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A comparison of static and mobile facilities for primary eye care & refractive error services

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Introduction

The Vision Centre, catering to a population of 50,000, is envisaged as a sustainable primary eye care model at the community level. The main functions of the Vision Centre include recognition of eye problems, refraction and optical services and referral to the networked secondary and tertiary eye care facilities where comprehensive eye care is provided. The vision centres would be manned by a locally identified and trained person from the community, and in the long term could become sustainable. The Vision Centre concept has also been accepted as a viable model under "VISION 2020: The Right to Sight" global initiative and in the Plan of Action of the National Program for Control of Blindness in India.¹ It is proposed to set up 20,000 Vision Centres by the year 2020 as per the plan of action in India.²

The vision centre concept is based on the idea of a sustainable, static semi-permanent to a permanent eye care facility as close to the community as possible with their full participation, Drashti Netralaya, on the other hand, piloted the concept of a mobile facility that would provide predominantly refraction & referral services and carry out information, education and communication activities that could serve as an alternative to a static facility in those remote underserved areas till a sustainable model can be put in place.

This article looks at the utility of a mobile facility versus a fixed facility for providing primary level eye care services at the community level in difficult areas.

Methods

Before establishing the mobile facility, Drashti Netralaya started a static Vision Center in Zalod, a tribal block of Dahod District in September 2002. This Vision Center provides basic eye care service to people of Zalod and surrounding villages. The mobile facility was thought of because of the coverage and utilization of eye care services in the areas. 78% of the population in the project catchment area, primarily tribal, lives in inaccessible rural areas without even basic facilities. People tend to ignore

eye problems because it is not possible for them to travel to access treatment. Due to lack of proper information and education, timely intervention does not happen, thus often resulting in irreversible vision loss.

The mobile facility was designed to cover a population of 4 million people in 3 districts of 3 states: Dahod (Gujarat), Banswada (Rajasthan) and Jhabua (Madhya Pradesh). These three border districts are clearly underserved and lack good eye care facilities. Dahod, Jhabua and Banswada are dominated by the Bhil tribe, with the population residing mainly in rural areas. Medical facilities are available only at the District Headquarters. The literacy rate in the region is 45.65%, and among the scheduled tribes it is 18%. About 29.9% of the population lives below the poverty line.

Why a Mobile Facility?

Since the fixed vision centre service was accessible to a limited area only, it could not provide eye care services to the whole rural population of Dahod District. Therefore, in view of the following factors, a mobile refraction facility was planned:

- Larger coverage area that would allow to extend eye care services to the larger population
- Forthcoming community support and participation
- Reaching the patient rather than waiting for the patient



Interior of the mobile clinic

Results

The following analysis compares the mobile and static facilities for the period of 7 months in terms of: ● Establishment expenditure; ● Recurring expenditure; ● Work output; ● Income generation

Static versus Mobile Refraction Facility (January to July 2005)

Particulars	Static Facility	Mobile Facility
Establishment Expenditure	US \$ 10659.6 (Rs.501,000)	US \$ 28206.7 (Rs.1,325,713)
Recurring Expenditure	US \$ 642.4 (Rs.30,194)	US \$ 1721.4 (Rs.80,904)
Equipment	<ul style="list-style-type: none"> ● Auto Refractometer ● Ophthalmic Chair Unit ● Slit Lamp Biomicroscope ● Keratometer ● Indirect ophthalmoscope ● Direct Ophthalmoscope ● Retinoscope ● Trial set with trial frame ● Remote control vision drum ● Lensometer 	<ul style="list-style-type: none"> ● Auto Refractometer ● Ophthalmic Chair Unit ● Slit Lamp Biomicroscope ● Keratometer ● Indirect ophthalmoscope ● Direct Ophthalmoscope ● Retinoscope ● Trial set with trial frame ● Remote control vision drum ● Lensometer ● Constant Power Supply
Human Resources	<p>One technician- looking after the Clinical aspects</p> <p>Support staff- Support and optical shop management</p>	<p>One technician- looking after Clinical aspects</p> <p>2 Support staff- Support and optical shop management</p> <p>Driver</p>
Activities	<ul style="list-style-type: none"> ● Works five days a week ● Provides primary eye care services 	<ul style="list-style-type: none"> ● Monthly mobile visits each month at block level <p>PRE VISIT ACTIVITY:</p> <ul style="list-style-type: none"> ● Formation of local working committee. ● Planning : No. of visits, date, location, identification of sponsors. ● Production and distribution of handbills and other communication materials
Community Support	<ul style="list-style-type: none"> ● Formation of a village level committee at the working place. 	<ul style="list-style-type: none"> ● Formation of village level committee at each place visited by the mobile unit ● Involving local NGOs, various youth clubs, village panchayat and village leaders for better community support
Types of services	<ul style="list-style-type: none"> ● Screening ● Refraction and prescription of glasses ● Referral to base hospital ● Scheduling for surgical cases ● Primary eye care and treatment ● Diagnostic camps at regular intervals 	<ul style="list-style-type: none"> ● Screening ● Refraction and prescription of glasses ● Referral to base hospital ● Scheduling for surgical cases ● Primary eye treatment ● In case of emergency, the patient is referred on the same day and brought in by the mobile unit

