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CORRESPONDENCE

# Response to: Comment on: "Do we have enough ophthalmologists to manage vision-threatening diabetic retinopathy? A global perspective"

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## To the Editor:

We thank Martins and colleagues for their letter regarding our study on the estimates of ophthalmologists manpower to tackle the burden of vision-threatening diabetic retinopathy (VTDR) worldwide [1]. We agree that training primary care physicians and optometrists and the use of technology for diabetic retinopathy (DR) screening can reduce DR-related blindness.

In our earlier publication [2], we emphasized the need for a paradigm shift in focus from tertiary to secondary and primary care to effectively tackle the burden of DR. Improving awareness and accessibility to DR screening and management is key. The Global Diabetic Retinopathy Advocacy Initiative group recommends appropriate task sharing and task shifting among ophthalmologists, primary care physicians and other healthcare professionals to deliver DR care in a collaborative and cost-effective manner [3]. An evidence-based shared eye care model in Singapore called the Primary Eye Care (PEC), demonstrated the effectiveness of task shifting [3] where by 80% of patients managed in tertiary hospitals were decanted to primary eye clinics run by trained general physicians and optometrists [3].

Telemedicine and virtual clinics can also aid in task shifting. In Singapore, under the Singapore Integrated Diabetic Retinopathy Programme (SiDRP), a telemedicine-based national screening programme for DR, digital retinal photographs taken at primary care settings are transferred for off-site assessment by trained graders, with an average reporting turnaround time of 30 minutes. Approximately only 10% of DR patients are referred to eye specialists, which significantly reduces unnecessary referrals [3]. In the UK, only 17.4% of patients attending virtual retina clinics were referred on to face-to-face clinics [4]. The success of telemedicine is important in settings with uneven or limited ophthalmologist resource. In India, teleconsultations in rural populations showed success, with majority of patients receiving treatment and 31% requiring referrals to tertiary centres [5]. Furthermore, artificial intelligence (AI)-based DR screening using deep-learning systems has the potential to be employed even in low-resource settings [6] such as Africa which has the lowest ophthalmologist density [1].

Overall, shifting and sharing of tasks, coupled with AI technology, could significantly reduce costs, increase access to quality care, and efficiency in DR care in the long run.

### Compliance with ethical standards

**Conflict of interest** The authors declare that they have no conflict of interest.

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