Munda, Sabar etc. likewise the scheduled caste population belong to Hadi, Pana, Dhoba etc. More than 80% of the population resides below the poverty line. Agriculture is the dominant employment avenue. Average family income is less than Rs. 50. The area is backward with pliable communication with inadequate infrastructure. Health service delivery mechanism is very inefficient and insufficient in the locality. The hospital realizes this fact and hence a high proportion of its eye care services is at no or low cost.

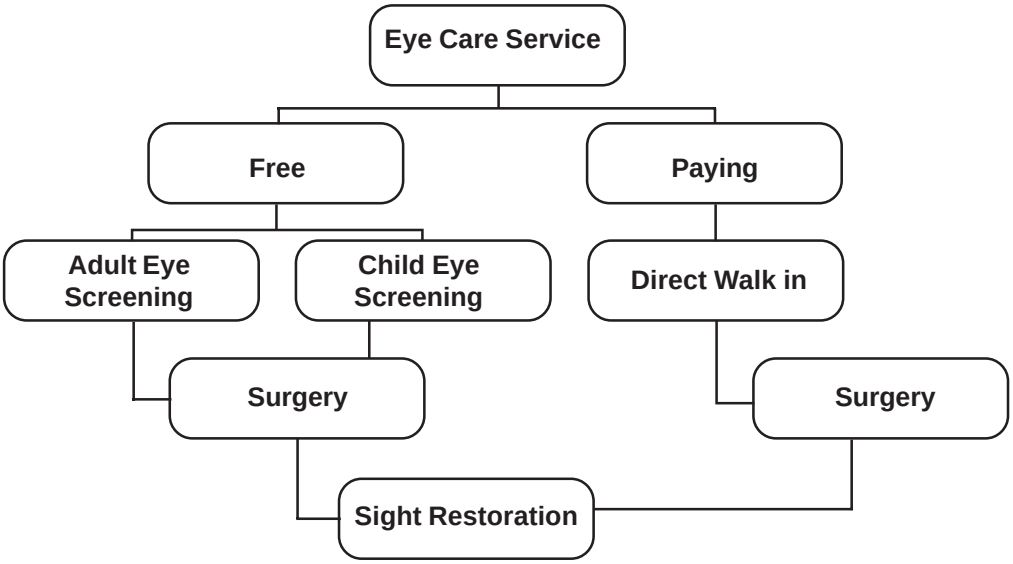
Service with a Human Touch

Doctor:	Maa (mother), where are you from?
Patient:	Balipata, Anugul
Doctor:	What uncle does?
Patient:	No, he died long ago.
Doctor:	Who else are there in your home?
Patient:	Son, daughter in law and grand child
Doctor:	Since how long you are not able to see?
Patient:	For last one year?
Doctor:	Why didn't you visit the hospital?
Patient:	From where I can bring money?
Doctor:	Don't you have any fear for the surgery?
Patient:	It's in your hand. You can save or kill. Now also I am not able to do any thing.
Doctor:	Nothing will happen. Everything will be all right. You can see like before. What will you do after you get you sight?
Patient:	I will help my daughter in law, who is facing a lot of problem for me. I will also play with my grand child. (with smiles)
Doctor:	Everything will be OK. What I will get?
Patient:	What this poor woman can give you. I can only bless you

This is a sample conversation between the doctor and patient, during the first interaction between the both. In the first instance doctors and other paramedics develop an excellent personal rapport with the patients. They make all effort to make the patient comfortable and feel like home, away from home.

The paramedics help the patients; more than 95% of them are senior citizens - above 60, in all aspects. "It gives immense pleasure to assist the old person. They are like our family members", says Rebati with contented eyes.

Tretment Delivery



The hospital also offers different prices for different classes of surgeries to make the services affordable for the local community. The charges are decided, considering the basic socio-economic indices as well as the hospitals sustainability.

The hospital takes a cross-subsidization approach, in which revenue received from those who pay for services fund the services of those who can not afford to pay. For cataract surgery, price varies from the level of service and accommodations. Patient, who receive free treatment are provided with basic accommodation in a shared facility. Paying patients receive a better standard of accommodations. Individuals are counselled prior to surgery to determine the level of payment they can afford. They are encouraged to pay. They are made aware of the benefits of the payment, including both the clinical benefits of the surgery as well as indirect benefit to the society. However, the patient has the freedom to decide.

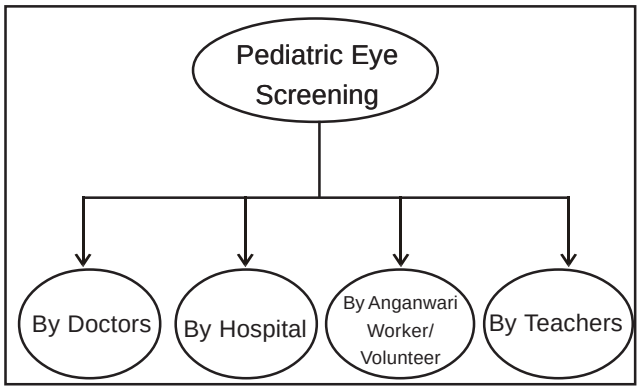
Patient Satisfaction is the utmost priority

The approach also helps people to cross the barriers associated with the inability to pay for the transportation. Patients in

First Paediatric Ophthalmology unit in Orissa

The problem of visual impairment does not spare children, too. According to an estimation made by the Government of India (*Vision 2020 Action Plan, 2002)*, prevalence of refractive error (visual acuity <6/9) among children could be as high as 5%1. In most of the cases, refractive error in children, if untreated, always results in poor academic performance and students dropping out of the school. Like most of the visual problems, refractive error in children can easily be corrected by providing a pair of spectacles.

However, in Orissa paediatric eye care services is poorer than adult eye care. As eye care services for children require specific expertise, equipment and training, most of the hospitals in the state are unable to provide paediatric ophthalmic services. Major barriers to childhood eye care / cataract surgery in Orissa are: 1) absence of adequate trained paediatric eye care personnel and anaesthetists, 2) lack of high volume cataract surgical setup where paediatric eye care facility can be developed, 3) lack of awareness and skill to detect congenital cataract in children 4) absence of outreach services to identify and treat children with cataract and refractive error.



In line with its attempt to provide comprehensive eye care services, KEHRC has added paediatric ophthalmology service in its basket of eye services. For the purpose, the hospital has made required development in infrastructure as well as human resources. It sent a doctor to Aravind Eye Care System, Madurai in March 2007 on one-year fellowship program on Paediatric Ophthalmology. Another optometrist was also trained at the same institute to support the paediatric unit of the hospital.

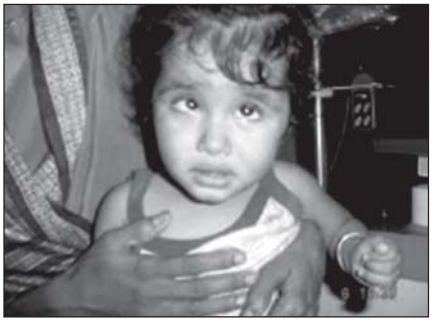
Like the cataract screening camps, the hospital also organized paediatric screening camps to identify children with visual impairments. It has trained a group of Anganwari Workers, School Teachers and local Doctors to identify and send children, having problem in their eye.

“We are the first eye hospital having the Paediatric Ophthalmology unit in Orissa”, says Mr. Sunil Kumar Mishra, Hospital Manager

Restoring Childhood

She is has not celebrated her first birth day yet. She is only 11 and being only girl child of the family she enjoys love and affection of all members.

However, the family was disturbed because this little girl, Jaya was not engaging herself in any activities. She was always sitting in the same place where their parents put her. She was having problem in her eyes. Her parents took her to local Community Health Centre (CHC) at Danagadi. As the doctors there had no idea about paediatric ophthalmology they could not identify the visual problem of the child. Even the Ophthalmic Assistant of the CHC could not identify. They referred to Kalinga Eye Hospital & Research Centre for proper diagnosis & treatment.



Top: Jaya having Cataract,
Below: Jaya after Cataract Surgery

The hospital team was surprised to find that Jaya was suffering from congenital cataract with strabismus. However, KEHRC was not able to provide treatment to this small baby, as the hospital was in the process of developing its paediatric unit and the surgeon was under training.

Her aggrieved parent took her to another reputed hospital at Cuttack. However, the cost of the surgery was beyond their affordability and the Doctors there could not able to assure the percentage of successes of the surgery. The family was anxious again. Fortunately, Dr. Mihir Kothari, Paediatric Ophthalmologist from Jyotirmayee Eye Clinic & Paediatric Low Vision Centre, Mumbai was on a visit to KEHRC to perform paediatric eye surgeries and train KEHRC Ophthalmologists.

The hospital contacted Jaya's family and found that the little girl was still suffering from the visual problem. Her parent took her to KEHRC and Dr. Mihir Kothari identified Jaya having bilateral congenital cataract. Assuring her parents, he conducted the cataract surgery. The next few hours after the surgery were very much crucial both for her parents and for the hospital as well. Finally, the surgery was successful and Jaya could get back her vision and all her childish joy.

After few days she was responding to words and her inactive life turned into a joyous life full of childish mischief.

remote areas are diagnosed in outreach screening camps and if found that the patient requires surgery, the camp team brings the patients to the hospital for surgery in its own vehicle at no cost. After treatment the patients are transported back to their own village at no cost. Surgery is conducted free of cost. They are provided free food during their stay as well as glasses. However, if a patient desires to go for more sophisticated IOL, the hospital charges additional cost.

Another barrier in seeking eye care is that eye treatment requires long period of hospitalization and hence it can keep the person away from the economic activities. People think that the period of hospitalization is very costly. One person has to stay with the patient and hence he will also loose his earning. However, at KEHRC a patient is required to stay for one day or two, at best. Even the hospital discourages attendants from the patients' families to stay with them. To allay this barrier, the outreach camp team raises awareness of the service approach. They educate on the benefit of sight restoration.

