

3 Terminology in eye health

Statistics on the prevalence of vision loss in Australia are available from a number of sources. Confident comparisons of these statistics both nationally and internationally rely on uniformity in the terms and definitions used to describe vision loss.

Examination of these sources indicates that the most common terms used to refer to vision loss in Australia are vision impairment, low vision, blindness and legal blindness. Full details of the variety of definitions currently used to describe vision loss in Australia are outlined in the following pages.

3.1 Visual impairment and low vision

Definitions of visual impairment and low vision are less established than the definition of blindness. The terms are used regularly, but are frequently used interchangeably. While the International Statistical Classification of Diseases and Related Health Problems, 10th Revision, Australian Modification (ICD-10-AM) definition of low vision relates to reduced vision excluding blindness, Vision Australia defines visual impairment according to the same criteria. Other versions of both visual impairment and low vision use the same definition, a significant reduction in vision, including blindness.

The visual acuity upper limit which constitutes a significant reduction in vision is also a point of difference among definitions. Visual acuity limits vary between less than 6/12 and less than 6/18. Definitions of visual impairment and low vision in use in Australia are presented on pages 132 and 133.

3.2 Blindness and legal blindness

The most commonly adopted definition of blindness in Australia is classified in ICD-10-AM. This definition is based on the World Health Organization's (WHO) standard definition of blindness which has been internationally accepted and incorporated into the International Statistical Classification of Diseases and Related Health Problems, 10th Revision (ICD-10). The ICD-10-AM and ICD-10 classification systems are widely accepted by many Australian studies and data collections, including the Australian Corneal Graft Registry, the Florey Adelaide Male Ageing Study, the National Hospital Morbidity Database and the National Mortality Database.

Some definitions of blindness employ variants of the ICD-10-AM definition, including those used by the Blue Mountains Eye Study, the AIHW, the Department of Veterans' Affairs and the Australian National Diabetes Information Audit and Benchmarking. Full details of variations of the definition of blindness are presented on page 133.

Variations in definitions relate to the use of different levels of visual acuity loss. While the internationally aligned ICD-10-AM definition imposes a visual acuity of less than 3/60, a number of definitions of blindness maintain a visual acuity level of less than 6/60. Although a visual acuity of less than 3/60 aligns with internationally recognised definitions, it has been documented that the increased complexity of daily tasks requires a less severe level of visual acuity, that is, less than 6/60 (Dandona & Dandona 2006).

The concept of legal blindness arose with the introduction of social security systems. The term legal blindness is generally used by governments to determine the criteria by which a person is deemed eligible for government concessions, such as income assistance and disability support. In Australia the criteria for legal blindness is established under Section 95 of the *Social Security Act 1991* (Commonwealth of Australia 2006). The definition of legal blindness is widely and consistently adopted by researchers and community organisations. Details of the definition for legal blindness and the organisations and studies which have adopted this definition are presented on page 134.

Definitions of visual impairment used in Australia

- The ICD-10-AM classification, 'visual impairment' includes 'blindness' and 'low vision'. Therefore a visual acuity with best possible correction of less than 6/18 and/or a corresponding visual field loss of less than 10 degrees around central fixation or no light perception (National Centre for Classification in Health 2006)
Adopted by:
 - National Mortality Database (Dunn et al. 2006)
 - National Hospital Morbidity Database (AIHW 2006b).
- An individual has some degree of sight loss (Royal Blind Foundation Queensland 2006)
- Visual acuity <6/12 in both eyes, established by Eye Research Australia (Access Economics 2004)
- Visual acuity <6/18, established by the Katherine Region Diabetic Retinopathy Study.
- Best corrected visual acuity <6/18 and/or visual field constriction to within 20° of fixation, established by the Melbourne Visual Impairment Project (Livingston et al. 1997)
- Best-corrected visual acuity of 6/12 or worse, established by Blue Mountains Eye Study (Wang et al. 2000)
- A person with visual acuity of less than 6/18 (0.3) but equal to or better than 6/60 (0.05) in the better eye with the best possible correction and/or a visual field of less than 20 degrees, referred to as 'vision impaired' (Vision Australia 2006c)
- People who are visually impaired include those who are blind, who have vision significantly less than normal (which is usually taken as acuity less than 6/18) but are not classified as blind (Fred Hollows Foundation 2006)

- ‘Visual Impairment’ to be used when the condition of vision loss is characterised by a loss of visual functions (such as visual acuity, visual field etc.) at the organ level. Many of these functions can be measured quantitatively, established by International Council of Ophthalmology (ICO), as endorsed locally by the Royal Australian and New Zealand College of Ophthalmologist (ICO 2002).

