May 2010

IAPB Briefing Paper

VISION CENTRES – Affordable & accessible community level eye care

International Agency for the Prevention of Blindness

The purpose of IAPB Briefing Papers is to inform IAPB members and others about important and emergent issues affecting VISION 2020: The Right to Sight.

Abstract:

Prepared by the IAPB Refractive Error Committee This briefing paper describes the Vision Centre concept and is based on a submission made to AusAID by the Australian NGO Coalition on Blindness Prevention in Asia-Pacific in August 2008.

Background

In 1999, the World Health Organization (WHO) and the International Agency for the Prevention of Blindness (IAPB) launched the joint initiative known as *VISION 2020: The Right to Sight*. The aim of *VISION 2020* is to eliminate the main causes of avoidable blindness by the year 2020.

The major priority areas for *VISION 2020* are the five major causes of avoidable blindness and impaired vision:

- Cataract
- Refractive error and low vision
- Trachoma
- Onchocerciasis
- Childhood blindness

These five conditions were chosen because they could be treated or prevented with effective known strategies in a cost-effective manner. Together these five conditions are responsible for 75% of all blindness and vision impairment in the world. However, intervention strategies are yet to reach many of the people most in need, as a result of inadequate service delivery capacity, human resources, affordable technology, equipment and infrastructure.

The leading cause of avoidable blindness is cataract, which accounts for 48% of global blindness. Uncorrected Refractive Error accounts for 12-25% of blindness and over 50% of all vision impairment.

The four types of refractive error are:

- Myopia or nearsightedness – difficulty in seeing distant objects clearly (image in front of the retina)

- Hyperopia or farsightedness – difficulty in seeing distant or close objects clearly due to an excessive need for accommodation or focusing (image behind the retina)

- Astigmatism – distorted vision, usually resulting from an irregularly curved cornea (meridional differences in image positions)

- Presbyopia – near vision impairment in older people (usually after age 45) due to inadequate accommodation (lens focusing power)

Globally, there are 153 million people with significant distance vision impairment (<6/18 in the better eye) as a result of uncorrected refractive error, or simply the need for glasses to see at far distances. WHO is yet to quantify the burden experienced by people due to near vision impairment created by presbyopia, but it is likely that many more people are affected than by distance refractive error[1].

Refractive error is the most treatable cause of vision impairment and is easily diagnosed and measured. In most cases, a pair of spectacles is the only form of treatment or correction needed. Unfortunately though, millions of people in low and middle income countries do not have access to even these basic eye care services.

A model for eye care delivery

The LV Prasad Eye Institute (LVPEI) in India has developed an innovative model (Figure 1), for the delivery of eye care in the developing world, which has been implemented very successfully in many places.