The services of the hospital are also accessible to the target population. In addition to outreach camps, the hospital has set up screening centre at different locations, in which a team from the hospital visits the centre on fixed day in a week. Every year it increases the number of out-reach camps to cover more populations. Now KEHRC is focusing to increase the camp yield, i.e. to treat more no of patients in a camp and is also planning to increase its service area in Orissa but with limited number of camps. To increase the camp yield Community Participation will be the basic strategy, according Mr. Sarangadhar Samal.

With The Commnity: KEHRC Staff conducing a screenig session

Out patients services are offered on weekdays of the Hospital. There is no distinction of paying and non-paying services. The waiting hall is same for all. Patients first undergo visual acuity assessment by trained paramedics and then examined by the ophthalmologist. If the ophthalmologist feels that the patient needs refraction test, then the patient goes for refraction.

The surgical services start after completion of the OPD for the day. If the there is a higher Cataract Surgery is conducted with SICS or PHACO emulsification technique, which

ever is required. Prior to surgery the patients need to stay in the hospital for one night and patients are released on the next day of operation. Post-operative follow ups are made regularly.

Patient satisfaction, both clinical as well as psychological, is the ultimate measure of the quality of service. The hospital maintains all qualities to bring overall patient satisfaction. However, non-clinical factors like personalized service, overall comfort and communication enhances the satisfaction level. The social workers, counsellors, paramedics and nurses spend a lot of time with each patient. They develop a personal relationship and assist them in clarifying their doubts, allaying their fears and making their stay as comfortable as possible. Through conversations they understand the patients need and act accordingly. They also use the opportunity to educate them about the eye care and hospitals rules. "If the patient is satisfied with our service and go back to his family with good experience he may refer others to attend the hospital", says Mr. Sunil Kumar Mishra, Hospital Manager. Special attention is paid to both the clinical and non-clinical needs of the patients before, after and during the surgery and treatment.

Social Marketing Tools

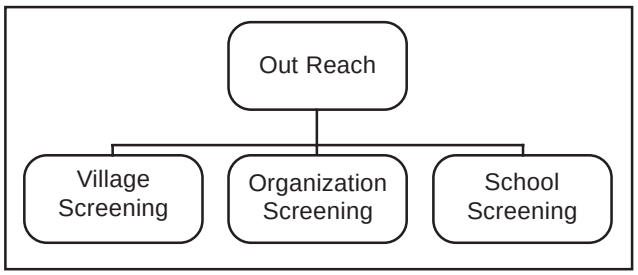
- Out reach Camps
- Other Out-reach Activities
- Comprehensive Patient Care
- Community Training
- Advertising

3.4 Social Marketing: Linking up people with hospital

KEHRC understands that establishing eye care service facility is not enough. Health awareness on eye care is an important component in comprehensive ophthalmic service delivery. It can help in attracting patients and generating demand for services that is vital in eliminating avoidable blindness. As discussed, many factors act as barriers in people's attitude to seek ophthalmic services. Research shows that lack of awareness is a significant barrier to uptake of eye care services, especially in rural areas. People are unaware about the availability of the services and think that they won't be able to pay for it. Some people are afraid of the surgery.

KEHRC makes all efforts to make people overcome these barriers and access eye care services.

The hospital has developed a social marketing and outreach programs; a key tool for enhancing community awareness and hence demand for service. The social marketing and community outreach efforts is strengthened with the support and contribution of local community organizations, including CBOs, schools, village leaders etc. NYSASDRI's



work for more than three decades in the region provides a better access to community members and helps in generating awareness and education on eye care. In the social marketing strategy, major elements are: outreach activities, patient satisfaction, service personnel training and advertising.

Out reach Camps

Out-reach camps is the most important component in the social marketing strategy. The hospital conducts five out-reach camps in a week and this provides an opportunity for person to person communication. In these camps, the hospital not only provides primary treatment to eye disease but also the out-reach team sensitizes the community on various eye care. Through these camps the hospital reaches more and more people and educates them about the services available in the hospital as well as generates demand for the services. The out-reach organizer visits the village one-day before the camp and makes propaganda about the camp. He also distributes pamphlets in local language about eye problems as well as the solution to it. The organizers interact with and educate the key village leaders, such as the teacher, Panchayati Raj Institution members, health workers and others, who act as referral agents for the hospital. IEC materials also displayed at the camp location and distributed among the people. Villagers also get opportunity to interact directly with the ophthalmologists and paramedics and get their queries clarified. The outreach team members explain about eye diseases and the services of KEHRC in colloquial language and allay all their fear about eye care.

Capacity Buliding of School Teachers

Other Out-reach Activities

Besides, out reach camps the hospital also organizes other outreach activities for promotion of eye care and services available in the hospital. School screening camps

and screening camps in organizations are organized regularly to identify children and person with visual disorders. The hospital has a team for the purpose. They visit different schools and organizations / companies to conduct screening test and simultaneously they spread awareness about eye health. The organizational screening camp are conducted for employees of companies, government offices (such as Police) etc. Like the outreach screening camps in villages, here also the hospital team finds opportunity for person to person communication and hence the result is better than other mode. Educational materials on eye disorders such as cataract, paediatric eye problem and other impairments are distributed among them. Dr. Rasananda Garanayak, CMO says, "out reach activities are, in fact, our marketing tool. We reach a wider section of the population and attract maximum patients from both types of out reach programs".

Comprehensive Patient Care

KEHRC believes on the fact that a satisfied patient can help in promoting good awareness about eye care as well as good image for the hospital. The hospital takes care of the patients with all compassion. The hospital members make all effort to establish a personal rapport with the patient in the first interaction. During the counselling, the hospital staff educates the patients on care and treatment of eye diseases in addition to facilities available in the hospital. On the other hand, a satisfied patient spreads information about the simplicity of eye treatment and cataract surgery, besides the comprehensive services of the hospital. They motivate other villagers to seek treatment from the hospital. They act as ambassadors of the hospital, according to Mr. Janardan Behera, Administrator.

A screening camp supported by Local Truck Owners' Association

Community Training

Capacity building of key service personnel in the community, especially in rural areas to identify person with eye disorders and refer them to the hospital is another important component in KEHRC's social marketing strategy. The hospital regularly trains local service personnel such as school teachers, anganwaree workers, health workers, physicians and other members of the society, who act as volunteer in the hospital's endeavour to fight blindness. During the school screening camps the hospital team trains the school

teachers. For other members specialized training sessions are conducted. They are given awareness about the basics of eye care, common eye problems, methods to identify the disorder and the services available at the Hospital. As they spend most of the time with the community, these personnel help in promoting awareness on eye care among the villagers. They also help in motivating people and generating demand for the hospital. Hospital team consistently interacts with them and helps them in spreading awareness by providing required information and materials.

Advertising

Social advertising - though a least prioritized area in social marketing program of KEHRC – also contributes in spreading awareness about eye care in the area and promoting the services of the hospital. Considering the high illiteracy in the region, the hospital has developed an audio cassette for infotainment of people. The cassette, developed in local language, gives message about common visual disorders and the cure methods. Common misconceptions about eye care are also explained in the audio pack. It simultaneously highlights the facilities available in the hospital. In addition, the hospital spreads message on eye care and its services through display boards and wall paintings in different rural areas.

"Our strategy is to promote eye care through person to person communication, which is more effective. So we stress on outreach programs and advertisement is the next priority for us", says Mr. Sarangadhar Samal.

3.5 Local Resource Mobilization: Key to Sustainability

Kalinga Eye Hospital and Research Centre to continue its comprehensive community eye care service must have sustainable income sources that are not influenced by the

Contributors in Local Fund Raising Program:

Schools

1. Gandhi Public School, Bhubaneswar
2. Kendriya Vidyalaya, Niladrivihar, Bhubaneswar
3. Govt. Boys High School, Unit – 8, Bhubaneswar
4. Amarbani English Medium School, Angul
5. Kendriya Vidyalaya, Angul
6. Govt. High School, Angul
7. Aurobindo Purnango Sikshya Kendra, Dhenkanal
8. Prabhuji English Medium School, VSSNagar, Bhubaneswar
9. Monfort English Medium School, Dhenkanal.

Corporate:

1. IMFA
2. BRG Iron & Steel Co. (Pvt) Ltd
3. Jindal Steel & Power Limited
4. Nava Bharat Ventures
5. Reliance Industries Limited.

Eye Care for Leprosy cured Patients

The leprosy affected patients are denied of social status and are victimised by the stigma and misconception about the disease, even after their complete cure. As most of them have disability and earn their livelihood by begging, their lives become difficult with visual impairment. Accessing health care, even from the formal health system is unthinkable for them. So eye care service for them from a formal hospital is a daydream. However, KEHRC came in support of them and conducted special eye care programme for the Cataract affected leprosy cured patients in its catchments area.

Under this first of its kind initiative, special screening camps were organized for leprosy patients in Angul, Jajpur, Dhenkanal and Talcher. Through these camps, the medical team identified 97 cataract affected leprosy cured persons. They were brought to the base hospital in the Hospitals Bus and were provided cataract surgeries, free of cost at the hospital. They were provided free food and the hospital's vehicle left them at their own places, after the surgery.

During the screening camps, the medical team also provided diagnostic ophthalmic services to 353 patients, with free medicines. Out of them 135 persons were provided spectacles free of cost.

external funding. Since the eye care services of the hospital is largely targeted towards people, who are mostly live below the poverty line. Besides approaching, the international funding agencies, the hospital now focuses more on local resource mobilization.

In order to ensure that the service is also accessible these poor and needy KEHRC has initiated a specialized program for mobilizing resources from local areas as Grants and donations for free surgeries provided and for capital and infrastructure development. The local fund raising activities are led by an experienced Fund Raiser.

It has started a Young Ambassador Program (YAP), in which the hospital reaches the young population, especially school children. It conducts awareness sessions, screening camps in schools and appeals for support from the younger generation for eliminating blindness in the society. Many students take active participation in the YAP and contribute their support for cataract surgery and eye care camps by appealing to their family, friends, relatives and neighbours. They become the young ambassador for spreading messages on Eye Health, as well. The effort of the schools and students are recognized through certificates, bronze / copper certificate, silver certificate, golden certificate, memento, T. shirt, caps, student's pen, principal's pen, coordinator's pen set and teacher's pen. The program not only helped in mobilizing local resources but also helped in spreading messages on eye care among the school children.