Work output: January to July 05 OPD Performance: Static & Mobile

Parameter	Static Facility	Mobile Facility
OPD	352	3739
Surgery performed	50	114
Representation in total OPD of 34,345 patients at base hospital	1.03%	10.88%

Capital and running costs (US \$ 1= Rs. 47)

Parameters	Static facility	Mobile facility
Capital expenditure	US \$ 10659.6 (Rs.501,000)	US \$ 28206.7 (Rs.1,325,713)
Recurring expenditure	US \$ 642.4 (Rs.30,194)	US \$ 1721.4 (Rs.80,904)
Total expenditure	US \$ 11302 (Rs.531,194)	US \$ 29928 (Rs.1,406,617)
Monthly average recurring expenditure	US \$ 91.8 (Rs.4313)	US \$ 245.9 (Rs.11557.71)

Income		
Particulars	Static facility	Mobile facility
Consulting charge/patient	US \$ 0.64 (Rs.30)	US \$ 0.21 (Rs.10)
Income generated	US \$ 141.7 (Rs.6,660)	US \$ 840.53 (Rs.39,505)
Average Monthly Income	US \$ 20.23 (Rs.951)	US \$ 120.09 (Rs.5,644)

Average cost of service Recurring expenditure per patient		
Particulars	Static facility	Mobile facility
Total recurring Expenditure	US \$ 642.4 (Rs.30,194)	US \$ 1721.4 (Rs.80,904)
Total OPD	352	3739
Recurring expenses per patient	US \$ 1.82 (Rs.85.77)	US \$ 0.46 (Rs.21.63)

Conclusions

- To conclude it appears that a mobile facility is more effective than a static facility as it provides eye care services to a larger population with almost the same set up and equipment. Even though consulting charges in a static facility are three times higher than that at the mobile centre, the static centre recovers only 22% of its recurring expense whereas the mobile centre recovers 49% of its recurring expenses in the short term.
- The mobile facility allows for a higher level of networking with other NGOs and more community support.
- Although in the short term it seems to be efficient and covers a larger population, the longterm sustainability of this model needs to be worked out.

This experience provides some insight into the practicality and feasibility of having a mobile option to serve the eye care needs of the underserved populations until a sustainable model can be put in place.

References

1. National Programme for Control of Blindness in India, October 2004, Directorate General of Health Services, Ministry of Health & Family Welfare, Government of India, New Delhi.
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Field experiences in popularising eye health awareness

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Introduction

Health Education is an art which is a vital part of the Health Care delivery system. Health education has been defined as the basis of preventive medicine. It provides us with knowledge about various diseases and also the methods by which they can be prevented. The different tools used to impart health education include drama, talk, audio-visuals, *villupattu* (folk art), puppet show and so on, depending upon the target audience.

Health education should be simple and carry the message to the audience in an easily understandable manner. The success of the health education depends upon of the extent to which the participants interact. This concern led us to adopt novel methods that would be both effective and useful. The students were separated into two categories; junior level students participated in drawing and elocution competitions while senior level students had essay writing and an audio-visual quiz.

Background

The World Health Organization (WHO) estimates that there are close to 37 million visually challenged people in the world and 115 million have some form of visual impairment. One of the major reasons for this is the lack of awareness about eye care. According to the VISION 2020: 'The Right to Sight' programme in India, a special emphasis was laid on preventive eye care and awareness creation. In keeping with this, it was decided to create awareness about eye care among school children in the age group 11 years - 18 years.

Students are an important part of the community. They should be educated on preventive health. To spread eye care messages among students, several competitive events were organized that were engaging and entertaining with a high level of student participation. At the same time these programmes are very simple and can bring considerable benefit to community health care programmes.

Field Work

Beginning on 'World Sight Day 2003', for the first time in Tamil Nadu, district level competitions were organized around the theme of eye health, in drawing, essay writing and quiz for school students in Madurai district, Tamil Nadu state, with the encouragement and support of the then Deputy Director of Health Services, Madurai district.

Two weeks before the competition a small booklet on 'Basic Eye Care' (prepared by this author) was distributed free to the children to help them understand some basics about eyes their care. Students of junior classes took part with enthusiasm in a drawing competition on the topic 'Sight is enough'. Some of the common messages expressed by the students related to the following themes:

1. Importance of vitamin A rich food for good eye health.
2. Importance of Breast feeding
3. Better reading habits and the importance of good illumination
4. Problems of Corneal Blindness
5. Normal TV viewing distance
6. Importance of the eye glasses for defective vision
7. Common safety procedures.