Definitions of low vision used in Australia:

- Visual acuity with best possible correction of less than 6/18, but equal to or greater than 3/60 (National Centre for Classification in Health 2006)

Adopted by:

- National Mortality Database (Dunn et al. 2006)
- National Hospital Morbidity Database (AIHW 2006b).
- A person is said to have low vision when their eyesight is limited or impaired and cannot be corrected with conventional glasses or contact lenses (Vision Australia 2006b)
- Low vision is an impairment to vision that significantly interferes with the functioning of a person and cannot be adequately corrected with medical, surgical, therapy, conventional eyewear or contact lenses. It is often a loss of sharpness or acuity but may present as a loss of field of vision, light sensitivity, distorted vision or loss of contrast. Low vision may occur as a result of birth defects, injury or as a complication of disease (Macular Degeneration Foundation 2006)
- ‘Low vision’ is to be used for lesser degrees of vision loss, where individuals can be helped significantly by vision enhancement aids and devices. International Council of Ophthalmology (ICO), as endorsed locally by the Royal Australian and New Zealand College of Ophthalmologist (ICO 2002).

Definitions of blindness used in Australia:

- Visual acuity with best possible correction of less than 3/60, and/or a corresponding visual field loss of less than 10 degrees around central fixation or no light perception (National Centre for Classification in Health 2006)

Adopted by:

- Australian Corneal Graft Registry
- Florey Adelaide Male Ageing Study
- National Mortality Database (Dunn et al. 2006)
- National Hospital Morbidity Database (AIHW 2006b)
- Presenting visual acuity less than 6/60 in the best eye, established by the Blue Mountains Eye Study and Melbourne Visual Impairment Project combined study (Taylor et al. 2005)
- Visual acuity of less than 3/60 or corresponding visual field loss in the better eye with best possible correction (Fred Hollows Foundation 2006)

- Whether the individual has become legally blind in either or both eyes. Blindness is less than 6/60 vision in the better eye with glasses. Vision 6/60 is the ability to see only at 6 metres what the normal eye can see at 60 metres. An indicator of the presence or development of a visual impairment or inability to see (AIHW 2005b)
- Visual acuity < 6/60 in both eyes established by the Australian National Diabetes Information Audit and Benchmarking (National Association of Diabetes Centres 2005)
- 'Blindness' to be used only for total vision loss (that is, no light perception) and for conditions where individuals have to rely predominantly on vision substitution skills, established by the International Council of Ophthalmology (ICO), as endorsed locally by the Royal Australian and New Zealand College of Ophthalmologist (ICO 2002)
- There is total loss of sight; or corrected visual acuity is less than or equal to 6/60 in both eyes; or where, in the written opinion of an ophthalmologist, the visual fields deficits; and/or combination of deficits results in a visual impairment which is the equivalent of a corrected visual acuity measure of less than or equal to 6/60 in both eyes established by the Australian Government for the purposes of determining permanent blindness pensions paid by the Department of Veterans' Affairs (Australia Government, Department of Veterans Affairs 2006)

Definitions of legal blindness used in Australia

- Visual acuity on the Snellen scale after correction by suitable lenses must be less than 6/60 in both eyes; or constriction to within 10 degrees of fixation in the better eye irrespective of corrected visual acuity; or a combination of visual defects resulting in the same degree of visual impairment as that occurring in the above points, established by the Australian Government for the purposes of determining permanent blindness for Disability Support Pension or Age Pension – Blind under Section 95 of the Social Security Act 1991 (Australian Government 2006)
- Adopted by:
 - Blind Citizens Australia, used as determining criteria for full and junior membership (Blind Citizens Australia 2006); referred to a 'permanent blindness'
 - Eye Research Australia (Access Economics 2004)
 - Queensland Blind Association Inc. Used as a basis for membership and purchase of white canes (Queensland Blind Association Inc. 2001)
 - Royal Blind Foundation Queensland (2006)
 - Retina Australia (2001)
 - The Katherine Region Diabetic Retinopathy Study
 - Vision Australia, as stated in the Constitution (Vision Australia 2006a)

3.3 Other definitional considerations

Presenting visual acuity versus corrected visual acuity

Corrected visual acuity is visual acuity measured according to the most appropriate refractive correction. Presenting visual acuity, however, is a measurement of an individual's acuity with the refractive correction which is currently in use by the individual; for example, spectacles or contact lenses (Dandona & Dandona 2001).