"Resource Constraint Has Improved Our Productivity"
- Sarangadhar Samal

Born in a remote village Santhasara, Dhenkanal **Sarangadhar Samal** is known as one of the leading Social Activists in Orissa. As the Director of NYSASDRI, he has been leading the organization for last three decades with excellence. Under his leadership NYSASDRI, which was started as a village youth club has pioneered many social interventions in the state and is now associated with the Department of Public Information (DPI/NGO) of United Nations.

KEHRC is a demonstration of his entrepreneurial spirit and commitment to serve the poor and disadvantaged. With his foresight, resourcefulness in harnessing support and efficient management, the hospital is now a leading eye care institution in the region.

1. **What are the important elements of the KEHRC model? How you have achieved such success in a very short span.**

   We started this hospital with a single point focus – sustainable eye care for all. No patient shall be denied of the eye care in our catchments-area because of accessibility and affordability. Since inception, we are dedicated to our mission and developed this hospital as a community eye hospital. We have been improving our efficiency almost daily. Our doctors and other staff have attended better productivity. Efficient and optimal resource usage, support from and partnership with the community members, qualitative and compassionate service, and dedication of our staff and people's need are the major success factor.

2. **Talking about productivity, how have you achieved such high productivity?**

   Our mission and dedication towards the mission has made us more productive. Our productivity is also influenced by the constraints for resources. In order to have sustainability with limited resources, we have to improve our productivity. We have also attended greater efficiency and effectiveness through adoption of latest technology, strategic management practices and commitment of our staff.

3. **With high productivity, how you are able in maintaining the quality?**

   Our quality is ensured by our trained and competent staff, technology and standard

practices. We focus on patient satisfaction and convenience, hence can not compromise on quality of our services.

4. How do you balance the free services and paid servicesse?

We adopt cross subsidization method, in which we attempt to mobilize resources from people who have sound financial status to provide services to people who can not afford. The objective is no patient should shy away from eye care because of affordability. Though the percentage of paying surgery is about 5-10 percent of total surgery, we are making all effort to make it at least 30%. To cover the cost of free surgery, we request different organizations and individuals for donation and grant.

5. The number of free patients outnumbers the number of paid patients. How the paying section perceives about the hospital?

As I said about 10% of total patients are paying patients. To distinguish the service, we have different treatment / surgical package for paying patients. For example, the free patients are given the basic IOL in cataract surgery, whereas the paying patients get a better IOL, may be imported one, if he pays more. There has been a steady increase in the number of paying patients.

The objective is no patient should shy away from eye care because of affordability.

6. Who are the major partners? In what way does your relationship with these partners inhibit or enhance the effectiveness of your operations?

The role of partner organization in growth and development of KEHRC, as a full-fledged community eye care centre is indispensable. These partners have helped us in financial support to provide free surgery to poor and need. Besides, they have also helped us a lot in improving skill of our staff, infrastructure development and strengthening our management systems. With their support we have enhanced our effectiveness and efficiency.

7. Orissa has few trained and qualified doctors and paramedics. How you are successful in attracting the talents?

Recruiting and retaining good ophthalmologist is a challenge. However, we try to attract them by providing industry standard salary and continuous career development training. For example, the present surgeon we have has learned paediatric surgery through a training program arranged by us. Besides, the volume of work and personal satisfaction also motivates them. For paramedics, we recruit young people from the locality who have interest for serving people and commitment.

We train them in-house or through various training programs at reputed eye hospitals. We build a personal rapport with all the staff and try to incorporate sense of compassion, through various motivational activities.

8. It is found that ignorance is barrier to eye care service delivery. How you attract patients for your service?

We understand the low level of eye health awareness. In addition, there are also other barriers like affordability and accessibility. Hence, we not only focus on quality eye care service delivery, we also focus on demand generation. As a community eye hospital eye health promotion and education constitute a major component in our activities. We try to build awareness about eye care disease prevention and treatment through our out-reach activities.

Multi-tasking of our staff and support from various sectors and a strong community relationship has given us the confidence to face the challenges

9. As you attempts to eradicate needless blindness what challenges are you facing?

The major challenge is resource – financial, material and human. To face financial challenge we stress on optimal resource utilization. Recently, we have started a local fund raising initiative with good response. Multi-tasking of our staff and support from various sectors and a strong community relationship has given us the confidence to face the challenges.

10. Looking ten year from now, where do you want to stand?

First of all our focus is to build an international quality eye hospital, which is affordable and accessible to all sections of the society. Very soon we are going to start a paediatric unit. We have trained our doctors and paramedics and have other resources ready for this. Later, we will start all advanced eye care services. After this, our focus will be on research and advocacy about eye health with a post-graduate study centre for ophthalmology and an Eye Bank. We want to be the largest eye care service provider in Orissa. However, in all our activities, community will be at the centre stage.

In addition to YAP, it has placed donation boxes in major locations of the city. The Fund Raising wing of the hospital also appeals the local corporate houses for their support to remove avoidable blindness. These corporate organizations have responded well, as it strengthens their Corporate Social Responsibility programs. The team also approaches different individuals, community based organization like SHG, Business persons etc for support. "Initial Responses to our fund raising appeal has been encouraging. We expect more and more support, especially from business persons and individuals', according to Akshaya Mishra, Team Leader of Fund Raising at KEHRC.

Critical Success Factor

- Comprehensive Eye Care
- Excellent & Equitable Services
- No Charity
- Team Approach
- Community Participation
- Partnership

3.6 Critical Success Factor

A number of successful approaches and models have been developed and implemented to extend eye care services to the community. The approach of KEHRC focuses on comprehensive community eye care services through development organizational capacity and sustainability. Several factors influence the functions of the hospital and effectiveness the services.

The surgeon and the Kalinga Eye Hospital nursing staff keep two operating tables rotating at once (while one patient is having their cataract removed the other patient is being prepared for surgery). The surgery lasts for about 7 minutes, although there is some time required for pre-operative and immediate post-operative care.

Matthew Noble and Erin Law, *International Volunteer*

The distinguishing aspect of the hospital is its ability to strengthen itself as a reliable and competent community eye care institution, with minimum investment, that also in a rented building. . "We are surprised to see that the hospital is providing eye care services to such a huge population with very basic infrastructure", says Shagun Arora, a Student of Medicine from USA and a volunteer at KEHRC. The critical aspects in success of the KEHRC are:

1) Comprehensive Eye Care

KEHRC provides comprehensive eye care to a wider section of the society. Its service encompasses preventive, promotive and curative eye care facilities. The social marketing strategy has been helpful in generating demand for the hospital services. This is evident

from steady rise in number of surgeries. As a primary and secondary eye institution, the hospital is capable of managing 90% of eye diseases. It also reaches the remote areas, where the need and demand for Eye Health services is very high. 'We have developed the hospital as a one-stop solution centre', said Mr. Sunil Kumar Mishra, Hospital Manager.

2) Excellent & Equitable Services:

KEHRC functions with the philosophy of '*eye care for all*'. It maintains all care for excellence in quality of the services, be it clinical or programmatic. For the purpose the hospital has successfully developed basic infrastructure such as equipments and instruments as well as a team of skilled and dedicated service team to provide the contemporary ophthalmic services. Similarly, the hospital removes the physical and monetary constraints that inhibit most of the community members to access eye heath service. Its free service covers most of the needy and poor people in the locality.

3) No Charity

Though the most of the patient access the treatment and surgeries at no cost, the hospital is not a Charitable Hospital. Rather the model is a "Development Model", according to Mr. Sarangadhar Samal, Director. The hospital attempts to become self-supporting through income-generating activities and cross-subsidization of its services. Operating costs are met by the operating revenues from user fees. Local resource mobilization has also helped in mobilizing finance for most of its free services.

4) Team Approach

The biggest achievement of the hospital since inception is development of a team of highly dedicated and technically skilled professionals. Each member plays a complementary role for the other, enhancing efficiency and cost-effectiveness of the system. The motivation level and team spirit of the hospital is excellent. Each member understands the role he/she plays and attempts to perform his work with excellence. The hospital also takes necessary steps for development of technical as well as management skill for the hospital staff. As more than 50% of the service staff are recruited from the community, the care and compassion of the team members is unmatchable.

5) Community Participation

KEHRC enjoys a strong community support at all level. It has developed an excellent rapport with the individuals, community based organizations, clubs, self-help groups and private health centres. They support in the social marketing activities of the hospital.

They sensitize the villagers on eye heath problems and its cure as well as promote the services available at the hospital and its impact. They refer patients to the hospital. Through local fundraising activities the hospital has been successful in attracting contributions from the community in cash and kind.

6) Partnership

Above all, the journey of KEHRC to fight blindness has been enriched and strengthened by active support from several government and non-government organizations. The hospital has excellent relationship with District Blind Control Society (DBCS), which supports the hospital in providing free cataract surgical services to people in rural areas. The hospital has also developed partnership with some of the leading International NGOs, like ORBIS International, Unite for Sight, DIK and others. These INGOs, in line with their organizational objective, has supported in infrastructure development and service delivery by the hospital to the poor and deprived. For capacity building of Human Resources, KEHRC has a linkage with leading Eye Care Training Institutions, such as Lions Aravind Institute for Community Ophthalmology, Madurai, Aditya Jyoth Eye Hospital, Lions NAB eye Hospital, Netra Niramaya Niketan and LV Prasad Eye Institute, Hyderabad.

Chapter 4

Strategic Management

STRATEGIC Management is an important organizational practice that accelerates growth and operational effectiveness of any institution. It focuses on continual planning and implementation of activities and cross-functional management within the organization. The Strategic Management System aligns organisational planning and performance measurement, facilitates an appropriate balance between organizational priorities and resolving "local" problems, and encourages behaviours that are consistent with the values upon which the organization is built. The process of strategic management assists the organization in specifying objectives, developing policies and plans to achieve the same. It also concentrates on optimal utilization of resources. Organization adopting strategic management process watches the environment carefully. Setting performance indicators and periodic measurement and evaluation of the performance is an integral part of the process. Deviations of actual achievements from the pre-set objectives provide learning to the organization and help in improving the strategies.

