



SOCIO-ECONOMIC IMPLICATIONS OF BLINDNESS AND VISUAL IMPAIRMENT

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THIS CHAPTER WILL INCLUDE A REVIEW OF:

- Health economics
- Economic objectives of health care
- Health status indicators
- Economic evaluation techniques
- Cost and burden of global blindness and visual impairment
- Close links of blindness and poverty
- Barriers to the uptake of eye care services
- Blindness and poverty

HEALTH ECONOMICS

Health Economics applies economic principles to health care while recognizing that health care is different from trading of usual commodities. The major consideration is the societal values underlying health care.

Health Economics is concerned with:

- The financing of health care systems
- Allocation of scarce resources
- The mix between private and public health care for a nation
- The relationship between health and social and economic factors
- The alternatives to health care financing and the most cost effective options to financing health care



ECONOMIC OBJECTIVES OF HEALTH CARE

Source: Katzenellenbogen J, Joubert G and Kariem SA, 1997. *Epidemiology: A Manual for South Africa*. Oxford University Press, USA

EFFICIENCY

Relates to the question of how resources are utilised in health care. Are limited resources being used in the most efficient way and is this usage ensuring the best returns for the money invested?

EFFECTIVENESS

Health care planners seek measures of effectiveness to establish whether health care interventions achieve their stated objectives, while health economists use measures of effectiveness in cost effective analysis to assess efficiency

EQUITY

Addresses whether health care is distributed fairly or equally in society and how does health care cater for the majority of the population.

HEALTH STATUS INDICATORS

MORTALITY AND MORBIDITY

Indicators of disease e.g. changes in blood glucose levels, days lost from work

QUALITY ADJUSTED LIFE YEARS

In this measurement the number of years of life gained from a medical intervention are adjusted to account for the quality of life-disability and distress levels (Katzenellenbogen et al, 1997). It can also be used to assess the relative impact of different health interventions when the costs of these interventions are expressed in terms of the number of QALYs they produce e.g. the benefits of addressing childhood blindness are accentuated when we consider the fact that children live longer than adults even though lesser children are blind than adults with cataracts

DISABILITY ADJUSTED LIFE YEARS (DALYS)

Developed by the World Bank to measure the burden of disease (World Bank 1993)

Measurement of the potential years of life lost due to disability or death at a given age. While they are similar to QALYs they explicitly include disease type, focus exclusively on disability, and are weighted for age based on the individuals predicted productive value (Katzenellenbogen et al, 1997).

ECONOMIC EVALUATION TECHNIQUES

COST-MINIMIZATION ANALYSIS

It is an intra program measurement that determines if project objectives are met with the minimum costs

COST-EFFECTIVENESS

It is a measure that allows comparison of different interventions in terms of the costs and benefits. Costs are expressed in monetary terms and the benefits are expressed by mortality, morbidity and other such indicators. Results are a ratio e.g. costs per cataract operation conducted

ECONOMIC EVALUATION TECHNIQUES(CONT.)

COST-BENEFIT

It is a monetary measure that is aimed at determining whether the benefits of a project justify the costs of the project

COST-UTILITY ANALYSIS

Measures the utility or satisfaction gained from a project or intervention and enables comparisons across different interventions as well as over time. Results are expressed in terms of cost per QALY, for example it may be found that the marginal cost per QALY gained from providing glaucoma medication may be \$2000 while from glaucoma surgery may be \$1000

COST AND BURDEN OF GLOBAL BLINDNESS AND VISUAL IMPAIRMENT

Visual impairment is the seventh leading cause of disability worldwide, and in Australia it accounts for 2.7% of the national loss of wellbeing (Taylor et al, 2006). Visual impairment prevents healthy and independent ageing, and is associated with increased risk of falls (2X), increased risk of depression (3X) and increased risk of hip fractures (4X to 8X). Decreased visual acuity is associated with higher risks of car accidents, and increased five year mortality. Even with moderate visual impairment, the risk of death is increased more than two-fold. The prevalence of vision loss trebles with each decade over age 40 years (see Fig. 7.1).

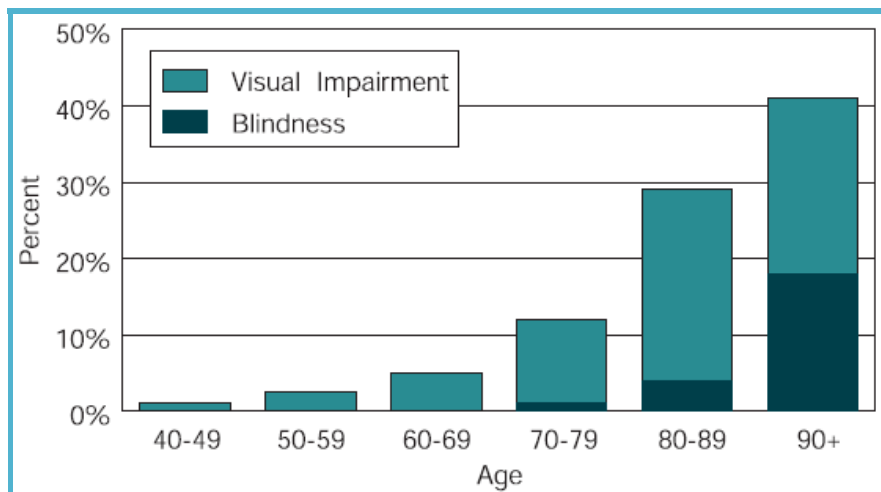


Figure 7-1: Visual impairment and Blindness in Australia (% Age Group) in 2004

Source: Eye Research Australia and Clear Insight, 2004

Frick and Foster (2003) estimated the cost of global blindness and low vision was US\$42 billion in 2000. Unless the prevalence of blindness and low vision is reduced, the total annual cost was projected to increase to US\$110 billion by the year 2020.