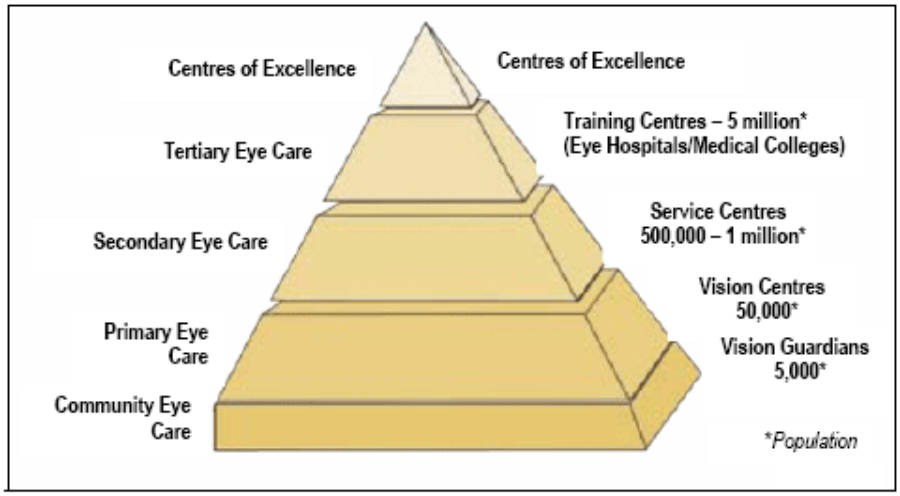


Figure 1: The LVPEI Model for eye care service delivery

In this pyramid model, initial eye care screening is done by Vision Guardians (at a ratio of 1 per 5,000 people) at the village level. Primary eye care and refractive error services are provided by Vision Centres at the community level (1:50,000), while secondary and tertiary eye care takes place at the Service Centres (local or district hospitals, 1:500,000) and advanced care at Training Centres (1:5 million) or at the Centre of Excellence level (1:50 million).

In this way, eye care tasks are divided amongst the available workforce, so that the relatively few individuals capable of high end tasks are freed to deliver those.

A Vision Centre is an eye care facility that provides a range of eye care services, including:

- Eye examinations

- Refraction (i.e. determining the spectacle prescription required)

- Supply and dispensing of affordable spectacles

- Detection of potentially blinding diseases

- Treatment of minor eye problems and provision of first aid within the skill set of the Centre's eye care staff

[1] International Centre for Eyecare Education estimates that around 500 million people were affected globally in 2007.

- Appropriate and barrier-free referral/ transfer of patients with more complex eye conditions to higher levels of the health care system

Depending on the size, staff capacity and activities of specific Vision Centres, they may also assist with:

- Coordination of community screening programs
- Assistance with other community eye care activities (such as Vitamin A campaigns and non-surgical aspects of trachoma control)
- Post-operative patient care

Vision Centres are most effective if there is coordination, cooperation and integration of the Vision Centre services with other levels of service, including outreach, rural and regional hospitals.

Vision Centres are a way of extending eye care into the community. They could be located in a district hospital, a community primary care clinic or as a stand-alone entity, depending on local requirements and norms. Vision Centres are conceptually a series of functions normally carried out in a specific location.

In many parts of the developing world, quality eye care services are only available at regional hospitals – creating barriers of distance, cost and accessibility. The provision of eye examinations and spectacles within communities minimises these barriers.

Although Vision Centres can be located in district hospitals to deal with refractive and primary eye care, they still have a focus on improving community access to eye care. In general, however, they provide services in remote, rural and under-served areas in a small one- or two-room facility.

Across the developing world, blindness affects 1% or more of the population and significantly impaired vision 2.5 to 5%. Refractive error however affects 50 to 80% of the population. A Vision Centre, staffed by a 1-year trained person, can take care of uncorrected refractive error, meeting 70% or more of overall vision needs of the community. With an appropriately trained optometrist, a Vision Centre can cover 90% of the vision care and eye health needs and appropriately refer the other 10%. In this way, the cost-effectiveness and efficiency of National Vision and Eye Health programs can be improved as the load on hospitals is reduced.

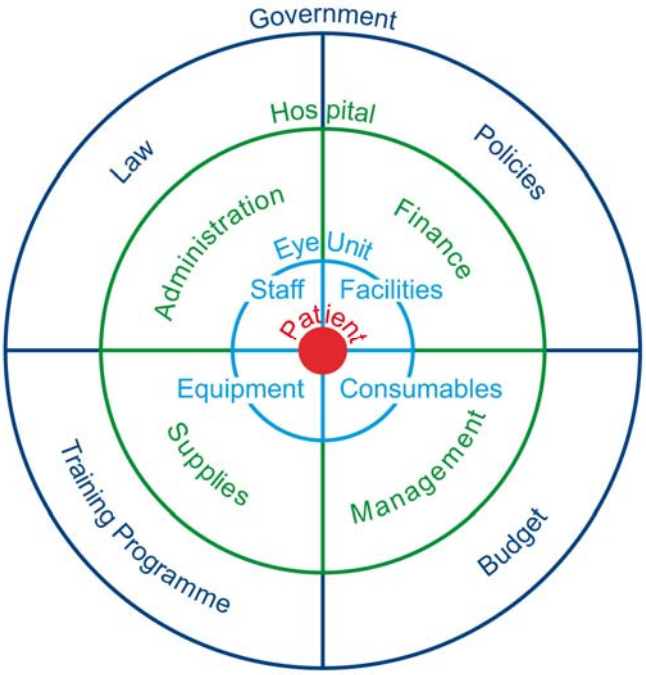
AN ADAPTABLE MODEL

The Vision Centre model is adaptable for providing community-level eye care and can suit local circumstances in other countries. Vision Centres across the globe vary greatly to accommodate and complement the diverse range of health and eye care delivery systems in various countries, regions and communities in need.