As eye care institutions face the challenge of organization sustainability and catering free services, the necessity of strategic approach to management is enhanced. For eye care service provider Strategic management to enhance the efficiency requires: human resources management; quality management; and financial sustainability. Most of the models of eye care in India have been successful due to their operational effectiveness and efficiency through prudent management practices.

Kalinga Eye Hospital and Research Centre is successful in adopting strategic management practices to develop its operational capacity and enhance its performance. The principle of strategic management for KEHRC emphasizes on Operational Capacity, Human Resource Management, Quality Management and application of appropriate Technology to provide comprehensive and quality eye health services.

> *"The need for this hospital is great… and from what I have seen so far, the productivity and efficiency of this institution are impressive and the efforts of the Kalinga team is exceptional"*
>
> ***Alyssa Titus***

Though the hospital is a part of NYSASDRI, its management is independent of NYSASDRI board. It has its own management board. This board provides strategic directions and manages strategic level functions of the hospital. The functioning of the hospital is led by the Chief Medical Officer. He is responsible for overall performance of the hospital and operationalisation of the plans and policies as well as realization of organizational objectives. Management of the clinical facilities is headed by the full-time Ophthalmologist. The Hospital Manager is responsible for the non-clinical and administrative activities of the hospital.

4.1 Strategic Goals and Plan: *Road map for future*

Identification and clarification of the strategic goals and objectives is the first step in strategic management process. The success of the organization is a measure of to what extent the goals and objectives are achieved. The goals and objectives specify what an organization aspires to achieve and give a framework for focus and direction of the organization. Strategic operational plan is guided by strategic goals. Hence, a mistake in identifying appropriate goals and objectives may result in overall failure of the institution. The strategic goals and the operational plan to achieve these goals need to be clear to all members of the organization for better impact.

KEHRC's Strategic management process starts with a clear and transparent vision, followed by situational analysis. Like other community cantered eye care institutions, KEHRC has two broad goals: reduction of blindness and sustainability. Strategic objectives are decided after analyzing the magnitude of visual impairments in the locality, gap in service delivery, demand generation, socio-economic profiles of the catchments area and organizational capacity of KEHRC.

Objectives of KEHRC in the Business Plan

- To increase the number of cataract surgeries from 5000 to 7500
- To improve service provision for refractive error to cover at least 30% of the service area
- To provide childhood eye care services in the service area
- To increase the direct walk-in and paying patients for financial self-sufficiency to at least 25% of the total load of patients at the hospital

The hospital has developed a Strategic Business Plan for its Growth and Sustainability. The business plan spells out the objectives for next three years and the catchments area for the hospital. The document, prepared in consultation with eye care management experts, analyses the prevalence of eye disorders in the catchments area and demand

NYSASDRI & KEHRC: *Extension of the vision*

KEHRC was founded by NYSASDRI to achieve the objective of the later – improving the quality of life for people in the region. The foundation of this community eye hospital is based on NYSASDRI's spirits to establish an eye hospital, which will provide free services to the needy, when there was no external support. NYSASDRI's management never interferes in overall functioning of the Hospital. It has given full autonomy to the hospital for its day to day operation, which is managed by independent board.

However, the organization supports its sister concern, as and when required. The hospital is free to use the resources and image of NYSASDRI as well as its network with the community for its operation. NYSASDRI has many completed and on-going community oriented development programs. NYSASDRI integrates KEHRC in all its activities. In fact, the rapport of the hospital with the community has been facilitated by NYSASDRI, in initial days. It has program in areas like Self-Help Group (SHG) promotion, women empowerment, and capacity building of people, disability, education and community health. KEHRC is a part of all its activities. For example, the community organizer in SHG promotion program, generates awareness about eye care and KEHRC in the SHG meetings. In health promotion and service delivery programs, the project workers also focus on eye health and organize eye camps through KEHRC.

Screening Camp being conducted for children of a crech centre run by NYSASDRI

Recently, NYSASDRI has pioneered Public Private Partnership in Primary Health Care of Orissa. It has operationalised two defunct / partially defunct Primary Health Centres (New) – PHCs (N) in two remote villages. These two PHCs (N) provide primary health care service to the rural people, who were denied of the facility earlier. At a later stage NYSASDRI added ophthalmic services to the PHC(N). An eye screening centre has been established with a clinical Ophthalmic Assistant cum Refractionist. People found with visual impairment are referred to the hospital. In the health promotion activities, eye health is also an important subject.

for the services. Segmentation of the market has been done and target market has been identified. Market need with respect to specific eye-disorders such as Cataract, Refractive Errors, Childhood blindness, Diabetic Retinopathy and Glaucoma has been analyzed. A strategic implementation plan has been devised in the business strategy to achieve each of the objectives.

In addition to this, the business plan also analyses the existing competitors in the market. It gives the personnel plan, pricing strategy, promotion strategy and marketing strategy. Local Fund Raising and Financial Sustainability plan has been devised in the document.

Most importantly, the business plan of hospital is clearly understood by each and every staff of the hospital. In fact, the plan was prepared after several consultations with the hospital team members. “Each and every members of our team know where we want to reach and what kind of service we should provide”, says Dr. Rasananda Garanayak, CMO.

4.2 Human Resource Management:

Committed and Satisfied Team

Human Resource Management, skill and competency of staff, commitment and motivation level and employee satisfaction has a direct impact on service delivery of any hospital and patient satisfaction. KEHRC has been able to continually develop and improve its human resource over the years. With its consistent effort, an appropriately trained and skilled, motivated and adaptable human resource that assimilates with and appreciates the organizational mission has been developed. With standard salary, benefits and professional development opportunity the hospital has been successful in attracting and retaining skilled and dedicated workforce. Through the salary provided by the hospital is not at par with other private hospitals / nursing homes, KEHRC is successful in retaining its workforce by paying attention to needs of the staff, creating an environment for participation, excellence and satisfaction. Attrition rate is very low as employees understand the impact of the service they offer.

“Though ORBIS did not specify the target of 5000 cataract surgery during the project period, the hospital team set this as a target for themselves and in fact exceeded it by performing 5006 cataract surgeries. This speaks the volumes for the strength of the staff of KEHRC to function as a productive team and their dedication to the cause,” write Mr. S. Sarvanan & Dr. Rahul Ali of LV Prasad Eye Institute (ICARE), Hyderabad, while evaluating a project funded by ORBIS International.

In fact, dedicated and motivated human resource of the hospital is strength for KEHRC. Only due to their hard work and passion to serve the un-served, the small eye hospital could able to extend high volume and high quality services to the community. On the other hand, KEHRC respects its people as 'service partners' and organizes programs for their empowerment, continuous training and development. It has a personnel policy that covers benefits for each and every staff.

As a community based eye hospital, KEHRC employs people from the locality with standard educational backgrounds. Later on, the hospital arranges specialized training at reputed eye care training institutions, such as LAICO and LVPEI. "This reduces the cost of hiring professionally qualified personnel", says Mr. Sunil Kumar Mishra. It also helps the hospital in overcoming the challenge of human resource shortage in the eye care domains of Orissa. The quality of service by these trained personnel remains at par with that of any other eye hospital in India.

Recently attended Training Programs

- SICS & Pediatric Ophthalmology
- Phaco Emulsificator
- Optometry
- OT Skills
- Project Management
- Counseling

The hospital continuously attempts to enhance employee satisfaction, skill and competency and team spirit. The Staff Members participate in meetings and decision making processes of the hospital. As a small hospital, the hospital enjoys personal relationship with all staff members. Human resource issues are addressed appropriately. Appropriate performance appraisal and reward system has been established; to encourage the staff.

Optimum use of human resource is also a focus for the hospital. Almost all of the staff members are skilled in more than one service area. This helps in overcoming the constraints of limited human resource. In-service skill development training for employees is a major component of KEHRC's human resource strategy.

All the staff members are competent enough in their respective role. The job description is clearly defined and explained to the employees. They are consistently aware about the broad goal and objectives of the hospital. They understand the value of the services offered by KEHRC and hence enjoy their work.

The Quality Management Focus

- Patient's need and expectations
- Systems and processes.
- Technical Competency of Staff
- Equipments / instruments
- Team-Work

4.3 Quality Management:

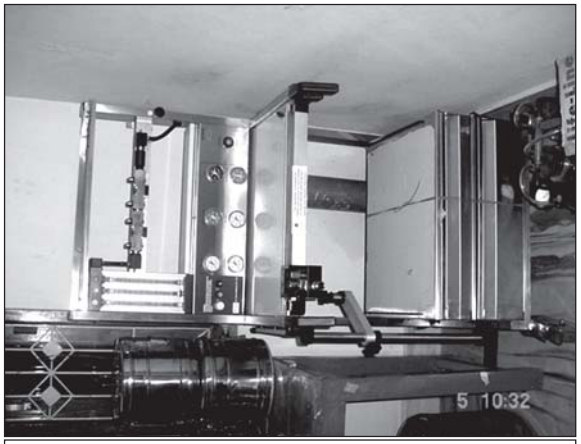
An Organizational Culture

Quality of eye care has become an important factor in demand generation and sustainability of the Hospital. It distinguishes KEHRC from other

service providers. KEHRC focuses on patient cantered care and patient satisfaction to ensure qualitative services - clinical care, education or community outreach.

The Quality management process of KEHRC is guided by the philosophy that delivery of quality of eye care services will enhance patient's satisfaction, which in turn shall encourage more and people to seek eye care treatment from the hospital. "Quality management is a strategy for us to fight blindness", said Dr. Susanta Kumar Jagadala, Surgeon.

The hospital continuously thrives to improve its 'clinical quality' and 'quality service'. Promptness, accuracy, and accessibility of services provided by the hospital are the basic values of quality. Major components of the quality management process in the hospital are:



The Hospital has all the required equipments to provide latest eye care

Technical competency: Modern health care service delivery is incomplete without application of appropriate technology. KEHRC has deployed latest equipments for operational efficiency and quality of care. The Eye Hospital has a team of technically trained and competent persons both in clinical and non-clinical services. These persons are trained in operating and maintaining equipments of the hospital. Besides, the hospital follows standard clinical and non-clinical procedures, in line with the best eye hospitals of India to provide flawless eye surgery and treatment.

