

# Current Barriers to Eye Care

*A snapshot of recent literature illuminating barriers to eye care and suggested strategies in sustainable intervention*

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## Introduction

Barriers to care penetrate all aspects within our healthcare system and ophthalmology is no exception. The World Health Organization (WHO) estimates 2.2 billion people worldwide have vision impairment, half of which are due to preventable causes and/or remain untreated. In the United States, 6 million people are reported to have visual impairment and over one million people are blind.<sup>2</sup> The leading causes of blindness within the United States are macular degeneration, cataract, glaucoma, and diabetic retinopathy.<sup>3</sup> Management of these diseases require access to early detection, therapeutic intervention, and follow up care at regular intervals; for example, nearly half of Americans predicted to have glaucoma remain undiagnosed.<sup>4</sup> This unfathomable disparity in diagnosis emphasizes a desperate need to reflect on the obstacles that prevent patients from initiating and maintaining appropriate eye care. Here, we examine multiple domains of demographic and socioeconomic factors that influence access to care of common eye diseases in the United States in effort to inform future interventions and to improve eye health for all people.

## Barriers to Care

*Age* — In a recent study of 9,000 patients receiving anti-VEGF injections for age-related macular degeneration, over a fifth of patients were lost to follow up.<sup>5</sup> Patients 80 years and older made up 84% of these patients.<sup>5</sup> Some speculate that elderly patients are more likely to have co-morbidities that may limit their ability to travel to follow up appointments or adhere to therapeutic plans requiring frequent dosing. Significant co-morbidities may also alter patients' priorities in eye care. Another consideration is the decreased independence of elderly patients requiring external support which can be both costly and restrictive. One interesting intervention emerging from the COVID-19 pandemic is telemedicine, which may offer a convenient, remote option for initial triage assessment and general follow up appointments in stable eyes. While eye exams and procedures require continued need for in person visits, a combination of such may be worth considering in effort to maintain ongoing relationships and care. As the elderly population continues to grow in the United States, healthcare providers need to consider these challenges when individualizing treatment plans and setting realistic follow up goals.

*Geography* — In a study assessing geographic access to clinical trials for retinopathy of prematurity, Soares et al. found that more than half of rural residents had to travel >120 miles and a mean of 3.5 hours to the nearest site. Whereas, most urban residents had access to trials within 30 miles and a mean of 23 minutes travel time.<sup>6</sup> Furthermore, patients who had to travel greater than 60-minutes to the nearest clinical trial were not only more likely to be from rural areas, but also to have a higher proportion of the population living below the federal poverty line.<sup>6</sup> This study emphasizes the significant travel burden for many patients living in non-urban communities which can limit access to treatment, and potentially even access to superior treatments through clinical trials. Higher travel burden may require time off from work, childcare, or personal transportation as many rural communities do not have public transit connecting to urban metropolises. These compounded considerations pose significant challenges to expanding eye care to rural populations. Interestingly, Kolomeyer et al. highlight the potential of collaborating with primary care offices and Federal Quality Health Centers in local communities to screen patients.<sup>7</sup> However, this intervention does not alleviate the subsequent travel burden for individuals identified as high-risk and referred for specialized ophthalmic care. Perhaps such patients would benefit from patient transport services, bus passes, ride-share vouchers, and outlined

directions to provider offices using public transportation routes when appropriate.

*Race* — Thomas et al. studied disparities of diabetic eye examination screening in patients with diabetes. When controlling for income, insurance, and education, Thomas determined that non-white individuals were less likely to have a diabetic retinopathy screening than white patients, despite non-white individuals being more likely to be diagnosed with diabetic retinopathy.<sup>8</sup> Another study examining racial disparities in glaucoma patients found that despite Black populations having an increased risk for visual impairment or blindness after glaucoma diagnosis, the rate of eye care utilization including office visits and glaucoma testing was lower compared to White populations.<sup>9</sup> Interestingly, this study also determined that Black populations had higher rates of eye care inpatient and in the emergency department setting.<sup>9</sup> Underutilization of preventative screening and maintenance services and increased utilization of acute emergency services in non-white populations as illustrated by these studies may be partially attributed to patient mistrust of the healthcare institution, systemic racism, varying levels of health literacy, language barriers, and other compounding variables. One way to improve trust among non-White populations during vision screenings may be to engage race-concordant and language-concordant staff within the clinics.<sup>7</sup> Furthermore, each healthcare

provider has an individual responsibility to actively reflect on one's own unconscious bias as a critical step to identify, reject, and change ingrained stereotypes. Despite such efforts, there is significant progress to be made in providing equitable access to care for all patients.

*Socioeconomic Status* —Using data from the National Health Interview Survey from 2002-2008, Zhang et al. explored socioeconomic disparities in eye care utilization for adults with age-related eye diseases. In doing so, Zhang found that patients with higher socioeconomic status were more likely to visit an eye care provider.<sup>10</sup> Interestingly, the Screening To Prevent Glaucoma Study (SToPGS) in Baltimore found that although 93% of high-risk participants were insured despite low income status, approximately 60% of patients had not had an eye examination in the previous year, and greater than 40% had not had an eye examination in over two years.<sup>11</sup> Unfortunately, this emphasizes that socioeconomic barriers still occlude access to care even in those insured, and also points to complexities within our healthcare policies that extend beyond the level of individual healthcare providers. Another critical aspect when caring for individuals with complex socioeconomic backgrounds and unpredictable occupation schedules is to maximize the ease of patient participation. Offering walk-in's, same-day appointments, and providing reminder calls of pre-scheduled appointments are useful strategies to engage with

underserved communities.<sup>7</sup> Undoubtedly, socioeconomic status remains a significant hurdle to eye care. More investigation is needed to determine how to provide low-cost, high impact care.

*Health Literacy*—Income and education are closely associated as important social determinants of health. Zhang et al. also found significantly decreased patient visits among those with a maximum level of high school education compared to those of higher education levels.<sup>10</sup> Another study determined patients' primary reason for not seeking routine eye care was indicated as "no reason to go".<sup>12</sup> This illuminates a vital opportunity for providers to raise awareness of the asymptomatic nature in early disease course for many preventable eye conditions. Consultation presentations and educational videos of common eye diseases have been found to be useful in improving follow up and health literacy.<sup>11</sup> Furthermore, engagement with educators and public health officials is critical for promoting preventative health campaigns and empowering patients to seek routine care.

### **Final Thoughts**

Undoubtedly, there is significant progress to be made in dismantling barriers to eye care for populations of older age, rural residency, non-white race, lower socioeconomic status, and varying educational backgrounds. While the vast amount of unmet eye care needs may seem insurmountable, it is our hope that in recognizing such disparities, we've made

the first step towards their elimination by informing future solution.

#### References

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