

# Blindness: a global priority for the twenty-first century

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Vision is one of our most cherished senses. Yet, most of us can hardly imagine what it would be like to lose it — to be unable to drive, to need assistance with daily activities, or to have difficulty recognizing friends and family members. This is the reality, however, for the nearly 45 million people worldwide who are blind (1). A further 135 million people are visually disabled, and are dependent on family and governmental support systems on a daily basis. These numbers are projected to double early this century as the population grows and ages (1), and will increase dramatically as policy-makers and health care providers recognize that even moderate vision loss severely limits many people from fulfilling their personal and economic potential (2, 3).

In this issue of the *Bulletin* a diverse group of experts from around the world share their views on blindness prevention, summarizing the most significant advances in their respective fields, and presenting what they view to be priorities for the 21st century. The result is a collection of timely and thought-provoking reviews, commentaries, and research papers.

In their article on pp. 222–226, Resnikoff & Pararajasegaram summarize WHO's contributions to blindness prevention over the past 50 years. Included are the earliest field and laboratory studies on trachoma in the 1950s, the successes of the WHO Programme for the Prevention of Blindness in decreasing vision loss due to trachoma, onchocerciasis, and xerophthalmia, and the recently launched Global Initiative for the Elimination of Avoidable Blindness (VISION 2020 — The Right to Sight).

West & Sommer (pp. 244–248) highlight the dramatic improvements that have occurred in preventing blindness due to infection and malnutrition, most notably trachoma, onchocerciasis, and xerophthalmia, but caution that lasting success may have to await the development of effective vaccines. They emphasize that the increasing size and age of the population will be major factors responsible for the emergence

of glaucoma, diabetic retinopathy, and age-related macular degeneration as causes of blindness in the 21st century.

Brian & Taylor (pp. 249–256) address the seemingly intractable problem of cataract, concluding that preventive measures might include reducing ocular exposure to ultraviolet-B radiation, promoting cessation of smoking, and perhaps the widespread use of the antioxidant vitamins A, C or E. Congdon (pp. 258–259), Gritz (pp. 260–261), Yorston & Abiose (pp. 257–258), and Prajna & Venkataswamy (pp. 259–260) provide independent and interesting commentaries on cataract pathogenesis, prevention, and treatment in developing countries.

Bailey & Lietman (pp. 233–236) discuss ongoing WHO efforts to eliminate trachoma and suggest that implementation of the SAFE strategy (Surgery for entropion/trichiasis, Antibiotics for infectious trachoma, Facial cleanliness to reduce transmission, and Environmental improvements such as insect control and water purification) may lead to its elimination some time during this century.

Dandona & Dandona (pp. 237–243) survey refractive error blindness, an enormous yet little recognized preventable form of vision loss. They suggest that large-scale screening programmes might be effective in eliminating much of this blindness, but note that this strategy will require a large number of personnel and an adequate infrastructure to make and dispense appropriate spectacles.

Gilbert & Foster (pp. 227–232) point out that childhood blindness accounts for almost as many “blind years” as cataract, but that many of its causes are either preventable or treatable. They suggest a dual approach to tackle this problem, consisting of community-based efforts to reduce systemic conditions that may cause blindness along with providing well-trained primary health care givers and ophthalmologists who are familiar with paediatric eye disease.

Corneal blindness is discussed by Whitcher, Srinivasan & Upadhyay (pp. 214–221). Trachoma is the commonest cause of corneal blindness, but ocular trauma and infective corneal ulceration also account for a sizeable proportion of such blindness.

The impact of the global HIV/AIDS epidemic on world blindness is addressed by Kestelyn & Cunningham (pp. 208–213), who note that cytomegalovirus (CMV) retinitis is by far the commonest cause of vision loss in HIV-

positive patients, and that in the absence of effective antiviral medications this form of retinitis is uniformly blinding. They estimate that 10–20% of HIV-infected patients worldwide will lose vision in one or both eyes as a result of retinal CMV infection. As antiretroviral therapies make their way slowly to the developing countries, both life expectancy and the prevalence of blindness related to HIV/AIDS can be expected to increase.

Crédé's Public Health Classic on the use of silver nitrate for the treatment of ophthalmia neonatorum (4) is revisited by Schaller & Klauss (pp. 262–263), who point out that its current use as the treatment of choice may need to be re-assessed. Povidone-iodine, an inexpensive and broadly acting anti-infective agent with both antibacterial and antiviral properties, may hold great promise for the future, particularly in developing countries.

Two research articles address the important issue of how best to distribute oral azithromycin for trachoma in a meso-endemic area. Osaki Holm et al. (pp. 194–200) compared a strategy of treating children who have clinically active trachoma and their households versus that of treating all children, regardless of clinical activity. Both strategies reduced the prevalence of active trachoma at 6 months, and there was no significant difference between them. In a companion article, Frick et al. (pp. 201–207) compared the cost-effectiveness of these two strategies, determining that, at least in western Nepal, it was far more efficient to treat all children, instead of just active households.

This issue of the *Bulletin* provides an overview of the key issues in blindness prevention that are likely to be debated over the next few decades. The perspective is global, but the priorities focus primarily on prevention of blindness in developing countries, those regions that bear more than 90% of the large and growing burden of world blindness. ■

1. *Programme for the Prevention of Blindness and Deafness. Global initiative for the elimination of avoidable blindness.* Geneva, World Health Organization, 1998: 1–2 (unpublished document WHO/PBL/97.61).
2. **Taylor HR, Keeffe JE.** World blindness: a 21st century perspective. *British Journal of Ophthalmology*, 2001, **85**: 261–266.
3. **Cunningham ET Jr.** World blindness — no end in sight. *British Journal of Ophthalmology*, 2001, **85**: 253.
4. **Crédé CSF.** Die Verhütung der Augenentzündung der Neugeborenen. [Prevention of inflammatory eye disease in the newborn.] *Archiv für Gynaekologie*, 1881, **17**: 50–53.

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