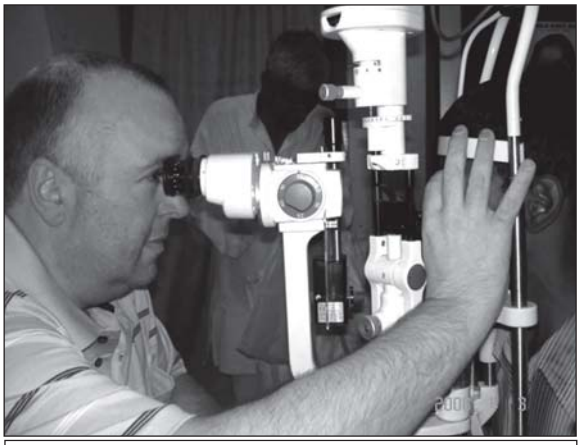
Interpersonal relations: The interpersonal relationship with the patients and hospital staff is unmatched. At the first interaction, a personal rapport is developed. The hospitals attends to need and expectation of each and every patients – direct walk in or from out reach camp – with much compassion and passion. The counselling and psychological support also results higher patient satisfaction.

KEHRC has the advanced equipments for operational efficiency and quality of care.

1. Phaco emulsificaton
2. YAG Laser
3. Auto Refractometer
4. Synoptophore
5. Slit Lamp Microscope
6. Streak Retinoscope
7. Appalation Tonometer
8. Keratometer
9. Operating Microscope
10. A-Scan
11. Indirect Ophthalmoscope
12. Direct Ophthalmoscope

In-house Training on Paediatric Ophthalmology

KEHRC has been striving to develop its human resources to provide paediatric eye care of international quality. As a part of the Continuing Medical Education (CME) Program and with an objective to strengthen the knowledge and skills of the clinical team in the paediatric unit a hospital based in-house training program was conducted from March 31 ~ April 4, 2008.



Dr. William David Newman, pediatric ophthalmologist from Liverpool Children's Hospital, United Kingdom at KEHRC

The training focused on the management of paediatric cataracts. The visiting faculty, Dr. William David Newman, a consultant paediatric ophthalmologist from Liverpool Children's Hospital, Liverpool, United Kingdom conducted the training program.

Dr. William Newman taught two surgeons, Dr. Susanta Kumar Jagadala and Dr. S.H.S. Patra on the up-to-date method of surgical management of cataract cases in the paediatric age group.

The Hospital based training program strengthened the clinical skills and confidence of the ophthalmologists to provide latest paediatric ophthalmology by KEHRC. Dr. Newman also presented a lecture to four Ophthalmologists, ten General Physicians, two paediatricians and eight others on the tools and techniques for identifying ocular problems in paediatric cases.

Efficiency & Effectiveness: The hospital's efficiency is demonstrated in its performance to handle high volume. All the resources are optimally utilized to have maximum productivity and extent necessary care. The hospital also concentrates on high clinical outcome for the diagnosis and surgeries.

Safety & Amenities: The hospital attempts to provide best possible measure for safety and amenities of the patients. Precautions are taken to prevent and minimize the risk of infections, side effects and injury, during and after treatment. With basic infrastructure the hospital also ensures comfort and cleanliness for higher patient satisfaction.

Clinical qualities are maintained by controlling infection, monitoring complications, visual acuity, follow-up, and safe medication. Maintenance is carried out at different levels:

Visual Outcome of the Surgeries performed by KEHRC during 2005-06

Pre and Post operative visual acuity in 5005 eyes undergoing cataract surgery				
Visual Acuity	**Eyes Preoperative**	**Percentage**	**Eyes post-operative after 4 weeks**	**Percentage**
6/6 – 6/18	21	0.4	3332	66.6
6/24 – 6/60	434	8.7	1350	27
Less than 6/60 – 3/60	1060	21.2	179	3.6
Less than 3/60	3490	69.7	144	2.8
Total	5005	100	5005	100

Out Come	
Good (6/6 - 6/18)	66.6%
Borderline (6/24 - 6/60)	27%
Poor (Less than 6/60)	6.4%

Source : Evaluation Report of Project Funded by ORBIS International by Dr. Rahul Ali and Mr. S. Saravanan, LV Prasad Eye Institute (ICARE)

routine maintenance, for example cleaning and dusting; preventive maintenance, for example the schedule of planned maintenance by in-house maintenance staff to prevent breakdowns or the failure of equipment before it actually occurs; scheduled maintenance through contracts with outside specialist agencies; availability of spare parts for equipment. Non-clinical qualities are maintained by effective management system of the hospital.

Quality monitoring is a routine activity and a part of the management process. The management regularly observes the attitude, cleanliness and activities of the eye care service personnel. Patients are encouraged to write their feedback on the quality of the service. The management often consults the visiting patients to check the quality standards and identify areas of improvement.

4.4 Financial Sustainability: *Way to Organizational Sustainability*

Financial Sustainability is an important element of strategic management process and organizational sustainability. It includes efficient management of finance, pricing and cost control and resource mobilization. In view of limited resources, availability for long-term support of eye care service delivery and increased patient's demand, financial sustainability is a major challenge for KEHRC.

The cost and clinical effectiveness of services has been enhanced by optimal utilization of available resources and practice of standardized procedures. According to Mr. Sarangadhar Samal, since the resource generated is limited, emphasis is on control of expenditures. Material cost is controlled through efficient purchase policy, simple inventory techniques, standardization of supplies and equipment, and consumption report correlating to the level of activity. Unnecessary investigations, drugs and therapies are eliminated to save the use of supplies and facilities. Simple and effective procedure has been developed for maintenance of accounts and financial control.

Service Differentiation and Pricing Strategy of KEHRC

In order to target all segment of population Kalinga will adopt the following pricing strategy based on the estimated household monthly income in the population

Population Segment	% of Population	House hold Monthly Income	Cataract Surgery Price	Remarks / Facilities
Poor cannot pay anything	30%	< 500	Free	General ward/restricted visiting hours & attendant
Poor can pay something	30%	500-1600	800-1500	General ward with curtains, etc to show some difference in comfort
Lower middle income	13%	1600-3500	3000	Semi private rooms (6-10 patients sharing one room with attached toilet, etc)
Upper Middle Income	12%	3500-5000	4000	Semi private rooms (2-3 patients sharing one room with attached toilet, etc)
Rich	10%	5000-7000	Market price or 6000	Private room with attached toilet and other facilities (cooler, etc)
Very Rich	5%	>7000	Market price or 8000+	Private room with attached toilet and bed for attendant and other facilities (A/C, etc)

For revenue generation the hospital is dependent on cross subsidization of user fee, local resource mobilization and grant from International NGOs and Government. As a strategic management process, the hospital has set up an optical shop and pharmacy that also contributes to the revenue of the hospital.

As far the way the hospital itself is run, I am quite impressed by what the staff and administration has done in terms of making do with limited resources.

Jake Tulipan,
International Volunteer

In the cross subsidization model user fee is collected from patients who can pay, so that services for those, who can't afford, can be subsidized. The different pricing system for different variety of services helps in cost recovery and revenue generation for the hospital. The multi-tier pricing with service differentiation attracts people of different economic backgrounds. With consistent initiatives of the hospital team, there has been a significant increase in direct walk in patients, major contributor for revenue. Similarly, the current paying surgeries contribute to 15% of the total surgery by the hospital in a month, unlike before - when paying surgeries were less than 5%. Social marketing of its services is an important program of the hospital.

As discussed, the hospital approaches different individuals and organizations in the locality to mobilize financial and material support for its free services. Initial response has been encouraging, as most of the corporate houses and schools have expressed their solidarity

for the cause. In addition, the hospital receives grant from different INGOs and Government. DBCS is an important partner in the growth of the hospital. Other organizations like ORBIS International, Vision Foundation, BASAID, DIK (Germany), Unite for Sight, USA and Pass World has also supported this community eye care centre with Financial and Material resources.

Paying Patients are the major source of revenue generation

THE TREATMENT PACK	
Cataract Services (Inclusive of A-Scan, Keratometry ar	
arges Food and post o	
nth as per requirement	
, Zeiss, AMO,etc)	
ality Multifocal soft Ler	
ality Soft Lens	
y Soft Lens	
rgery (0-15 yr)	
ality Soft Lens	
y Soft Lens	
Cataract Surgery	Imported Standard Quality Hard Lens
Procedure	Indian-USA collaborated Hard Lens
Squint Surgery	Paediatric
	Adult
DCR Surgery	

Chapter 5

International Volunteers

SHAGUN Arora, a student of medicine at Emory in USA wants to become a doctor and pursue career in ophthalmology.

Eva Perbet, a student of languages from France also has a passion to serve people and build career in international health care management.

Both of them are interested to learn the community health management and eye care service at grassroots level. And hence they are volunteers at KEHRC to learn about 'eye care service delivery at people's convenience' with minimum resources.

The role of international volunteers in KEHRC's service delivery approach is exceptional. The hardworking highly motivated and committed international volunteers, primarily from American and European Countries significantly contributed to the delivery of quality service to the community by the hospital. They help in overcoming the human resource challenge and bring newer skill and management practice.

Every month, KEHRC accommodates about 3~4 international volunteers, most of them are students. They come from different backgrounds of education and experience. The profile of volunteers at KEHRC ranges from students of medicine, health management, arts and culture as well as languages to public health professionals, paramedics, educators, opticians, optometrists, ophthalmologists, and others. They stay from 1~4 weeks or more in the hospital. The regular volunteers involve themselves in the day-to-day functions of the hospital. However, the Entrepreneurial **Volunteers** develop their own projects and programs in sync with the hospital's activities. "Most importantly, these young volunteers are willing to live and work in remote areas and involve them selves with the community", according to Mr. Sarangadhar Samal. This motivates the hospital team.