Students from the senior classes participated in an essay competition on the topic 'Come with bright eye sight'. Students covered general eye care both for children and adults and even wrote about the importance and the need for timely treatment for cataract and glaucoma.

A quiz competition on eye care was conducted for senior students. Each school sent a team of two students to participate in the quiz. Students appreciated the free booklet that was provided before the quiz.

First-round questions focused facts on eye care. The second round was a visual round. A Power Point presentation was shown to the students and questions were asked based on the visuals. For every question a detailed explanation was given through visuals and the children's doubts were cleared.

Outcome

The overall response to the first programme was excellent. Hence it was decided to conduct similar competitions for 'National Fortnight on Eye Donation' on yearly basis (25 August – 8 September). Simple messages relating to the magnitude of corneal blindness and the importance of prevention were explained with the help of a Power Point presentation. The

children were also taught about the importance of adopting safety measures to prevent accidental eye injuries while playing. The children were exposed to the dangers of the self-medication for common eye problems. The students in the audience were also encouraged to participate in the quiz when the teams were unable to answer questions.

The impact of the awareness programme was felt in the neighbouring districts as well. After hearing about the programmes the district administration of the neighbouring Theni district invited the group to conduct similar competitions from 2004 onwards. Some of the heads of the schools also requested to organize such competitions, particularly the quiz,

for their students. In 2005 the activity was extended to other nearby school districts and will be expanded soon to other districts in the coming year.

Conclusion

These competitions have paved the way for students to learn more about eye care. By conducting such competitions it was able to spread awareness about eye diseases and promote the understanding of preventive measures to help avoid blindness. Apart from the participating students, the teachers, parents and the general public also benefited. The programme clearly contributed to the objectives of the global initiative VISION 2020: The Right to Sight.

Moving Forward: VISION 2020 India Forum activities, March – May 2006

In the last quarter of its second year, VISION 2020: The Right to Sight – India has been networking very closely with the Government of India (particularly with the Ministry of Health and Family Welfare). It also devoted time to developing its long range strategic plan besides its ongoing activities in its thrust areas like networking, membership drive, facilitating VISION 2020 state plans and publication. The major activities during this quarter are outlined below.

Submission of XI Five Year Draft Plan to Government

The VISION 2020-India Forum, on behalf of the Task Force Committee has been actively involved in preparing the XI Five Year Draft Plan. Subsequent to the Task Force Committee Meeting held on 8th February, 2006 at the VISION 2020-India premises, New Delhi, several follow up meetings were organized. Further in April 2006, the VISION 2020-India Forum met in Goa to discuss the Plan and decided to add three chapters to it i.e., Special interventions to the North East Region, Implementation Strategies, and Optometry. Finally in the month of May, Mr. PKM Swamy, Executive Director, VISION 2020-India interacted with the Task Force Committee members and also sought inputs from other members. The final (draft) plan was prepared incorporating the feedback from various TFC members and submitted to

Ministry of Health Family Welfare Government of India on 12 May.

Advocacy with Parliamentarians

To achieve a high level visibility and focus to the movement of VISION 2020: The Right to Sight in the country, the Board Members met Parliamentarian Mr. Rahul Gandhi on 13 April 2006 briefed him on the International and National scenario of the movement and the active role being played by the Forum.

State Plan Facilitation

The *Jharkhand* State Plan was developed after incorporating the suggestions from various experts. The *Tamil Nadu* State Blindness Control Society had convened a meeting on 14 March 2006 to finalize the state VISION 2020 Plan. The VISION 2020-India Forum has helped streamline the working of the *Andhra Pradesh* Right to Sight Society (APRSS). The government officials of *Rajasthan* state and *Himachal Pradesh* state too have taken active interest in developing the plans for their respective states.

Membership

Three members were co-opted into the forum during the period. These are *Drashti Netralaya*, Dahod, Gujarat, *Sadhuram Lions Eye Hospital*, Hyderabad, Andhra Pradesh, and *Karimnagar Lions Eye Hospital*, Karimnagar, Andhra Pradesh.



Workshops/Seminars

LRSP workshop for VISION 2020-India

The Board met in Goa to discuss the Long Range Strategic Plan, outlining directions and strategies for the future.

Jointly organized

- VISION 2020-India jointly organized the "VISION 2020 Workshop on information needs to improve implementation of refractive error (RE) programs in India" along with Dr. RP Centre, AIIMS and the International Centre for Eye Health, London, UK from 20th March to 25th March 2006 in Delhi.
- VISION 2020: The Right to Sight-India Forum coordinated a one-day workshop on *DELIVERING THE RIGHT TO SIGHT WITH EXCELICARE* with AxSys Health Tech Ltd, UK in Hyderabad.

Board Meeting

The Board of Management met for its X Board Meeting on 18 April, coinciding with Long Range Strategic Planning Workshop in Goa.



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