An individual may qualify as 'not blind' because their vision improves with refractive correction. However, in their daily living, their vision may be poor enough, due to uncorrected or under-corrected refractive error, that they qualify as 'blind' when measured according to their presenting visual acuity.

Although easily managed, uncorrected refractive error remains a major cause of vision impairment (Vennewkirk et al. 2001). A study has determined that nearly 300,000 of the 480,000 Australians who are visually impaired are so because of under-corrected refractive error (Access Economics 2004). In 2006, WHO recognised uncorrected refractive error as an important cause of vision loss. Broadening the definition of visual impairment, to include uncorrected refractive errors, effectively doubled the estimated total number of visually impaired people worldwide (WHO 2007). Defining vision loss according to corrected visual acuity would therefore have a substantial statistical impact on measuring the burden of vision loss.

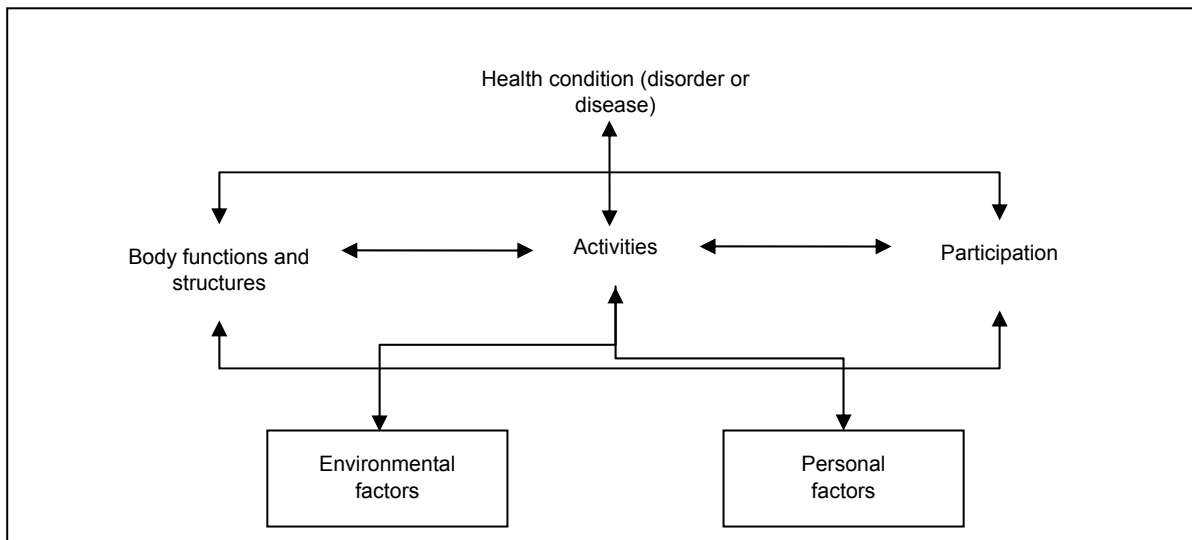
Visual field

Vision loss is generally measured according to visual acuity, visual field or both. Despite visual field loss being a major component of vision loss, second to visual acuity loss (ICO 2002), many of the definitions associated with vision loss do not utilise this measure. As visual field loss can exist independent to visual acuity loss (ICO 2002), prevalence estimates determined exclusively on visual acuity may underestimate the true prevalence rate of blindness.

Functional vision

One of the difficulties of limiting the measure (and hence definition) of vision loss terms to visual acuity and visual field is that they are objective measurements that do not take in to account an individual's ability to use vision in activities of daily living.

The International Classification of Functioning, Disability and Health (ICF) provides a multi-perspective approach to the classification of functioning and disability as an interactive and evolutionary process (WHO 2001). Figure 3.1 illustrates the various components and interactions of the ICF. By qualifying vision loss according to the component of body functions and structures only, in terms of visual acuity and visual field, many other important components of measuring visual functionality are ignored.



Source: World Health Organization 2001.

Figure 3.1: Interactions between the components of the International Classification of Functioning, Disability and Health (ICF)

In summary, there are a number of key definitional issues surrounding vision loss terminology. While the definition of legal blindness is well established, other terms associated with vision loss lack the same uniformity.