5.1 Role of Volunteers

The volunteers get fully hands-on clinical experience about comprehensive community eye care. After initial orientation and training they assist the paramedics and doctors in

pre-operative care and during operation at the base hospital. They are trained through observational learning.

The paramedics train them on the use of auto-refractometer, and A-scan. Then the volunteer extend these services to the patients from OPD as well as camps. They provide preoperative and postoperative care by checking patient's blood pressure, performing xylocaine sensitivity tests, and dressing for surgery, confirming the effects of the anaesthesia, and bandaging eyes after the surgery. They also watch the surgery processes and help the doctor at operation theatre. This gives the volunteers an enriching experience as they get a chance to interact with the patients and get first-hand skill on the clinical activities. "I've been observing and helping a bit with both. On my first day I simply watched; my biggest contribution was probably the masking tape I procured from my bag for sticking up the eye charts. However, I got to help with nurse duties like blood pressure and IOP measurements, xylocaine tests, eyelash cutting, and helping with the school screenings," writes Alysa Titus, a volunteer at KEHRC in 2006. The best part of the experience was watching the surgeries and learning new things in the lectures, writes *Sandra Boyce Smith.*

What do volunteers do at KEHRC?

- **Clinical Service:** The volunteers get a hand-on experience about clinical activities by assisting ophthalmologist and paramedics of the hospital, out-reach camps, and school education programs
- **Outreach Programs:** The volunteers accompany the doctors and out-reach program team to facilitate the out-reach activities of the hospital.
- **Fund-Raising:** The volunteers help in mobilizing resources for KEHRC, so that free service can be provided to the needy.
- **Management:** The volunteers help in strategic planning and administrative functions of the hospital.
- **Exchange of Learning:** The volunteers build capacity of the hospital staff and also learn from them through mutual exchange of knowledge and experience.

However, the most exciting experience for the volunteers is outreach camps. This gives them an opportunity to visit the remote parts of Orissa and understand the healthcare service at community level. In their experience note most of the volunteers has written about this as the most stimulating activities for them. Here they travel for 2~4 hours along with the outreach team and extend their support to the team and people. They basically, perform the role of paramedics at the out-reach camps. After the doctor confirms

that the patient has cataract, the volunteer help the staff in test of lOP, and BP Check-up, injecting patients with Xylocaine and giving them Xylocaine drops. Volunteers also help in dispensing medicines and glasses to villagers after they had been seen by the ophthalmic nurse. Their excitement and passion to serve for people is unmatched. They try to involve in all the activities during the camp, as they can hardly have similar exposure to associate with the people, back home. Some of the volunteers visit the village and speak to people about their general health problems and attitudes. "They take all pain and hardship to help people and relieve our workload. During the journey they tell us about their experience of home and their home country", said Mr. Narottama Behera, Outreach Program Manager. The volunteers also participate in school screening programs and training programs for different groups. They develop innovative training and eye care educational tools to facilitate their work. And at later stage it helps the hospital staff.

"The hospital experience has been eye-opening. It's impressively efficient from diagnosis all the way up to surgery"

Alyssa Titus

Within the hospital itself we made ourselves useful during surgery, Matt as an assistant OT nurse and Erin in a pre-op/post-op patient preparation/ care role (although we did swap roles occasionally). The training we undertook to take on these roles was mainly observational learning; we found that most tasks were easy to pick up, with the staff of the hospital being very happy to teach and monitor our work.

Matthew Noble and Erin Law

In addition to the service in clinical activities and outreach camps, they also support the hospital in management and administration as well as fund-raising. They assist in patient record, help in front office and development of Management Information System. Some of them also conduct research activities, to fulfil their academic requirement. "One of the volunteer from management background had made a market analysis and suggested the marketing strategy for the hospital," informed Mr. Sunil Kumar Mishra, Hospital Manager. They also help in writing and editing of the newsletter of the hospital.

A Volunteer Serving food to the patients at the hospital

They not only serve people with their time and money, they also mobilize resources – financial and materials – for people. Most of them mobilize fund from their friends and relatives in their home countries, before coming to the hospital for volunteering. They donate the same to the hospital for free surgery of the poor and needy. Most of them donate eye glasses and sunglasses to the patients free of cost. Even after completion of the volunteering and experiencing the services of the hospital and need of the community, the volunteers mobilize financial and other resources for the hospital in their home countries and send them to the hospital.

> *All of the surgeries I watched were ones that were funded by my donations. So it was incredible to watch my efforts and see the direct result.*
>
> ***Claire J. Anderson***

5.2 An Unforgettable Experience

During the volunteering, most of the volunteers associate with the patients and share their problems and concern. Like the staff of the hospital, they also try to build the rapport with the people. They chat with the patients, play with them and help to make them comfortable at the hospital. In most cases, language becomes the barrier, however, it does not inhibit the volunteers to develop bond with the patients. They get blessings of the old persons, for who eye surgery is a distance dream. "Learning more about medicine while assisting and bonding with patients has been great fun, and was exactly what I was hoping this summer experience would be," writes Bianca Calderon.

The hospital provides basic food and accommodation to its volunteers. They stay along with the lady staff of the hospital. They are given standard facilities and food of Indian standard. The hospital staffs extend all cooperation and support to make the volunteers

> *The accommodations were better than I expected. The paramedics, who were the female staff, made a daily effort to be helpful and include the volunteers in various activities.*
>
> ***Sandra Boyce Smith***

comfortable. They befriend with the volunteers and even take them to local celebrations and functions. They teach them about various activities of patient care and clinical services and try to associate them in all the functions, depending upon their interest.

The major problems faced by the volunteers are difference of language, cultural gap and most importantly transition from an urban life to a rural life. The adjustment is a bit difficult for most of the volunteers. First one week becomes difficult, agree most of the volunteers. However, the things become simple once the hospital staffs develop friendship with them and they involve themselves in the hospital's activities. The hospital understands this and hence has a planned orientation program for the volunteers. After the arrival of the volunteer, the hospital organizes an orientation program, in which they are informed about the culture, language, basic etiquette, manner etc to make their stay easy. They are told to make their own schedule, after knowing the functions of the hospital. They also learn few commonly used Oriya words, from the paramedics. One of the volunteers Jake Tulipan writes, "I spent my first week here learning my way around the hospital and the eye camps. I would watch doctors in the out-patient department, and, in addition to learning about some basic eye diseases, watched the nurses perform vision exams, keratometer, ultrasound eye scanning,

The staff was also very concerned with making sure that we understood everything that was going on and that we felt involved.

Nicole Green

I want to thank every member of the staff of Kalinga Eye Hospital for their great hospitality, their constant preoccupation of our well being and eagerness to answer my professional questions.

I have met great people who have taught me a little bit of their culture. Without them, I would have never been able to eat properly with my hands!!!

Francine Labrie

It seemed like I was beginning to get a hang of the camp routine, and I actually felt useful giving patients injections, putting drops in eyes, organizing pre-prep and post-prep patients, and handing out glasses. It was hot and I was exhausted by the end of each camp, but strangely it was this same feeling of exhaustion that made me feel like we had accomplished our goal.

- Micah Hahn

Handing out glasses was also rewarding; seeing the satisfied faces of the patients that receive their eye glasses felt amazing.

- Jessie Kang

and refraction. By the end of that first week, the nurses would let me perform some of the procedures myself." The hospital staffs accompany the volunteers, whenever they come to public and act a translator, when they interact with local people.

Another Volunteer conducting vision test at KEHRC

Interested volunteers visit the local tourist places and the picturesque campus of NYSASDRI. They are also welcomed by other development programs by NYSASDRI, like the educational complex for tribal girls at Muniguda, primary hospital under Public Private Partnership program, micro-finance and women empowerment programs etc.

The degree of pathology seen in the eye camps I attended was astonishing and NYSASDRI's strive towards achieving its goal through provision of much needed healthcare services to these underprivileged so that they could enhance their lives immensely is rather invaluable.

Rajeshvar Kumar Sharda, M.D.,
International Volunteer

5.3 Impact of Volunteers

The volunteers have strengthened the hospital's efficiency and effectiveness in many aspects. They train the hospital staff on better hygiene and sanitation. The volunteer ophthalmologist trains the doctors and paramedics on advanced eye care system. They bring experience, commitment and resources (funds, medicines and glasses), which enhances improved coverage of services in the locality, improved motivation and capacity building of KEHRC staff. The influence of the volunteers on overall growth and operation of KEHRC can be summarized as:

- Innovations: They bring new knowledge and experience and help in designing innovative programs for the hospital;
- Capacity Building: They transfer their technical skills to the hospital staff, while volunteering through on-the-job training and teaching;

NYSASDRI has done a great job by creating such an outstanding facility. KEHRC does a phenomenal work in treating both outdoor patients, as well as indoor (meaning those who undergo surgery). Jessie and I have had a chance to attend all of the programs the hospital offers, the main one being its outreach programs. The outreach programs consist of a fully equipped vehicle (staff members, equipment, and food) travelling to very remote areas in the region and screening patients for any eye disease they may have. If the situation applies, the patients are transported back to the hospital and undergo surgery, free of cost. The majority of the patients who came back are elders, but it is amazing to see how determined they are to undergo surgery in order to see again.

'I leave a piece of my heart behind'

Cristina Valencia

VOLUNTEER'S DIARY

KEHRC has an outstanding staff; they are prepared to handle any type of situation. About a week ago a gentleman came in with half of his face cut open and all of his skin peeled off his face. The staff immediately attended him. However it being an eye clinic they were not able to cure him. The doctors are amazing people they dedicate their lives to help the poor. I remember having a talk with Dr. Patra (who I must say is an amazing human being, and the best doctor the hospital has) he told me that after all the studying he had done, he could easily go abroad an make thousands of dollars. However, money for him was not an issue as there was no greater satisfaction in his life than making the poor happy, as well as helping those in need.

Jessie and I also had the chance to attend a school screening, in which small children from the region are checked. I must say this has been by far the best experience of all, as the children were quite amused to see strange looking faces (ours) in their school. However, this did not stop them from being as friendly as they possibly could. They would just smile at us and push each other to get in front of the cameras.

