CAPTURE-RECAPTURE; A METHOD FOR DETERMINING THE PREVALENCE OF VISION IMPAIRMENT IN THE POPULATION

Purpose: Capture-recapture (CR) is a valid and highly cost-effective method for determining disease prevalence compared with traditional cross-sectional, population-based surveys. We report on three separate studies that have utilized this method to determine the prevalence of vision loss and impairment.

Method: CR studies were conducted in Western Australia (WA), New Zealand and in Portugal to determine the prevalence of vision loss or impairment from lists of residents. Independent lists of identifiable individuals were utilised using: registers of blind persons, patients attending hospital outpatient eye clinics, patients attending ophthalmologists’ routine clinical appointments, optometry clinics or local health authority lists. Log-linear models were used to estimate the prevalence of persons with a vision impairment in each of the three countries.

Results: The prevalence of blindness (?6/60) in WA was estimated to be 0.15% (95% CI 0.13 to 0.18) of the total population or 0.43% of the adult population aged ≥50 years. In New Zealand, the combined prevalence of vision impaired adults in the three regions studied (aged ≥15 years) meeting the Blind Foundation criteria for membership (?6/24) was 0.82% (95% CI 0.60 to 1.29). The prevalence of visual impairment in Braga, Portugal (?6/19) was 1.51% (95% CI 1.10 to 2.26).

Conclusion: Capture-recapture is a relatively inexpensive method for accurately calculating the prevalence of vision loss in whole populations. Thus CR provides hard data to assist with financial planning and the timely provision of appropriate support services for an increasing number of vision impaired people in communities worldwide.