Three quarters of blindness is avoidable, and priority prevention and treatment of vision loss should be given priority. If the VISION 2020 initiative is successful, the total annual cost will only be US\$57 billion by 2020 – equating to overall global savings of US\$223 billion between 2000 and 2020.

In 2004, vision disorders in Australia cost about A\$9.85 billion – more costly than coronary heart disease, diabetes, depression and stroke (Taylor, 2006). Loss of wellbeing accounted to A\$4.8 billion and direct health system costs for A\$1.8 billion. Indirect costs totalled A\$3.2 billion, and included low vision aids, lost earning, carer costs, taxes and other welfare payments. Cataract was responsible for 18% of expenditure, and for the highest direct costs (see Fig. 7-2).

COST AND BURDEN OF GLOBAL BLINDNESS AND VISUAL IMPAIRMENT (CONT.)

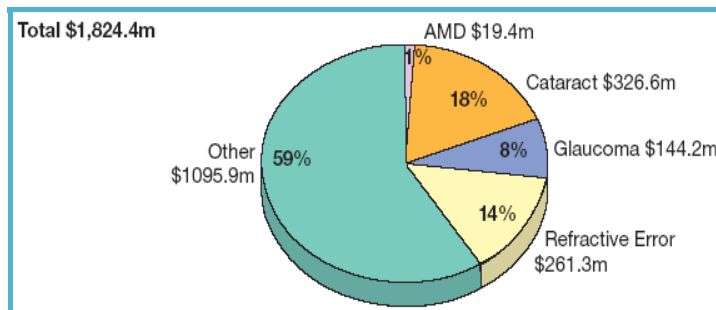


Figure 7-2: Cost of Eye Diseases in Australia (by condition) in 2004

Source: Eye Research Australia and Clear Insight, 2004

Many eye care interventions are simple and cost effective. Even developed countries like Australia cannot afford avoidable vision loss.

CLOSE LINKS OF BLINDNESS AND POVERTY

- 90 percent of the world's blind live in developing countries. At least 6.7 million blind people live in India, 6.9 million in China and 7.3 million in Africa (World Health Organisation, 2012)
- Blindness is both a cause and effect of poverty, and blindness often exacerbates poverty in developing countries. Communities carry additional costs and families often lose vital income when relatives have to work as carers
- People in the developing world are 5 to 10 times more likely to go blind than people in industrialised nations such as Australia
- Blind people are among the poorest of the world's poor
- Economic modelling suggests blindness and low vision costs the global economy around AUD \$56 billion in productivity losses each year
- Successful implementation of the Vision 2020 program will be responsible for a global saving of around \$290 billion over 20 years
- For each dollar spent on preventing or treating vision loss, there is a five-fold return to the investing country

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BARRIERS TO THE UPTAKE OF EYE CARE SERVICES

The availability of eye care services does not guarantee that patients who live with blindness and visual impairment will make use of them, even if they are provided free of charge. This is especially true of people living in the poorest and most remote areas. In fact, it is estimated that only one quarter of people in need worldwide currently make use of eye care services. Also, people who have accessed eye care initially often do not return for follow-up treatment, such as cataract surgery.

Low levels of service uptake may result from a combination of various practical, social, financial and psychological factors. When planning strategies for the prevention of avoidable blindness and visual impairment, it is crucial to identify and address the barriers perceived by communities, to ensure the utilization of eye care services, and ultimately effective intervention strategies.

REASONS WHY PEOPLE NOT SEEK CARE OR USE AVAILABLE EYE CARE SERVICES

- Lack of awareness
- Difficulty to access services
- Acceptability of services
- Lack of perceived need
- Fear that the treatment could 'spoil' their eyes
- Direct treatment costs
- Transportation costs and/or availability of transport
- Inability to take time off from family or work responsibilities
- Lack of somebody to accompany them
- Accepting vision loss as "karma" or "God's will"

Several of these barriers affect old people more, and women in particular. Eye services are mostly used by males who live close to the source of treatment. Promotion of eye care services must be gender sensitive. People with higher literacy levels are also more likely to utilize services.

It is important to raise eye care awareness and to promote the benefits of treatments like cataract surgery, especially for the elderly. Eye care personnel should be provided with continuing education which allows them to provide culturally appropriate services to the communities they work in.

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BLINDNESS AND POVERTY

As discussed earlier in this module, many of the causes of avoidable blindness are directly related to poverty, including factors such as malnutrition, access to clean water and sanitation, education levels and access to health care. It is no coincidence that 90% of the visually impaired people in the world live in low income areas. But as much as blindness can be a result of poverty, visual impairment also increases the risk of becoming poor – it is a vicious circle.

Blindness and visual impairment bring significant financial disadvantages to individuals, their families and to society as a whole. Poor people are often excluded from basic health care and education. Visual impairment can cause reduced productivity and lower income, and often leads to unemployment. If one member of a household is visually impaired, another member of the family usually needs to look after them – thus limiting their employment opportunities also, and reducing the total income potential of the household. The responsibility to care for a disabled family member often falls on school-aged children, thereby limiting their own education opportunities. Restoring somebody's sight can often enable them (and their carers) to work or study again.

Children with visual impairment have limited access to education – especially in the developing world. Literacy levels and school participation among females with visual impairment are lower than for males.

Visual impairment is also associated with direct expenses related to treatment for the condition and special devices required. As a result of increased expenses and reduced income, households affected by visual disability often have fewer savings and assets, and are more likely to suffer from hunger and food insecurity.

Interventions to address avoidable blindness are cost-effective and essential. In fact, achieving seven of the eight UN Millennium Development Goals will depend on the successful implementation of VISION 2020:

The Right to Sight.

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