Finally, I would like to mention the biggest project Jessie and I took place in, this was the negotiation with POSCO to fund the hospital. POSCO is the third largest steel industry in the world, and now they have expanded their grounds and are creating the biggest steel plant of the world in Jagatsinghpur. One of KEHRC outreach programs is in Jagatsinghpur, so they have had contacts with POSCO in order to fund and pay for the surgeries of those people in that region. Jessie and I got to meet with the head of POSCO, we presented the proposals as well as our personal experience with the hospital, the final decision has not been made yet, and hopefully Sarang will notify us, whether or not POSCO will be helping KEHRC.

I would like to end this by thanking you (Sarangadhar Samal & Jennifer Staple) for making this experience possible for me. Every time I finish a volunteer program I analyze all that I did and the people who I impacted, however the one thing that is always true about my experiences is that I leave a piece of my heart behind, I have made true friendships here the kind that cannot even be broken with distance. I know I shall never forget the people of KEHRC as they have opened my eyes into a world which surpasses anything I have ever experienced.

- Resources Mobilization: They bring financial and material resources, which enable the hospital to cover more number of people.
- Improved efficiency: With their advanced management practices, they enhance the efficiency of the hospital team.
- International Relationship: They act as brand ambassador for KEHRC and help in resource mobilization and international linkage

According to Mr. Sarangadhar Samal, 'we are very thankful to the volunteers for their growing interest in KEHRC and their valuable contribution. Their contribution is beyond the service delivery and we seen them as an expression of international solidarity for eye care in Orissa and VISION 2020.

Chapter 6

Conclusion

"BOITA Behera is a 75 year widow from Baragadia in Jajpur district. Her one eye was defunct and other eye had cataract. She was completely defunct and was cursing her fate. Her son was a daily wage worker and the family had no land. Boita had lost hope on life. Though the visual problem is a natural disease due to old age, none of his family member ever bothered to consult the doctor. She was identified by KEHRC in an Outreach Camp and was brought back to hospital and cataract surgery was performed in her eye. Within few days she could see the world".

Krushna Chandra Naik, an 11 years old boy from Mangalpur village of Dhenkanal district belongs to a below the poverty line (BPL) and Scheduled Caste family. When Krushna was of six years old and started going to school, his parent found some white spots in both of his eyes. However, they had a little knowledge that one day this white spot could lead to visual impairment of their child. Day by day Krushna was loosing his eye sight. And finally he stopped studying and confined himself to isolation. What else a child with very poor eye sight can do?

Fortunately, KEHRC outreach team spotted cataract in his eyes and performed cataract surgery free of cost. Eye sight was restored and he restarted education and life.

Boita and Krushna are the few persons, whose quality life was changed by KEHRC's effort to eradicate avoidable blindness in the area. These two persons could hardly able to buy eye health services from places like Cuttack or Bhubaneswar or any private hospital. There are many people like Boita and Krushna, who struggling with various types of visual impairments, but are unable to access and afford eye care.

Spearheading the revolution of providing quality eye health services to the poor and disadvantaged, Kalinga Eye Hospital and Research Centre has established itself as one of the leading eye care institution in Orissa. Its community oriented approach has been successful in taking the hospital to the bottom of the pyramid and contributed towards overall growth and success.

The success of the hospital can attributed to two important aspects of its management. First being its focus on providing quality eye care, accessible and affordable to the community through outreach camps. And the second one is its continuous drive for building its own capacity. The capacity building is not only in the ways of infrastructure development but also it has developed its human resource to meet the growing need of the community.

Ramu resumed school…

Once, the outreach camp team was in a small village in Atthamallick, Angul district, being invited by the villager leader, an innocent boy aged about 13 entertained the team members with devotional songs.

However, the Ophthalmologist in the team called him and made him sit in his lap. He talked to him. The boy touched the doctor and asked- *Apana kemiti dekhibaku*? (How do you look like?). The entire team was shocked to know that this cute little boy had lost his vision.

He had stopped going to school, had not played with his friends and not clapped his hands seeing the plane flying over his head. His uncle, who was a Rickshaw puller narrated that when the boy was 12 yrs, he got affected by eye problems without any symptoms and pain. He was loosing his vision day by day and was taken to a village quack, without any result. His uncle had no enough money for his treatment in a Eye hospital. As a result Ramu was completely blind.

But his eye sight could have been restored earlier, had he got the timely and proper treatment.

Still the doctors did not loss hope. A surgery was required to restore his eyesight. The Village leader and many other kind persons came forward to bear the cost of medicines and lens.

This little boy, Ramu got back his sight again. He started going to school, playing with children and smiling...

As a Community Eye Hospital, services of KEHRC extend from the patient-based traditional clinical practice of ophthalmology to the promotion and facilitation of eye health


Changing Lives: Babita before the surgery (Left) & After the Surgery (Right)

for the entire community in the region. "Our biggest strength is the community with whom we are working," says Mr. Sarangadhar Samal.

6.1 High Volume with High Quality

While the national average surgery per ophthalmologist is only 500, at KEHRC each ophthalmologist performs 2500 surgeries per year. This demonstrates the commitment and capacity of the eye hospital to handle high volume. However, 'with volume the hospital does not compromise on quality', says to Dr. Susanta Kumar Jagadala, Surgeon. The quality of visual outcome is most important consideration. As the hospital conducts only IOL surgery, the visual outcome of patients is very good.

I was amazed to see Dr Susanta Kumar Jagadala operated on 17 cataract patients during the day taking an average 11 to 14 minutes for an operation.

***Claire J. Anderson**, International Volunteer*

According to Mr. Sarangadhar Samal, "We have to handle high volume of surgery, especially cataract, because there is a huge backlog in the region, which is increasing every year." Considering the eye health infrastructure in the region and affordability and accessibility of people, his statement is quite pertinent. Higher demand for the services also enables the hospital for high volume achievement.

6.2 Way forward

There is no question that visual impairments impact on the lives of many people in Orissa. In order to reduce the incidence of vision loss and prevent avoidable blindness strategic interventions, which enables the community to access the services at an affordable cost is imperative. It is also important to reduce the impact of vision loss through the provision

of quality services which maximizes the use of remaining vision, for those who have some useful remaining vision, and through the vision substitution services for those who have no remaining useful vision. For this contribution of eye hospitals like KEHRC through its community bases approach is undoubtedly vital.

A hospital founded on the vision of NYSASDRI and with enterprising spirit of Mr. Sarangadhar Samal, KEHRC is now not just an Eye Hospital, it has become a leading player in the eye care domain of Orissa with its community oriented, comprehensive high quality eye care services at low cost. Over the years the hospital has significantly strengthened its capacity to provide specialty eye care services. The hospital has the latest technology, good number of ophthalmologists and paramedics, good system of management, and strong networking among the community as well as organizations, who share similar vision. It is all set to add sub-specialty eye care ophthalmic services such as such as retina, cornea, glaucoma, very shortly. Now, KEHRC is capable of proving higher volume of service with high quality at an affordable cost to achieve the vision of eliminating unnecessary blindness by 2020.

Appendix 1

Appendix 1 : Performance of KEHRC (2003-2007)						
Activities	2007	2006	2005	2004	2003	Total
OPD -Base Hospital	14,314	13,650	12,691	11,694	10,173	62,522
Paediatric at Base Hospital	2197	2383				4580
No.of School Children Screened	17,577	5303	15,581	6520		44,981
No.of Children Referred	640	502				1142
No. of Schools covered	104	52	137	45		338
Camp Held	177	169	189	119	92	746
Camp OPD	14,381	12,917	15,330	7886	7746	58,260
Paying Surgeries	343	271	339	385	289	1627
Camp Surgeries	3717	4156	3861	1176	553	13,463
Total Surgery	4060	4427	4200	1561	842	15,090
Refraction at Base Hosp	6734	4739	2793			14,266
Free Glass Distribution	144	132				276
School Teachers Trained	122	42	70			234
Doctors Trained	38	17	10			65
Hospital Staff Trained	6	4	2			12

Appendix 2

WORLD HEALTH ASSEMBLY RESOLUTION WHA 56.26
Elimination of avoidable blindness

The Fifty-sixth World Health Assembly,

Having considered the report on elimination of avoidable blindness;

Recalling resolutions WHA22.29, WHA25.55 and WHA28.54 on prevention of blindness, WHA45.10 on disability prevention and rehabilitation, and WHA51.11 on the global elimination of blinding trachoma;

Recognizing that 45 million people in the world today are blind and that a further 135 million people are visually impaired;

Acknowledging that 90% of the world's blind and visually impaired people live in the poorest countries of the world;

Noting the significant economic impact of this situation on both communities and countries;

Aware that most of the causes of blindness are avoidable and that the treatments available are among the most successful and cost-effective of all health interventions;

Recalling that, in order to tackle avoidable blindness and avoid further increase in numbers of blind and visually impaired people, the Global Initiative for the Elimination of Avoidable Blindness, known as Vision 2020 – the Right to Sight, was launched in 1999 to eliminate avoidable blindness;

Appreciating the efforts made by Member States in recent years to prevent avoidable blindness, but mindful of the need for further action,

1. URGES Member States:

(1) to commit themselves to supporting the Global Initiative for the Elimination of Avoidable Blindness by setting up, not later than 2005, a national Vision 2020 plan, in partnership with WHO and in collaboration with nongovernmental organizations and the private sector;

(2) to establish a national coordinating committee for Vision 2020, or a national blindness prevention committee, which may include representative(s) from consumer or patient groups, to help develop and implement the plan;
(3) to commence implementation of such plans by 2007 at the latest;
(4) to include in such plans effective information systems with standardized indicators and periodic monitoring and evaluation, with the aim of showing a reduction in the magnitude of avoidable blindness by 2010;
(5) to support the mobilization of resources for eliminating avoidable blindness;

2. REQUESTS the Director-General:

(1) to maintain and strengthen WHO's collaboration with Member States and the partners of the Global Initiative for the Elimination of Avoidable Blindness;
(2) to ensure coordination of the implementation of the Global Initiative, in particular by setting up a monitoring committee grouping all those involved, including representatives of Member States;
(3) to provide support for strengthening national capability, especially through development of human resources, to coordinate, assess and prevent avoidable blindness;
(4) to document, from countries with successful blindness prevention programmes, good practices and blindness prevention systems or models that could be modified or applied in other developing countries;
(5) to report to the Fifty-ninth World Health Assembly on the progress of the Global Initiative.

