



Visual function rather than visual acuity

Authors' reply

We would like to thank Ian Murdoch and David Crabb for their important letter pointing out the tendency to underestimate the global burden of glaucoma when focusing solely on central vision loss. Glaucoma is the leading cause of irreversible vision loss globally, whose share of overall blindness prevalence has been growing steadily as investments have begun to pay off in the fight against diseases such as cataract and trachoma.^{1,2}

We fully agree that reliance only on central vision as an index of disease severity is particularly poorly suited to accurately estimating the glaucoma burden.³ Glaucoma has already done substantial harm to the eye and to visual function by the time central vision is affected. Activities such as safe driving might become impossible because of loss of peripheral vision from glaucoma, long before central vision is affected.⁴ Other substantial underestimates also result from this approach. As pointed out in the *Lancet Global Health* Commission, many individuals with early glaucoma need timely treatment to avoid later vision loss and certain high-risk groups, such as adults aged 40 years and older and people of African descent, require screening care for the same reason.¹ All of these demands on the health-care system are missed when we account for the magnitude of glaucoma solely using central vision loss as a measure.

Besides more inclusive and sensitive measures of glaucoma prevalence and the disease's health-care implications, we would also like to highlight again the following pressing needs in the global response to glaucoma, as outlined in the Commission: (1) low-cost screening outreach models for low-income and middle-income countries—eg, leveraging existing cataract outreach efforts and eye-screening programmes for

patients with diabetes; (2) trials of cost-effective, scalable, and locally acceptable glaucoma treatments that are appropriate for low-resource settings, such as low-cost laser trabeculoplasty; (3) rigorous studies of inexpensive interventions to improve knowledge about and demand for glaucoma care in underserved areas; (4) capacity strengthening among eye-care professionals, particularly in sub-Saharan Africa and east Asia, where the magnitude of glaucoma blindness is especially high, to improve skills in glaucoma detection and management with appropriate resourcing of ongoing chronic care that is stratified by risk of vision loss; and (5) evidence-based advocacy to governments to include glaucoma in national eye health planning.

We fully agree with Murdoch and Crabb that global efforts to reduce the glaucoma burden depend heavily on an accurate and inclusive accounting of its precise extent. We cannot fight what we do not know.

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- 2 Bourne R, Steinmetz JD, Flaxman S, et al. Trends in prevalence of blindness and distance and near vision impairment over 30 years: an analysis for the Global Burden of Disease Study. *Lancet Glob Health* 2021; **9**: e130–43.
- 3 Tham YC, Li X, Wong TY, Quigley HA, Aung T, Cheng CY. Global prevalence of glaucoma and projections of glaucoma burden through 2040: a systematic review and meta-analysis. *Ophthalmology* 2014; **121**: 2081–90.
- 4 Blane A. Through the looking glass: a review of the literature investigating the impact of glaucoma on crash risk, driving performance, and driver self-regulation in older drivers. *J Glaucoma* 2016; **25**: 113–21.