

## **ABSTRACT**

### **BACKGROUND:**

To assess prevalence and causes of blindness and vision impairment in high-income regions and in Central/Eastern Europe in 1990 and 2010.

### **METHODS:**

Based on a systematic review of medical literature, prevalence of moderate and severe vision impairment (MSVI; presenting visual acuity  $<6/18$  but  $\geq 3/60$  in the better eye) and blindness (presenting visual acuity  $<3/60$ ) was estimated for 1990 and 2010.

### **RESULTS:**

Age-standardised prevalence of blindness and MSVI decreased from 0.2% to 0.1% (3.314 million to 2.736 million people) and from 1.6% to 1.0% (25.362 million to 22.176 million), respectively. Women were generally more affected than men. Cataract was the most frequent cause of blindness in all subregions in 1990, but macular degeneration and uncorrected refractive error became the most frequent causes of blindness in 2010 in all high-income countries, except for Eastern/Central Europe, where cataract remained the leading cause. Glaucoma and diabetic retinopathy were fourth and fifth most common causes for blindness for all regions at both times. Uncorrected refractive error, followed by cataract, macular degeneration, glaucoma and diabetic retinopathy, was the most common cause for MSVI in 1990 and 2010.

### **CONCLUSIONS:**

In highly developed countries, prevalence of blindness and MSVI has been reduced by 50% and 38%, respectively, and the number of blind people and people with MSVI decreased by 17.4% and 12.6%, respectively, even with the increasing number of older people in the population. In high-income countries, macular degeneration has become the most important cause of blindness, but uncorrected refractive errors continue to be the leading cause of MSVI.