Tenth plenary meeting, 28 May 2003
A56/VR/10

Appendix 3

WORLD HEALTH ASSEMBLY

RESOLUTION WHA 59.25

Prevention of avoidable blindness and visual impairment

The Fifty-ninth World Health Assembly,

Having considered the report on prevention of avoidable blindness and visual impairment;

Recognizing that more than 161 million people worldwide are visually impaired, of whom 37 million are blind, and that an estimated 75% of blindness is avoidable or curable using established and affordable technologies;

Recalling resolution WHA56.26 on the elimination of avoidable blindness;

Noting that many Member States have committed themselves to providing support for the Global Initiative for the Elimination of Avoidable Blindness, known as Vision 2020 – the Right to Sight;

Noting with concern that only 32% of targeted countries had drafted a national Vision 2020 plan by August 2005;

Acknowledging the links between poverty and blindness, and that blindness places a heavy economic burden on families, communities and countries, particularly developing countries;

Further acknowledging that control of both onchocerciasis and trachoma has come about through the commitment of broad international alliances;

Welcoming the important actions undertaken at regional, subregional and international levels by Member States with a view to achieving substantial progress in the elimination of avoidable blindness through greater international cooperation and solidarity,

1. URGES Member States:

(1) to reinforce efforts to set up national Vision 2020 plans as called for in resolution WHA56.26;

(2) to provide support for Vision 2020 plans by mobilizing domestic funding;

(3) to include prevention of avoidable blindness and visual impairment in national development plans and goals;

(4) to advance the integration of prevention of avoidable blindness and visual impairment in primary health care and in existing health plans and programmes at regional and national levels;

(5) to encourage partnerships between the public sector, nongovernmental organizations, the private sector, civil society and communities in programmes and activities for prevention of blindness at all levels;

(6) to develop and strengthen eye-care services and integrate them in the existing health-care system at all levels, including the training and re-training of health workers in visual health;

(7) to promote and provide improved access to health services both with regard to prevention as well as treatment for ocular conditions;

(8) to encourage integration, cooperation and solidarity between countries in the areas of prevention and care for blindness and visual impairment;

(9) to make available within health systems essential medicines and medical supplies needed for eye care;

2. REQUESTS the Director-General:

(1) to give priority to prevention of avoidable blindness and visual impairment, and to provide necessary technical support to Member States;

(2) to provide support to collaboration among countries for prevention of avoidable blindness and visual impairment in particular in the area of training of all categories of relevant staff;

(3) to monitor progress in the Global Initiative for the Elimination of Avoidable Blindness in collaboration with international partners, and to report to the Executive Board every three years;

(4) to ensure that prevention of blindness and visual impairment are included in the implementation and monitoring of WHO's Eleventh General Programme of Work, and to strengthen global, regional and national activities for prevention of blindness;

(5) to add prevention of blindness and visual impairment to WHO's medium-term strategic plan 2008-2013 and proposed programme budget 2008-2009 which are currently in preparation;

(6) to strengthen cooperation through regional, subregional and international efforts with the view to achieving the goals set out in this resolution.

(Ninth plenary meeting, 27 May 2006 – Committee A, sixth report)

Appendix 4

Cataract Surgery Market - Orissa, India

Estimation of Blindness - Number of Persons:			**Rate**
Population	36,706,920	Persons	
Prevalence of blindness total population	513,897	Persons	1.40%
Proportion of blindness in ≥ 50 years age group	462,507	Persons	90.00%
Proportion of blindness in 16 - 50 years age group	41,112	Persons	8.00%
Proportion of blindness in ≤ 15 years age group	10,278	Persons	2.00%
Estimation of Blindness - Number of Eyes:			
Number of bilateral blind eyes in the ≥ 50 age group	925,014	Eyes	
Number of unilateral blind persons (eyes) (age>50 years)	693,761	Eyes	150.00%
Estimate of Blind eyes in the above ≥ 50 years age group	1,618,775	Eyes	
Estimate of Blind Eyes in the 15 - 50 age group	143,891	Eyes	350.00%
Estimate of Blind Eyes in the ≤ 15 years age group	35,973	Eyes	350.00%
Estimation of Cataract Blind Eyes (Backlog)			
Estimate of Cataract Blind eyes in the ≥ 50 years age group	971,265	Eyes	60.00%
Estimate of Cataract Blind Eyes in the 15-50 age group	21,584	Eyes	15.00%
Estimate of Cataract Blind Eyes in the ≤ 15 years age group	3,597	Eyes	10.00%
Total existing Cataract Blind Eyes	996,446	Eyes	
Estimation of Cataract Burden = Number of eyes (operated + Backlog)			
Cataract Surgical Coverage			42.00%
Total existing Cataract Blind Eyes - same as Step 14 (Represents unoperated eyes)	996,446	Eyes	58.00%
Number of eyes operated for cataract (using the surgical coverage)	721,564	Eyes	
Total Eyes affected by Cataract (Cataract Burden)	1,718,010	Eyes	
Estimation of Annual Cataract Market:			
Estimated number of years of accumulation of eyes affected by cataract			5
Estimated Annual incidence of cataract (Target CSR)	343,602	Eyes	
Current number of surgeries done by all providers	86,386	Eyes	
Unmet need (potential demand)	257,216	Eyes	
Estimated Revenue:	**%**	**Unit (Rs) charges**	**US$**
Free Patients (Subsidized)	60%	700	15
Middle Class (Actual charges ++)	30%	2000	42
Upper class (Actual + more charges)	10%	5000	104
Estimated Revenue from cataract surgery per Million population:		522,275,171	10,880,733
Estimated Revenue per cataract surgery		1,520	32

Appendix 5

ESTIMATION OF CATARACT SURGICAL LOAD			
Parameters	Norm	Calculate	Number
Total Population of identified service area			5816842
% Population 50+ years	13.70%	13.70	
Actual Population 50+	50000		796907
Prevalence of Blindness+ SVI (<6/60) 50+	8.50%	10.8	
No. of Bilaterally Blind Persons 50+			86066
% of Bilateral Blindness due to Cataract	62%	53.2	
No. of Bilaterally Blind due to Cataract			45787
No. of Bilateral Blind Cataract Eyes			80127
Prevalence of low vision (< 6/18-6/60)	24%	27.3	
No. of persons with bilateral low vision among 50+			217556
% of Low Vision due to Cataract	25%	25	
No. of Bilateral Low Vision due to Cataract			54389
No. of Bilateral Low Vision Cataract Eyes			81583
Prevalence of one eye blindness (< 6/60 in worse eye)	5%	3.4	
No. of persons with one eye blindness among 50+			27095
% of one eye blindness due to Cataract	45%	45	
No. of one eye blindness due to Cataract			12193
No. of One Eye Cataract Blind Eyes			12193
Prevalence of Blindness 50+	5%	5	
No. of 50+ Blind			39845
% 50+ Blind due to Cataract	60%	60	
No. of 50+ Cataract Blind			23907
Annual Incidence (new cataract blind cases) expected each year	20% Blind	20	4781
No. of new operable cataract blind eyes			8368
TOTAL CATARACT SURGICAL EYES LOAD IN SERVICE AREA			182271
FEASIBLE CATARACT LOAD IN A YEAR			43148
MINIMUM NEEDED CATOPS TO ELIMINATE BLINDNESS			69694

Appendix 6

ESTIMATION OF REFRACTION LOAD			
NEEDS ASSESSMENT		**Calculation**	**Number**
PARAMETER			
Total Population			**5816842**
% Population 5-9 yrs	12.50%	12.5	
Population 5-9yrs			727105.25
% Population 10-15 yrs	14%	14	
Population 10-15 yrs			814357.88
% Population 0-4 years	10.80%	10.8	
No. of children aged 0-4 years			628218.936
% Population 16-44 y	44%	44	
Total Population aged 16-44 y			2559410.48
% Population aged 45+	18%	18	
Total Population aged 45+yrs			1047031.56
Prevalence of RE 5-9 yrs (< 6/12)	3%	3	
No. of 5 - 9 yrs children with RE			21813.1575
% of school enrolment	80%	75	
No. of children in primary schools			16359.86813
Prevalence of RE 10-15 yrs (< 6/12)	6%	6	
No. of 10-15 yrs children with RE			48861.4728
Secondary school enrolment rate(% 10-15 in school)	50%	40	
No. of children in secondary schools			19544.58912
Prevalence of RE 16-45 yrs	10%	10	
No. of 16-45 yr old persons with RE			255941.048
Prevalence of RE 45+ yrs	30%	30	
No. of people aged 45 yrs with RE			314109.468
Prevalence of Presbyopia among 45+	75%	75	
No. of 45+ with presbyopia			785273.67
Difference in refraction load in 45+ due to presbyopia			471164.202
Replacement of spectacles in children	every year	1	
Spectacles required per year in children			**70674.6303**
Replacement of spectacles among 16-44 y	every 2 yrs	2	
Spectacles required per year in 16-44 y			**127970.524**
Replacement of spectacles among 45+	every 3 yrs	3	
Spectacles required per year in 45+ y			**259140.3111**

ESTIMATION OF REFRACTION LOAD			
NEEDS ASSESSMENT		**Calculation**	**Number**
PARAMETER	**NORM**		
Spectacle coverage in children	10%	10	
Unmet need for RE correction in children	90%	90	
No. of children with unmet need in 10-15 y			**43975.32552**
Spectacle coverage in adults	25%	25	
Unmet need for RE correction in adults	75%	75	
No. of adults with unmet need			**1134284.19**
%. of presbyopes who can be covered by CW/CV	70%	70	
No. of presbyopes who can be covered by CW/CV			549691.569
No.of refractions needed in catchments population			**457785.4654**
Prevalence of Low Vision	25%	25	1454210.5
No. with low vision in catchments area			1454210.5
No. needing low vision devices	10% of LV	10	145421.05

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