The flexibility of the Vision Centre model is demonstrated in the following points:

- ***Service Population and Linkages.*** Each Vision Centre is designed to cater for the vision needs of a population of approximately 50,000 people. This ratio can be adjusted to accommodate local circumstances affecting accessibility and availability of services. Each Vision Centre seeks local integration with other health services, community development agencies, local NGOs and local government, plus regional integration with more comprehensive eye care services.
- ***Physical Infrastructure and Equipment.*** The essential elements for a Vision Centre are an appropriate, accessible location and equipment to provide primary eye care and refractive care. Local outcomes and referral pathways are then tailored to fit within existing eye care systems and protocols. Local circumstance also dictates how services are run – whether as outreach or from within a community clinic.
- ***Staffing and Procedures***. Each Vision Centre is staffed by an appropriately trained, preferably local, person. Depending on circumstances, this person may be an optometrist, a vision technician, an ophthalmic nurse or another cadre of mid-level eye care practitioner. The exact cadre, technology and techniques used at each Vision Centre can be varied depending on local, national and regional, and governmental and health system situation and requirements. Consistency of service and retention of personnel is greatly influenced by having local people trained to work at a Vision Centre in the same locality. As perceived by those using the Centre, success of the Centre is heavily influenced by the availability, timeliness and quality of the service.

VISION CENTRE SUSTAINABILITY



Vision Centres should aim to become self-sufficient in their management of resources and finances, through a combination of strategies:

- Engaging in local partnerships
- Integration of the Vision Centre within the existing health-care system/services in the region
- Cost recovery through reduced fees for spectacles to those in need, and by offering value-added services to wealthier patients, when appropriate
- Committing sponsors for the Vision Centre
- Providing excellent services and follow-up

To ensure access to affordable, high-quality spectacles, each Vision Centre stocks a supply of affordable readymade spectacles. These are affordable and convenient in that they can be dispensed at the time of the eye examination. Approximately 30% to 50% of patients will require prescription, custom-made spectacles, for example for conditions such as significant anisometropia (unequal refractive error in the two eyes) and significant astigmatism. Many older patients require correction of both distance and near vision, but bifocal or progressive spectacles are not normally supplied at Vision Centres unless the centre is well advanced. Prescription spectacle lenses require an optical laboratory staffed by an optical workshop technician trained to edge and fit lenses to frames. One laboratory can service five or more Vision Centres.

Well established optical workshops associated with a Vision Centre or a cluster of Vision Centres will be able to create a cost recovery element that helps ensure self-sustainability. Sustainable and comprehensive eye care delivery systems can be created, where the supply of primary eye care and refractive error services can fund more costly initiatives, such as cataract surgery or the provision of low vision devices.

The Vision Centre model described here is in line with the guiding principles for a *VISION 2020* Action Plan, which can be summarised in the acronym 'ISEE':

Integrated – into existing health care systems

Sustainable – in terms of money and other resources

Equitable – care and services available to all people in need regardless of circumstance

Excellence – a high standard of care throughout.

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All of this has to be documented, managed and planned. So what was once a straightforward perception of the requirements for cataract surgery becomes much more complex involving a wide range of individuals (e.g. the patient, the family, community members) and organisations (e.g. Community-based organisations, health facilities and authorities). Figure one illustrates the

relationship between the patient receiving surgery (at the centre of the diagram) and all the processes, input and organisations necessary to make the delivery of cataract surgery possible. All these elements constitute a health system.

Figure 1: Example of determinants to quality cataract surgery