

Access to Pediatric Vision Screenings in North America: A Systematic Review

Bhakti Panchal¹; Geoffrey Nguyen¹; Runze Zhang²; Esther Xu¹, Trisha Miglani¹, Dana Huh³, Mariama Jallow¹, Premilla Banwait⁴, Allison Summers⁵, Janet Alexander¹
 1. University of Maryland School of Medicine, MD, USA, 2. University of Chicago School of Medicine, IL, USA, 3. Johns Hopkins University School of Medicine, UC Berkeley School of Optometry, CA, USA; 5. OHSU Casey Eye Institute, OR, USA

Introduction

- The United States Preventative Task Force recommends children between 3 and 5 years old to receiving screening for common visual disorders such as amblyopia.¹
- Pediatric vision screenings prove essential in the timely identification of vision-threatening disorders that may otherwise go unnoticed.¹
- However, there are many barriers that exist between the pediatric population and access vision screening which can prevent children from accessing proper vision care.
- Socioeconomic status, race/ethnicity, income, insurance, and location of screening are all important variables in understanding where visual screenings are needed in North America.
- Unfortunately, disparities in access to these screenings are relatively understudied.

Purpose

- This study aims to appraise and synthesize the evidence on how social determinants of health impact access to pediatric vision screenings in North America to better understand disparities and access to these services.

Methods

- A systematic search of PubMed, Embase, and Cochrane databases limited to articles in English or Spanish published between 1995 and 2022 was conducted to identify studies relating to vision services in North America on subjects ≤ 18 years of age with underrepresented populations included as a specific focus.
- Articles were reviewed by two independent screeners throughout the abstract, full-text review, and data extraction process. Discrepancies in extracted data were reconciled by a third reviewer
- **Figure 1** shows a step-by-step review process which was completed on Covidence

Results

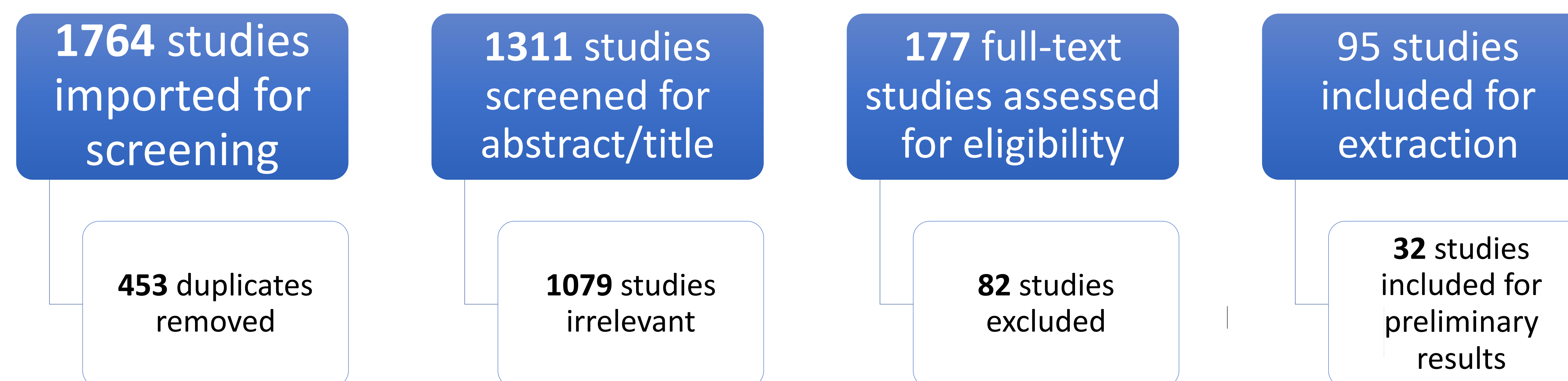


Figure 1: The total number of references was 1,764 which 453 duplicates removed. 1311 studies screened for abstract, 177 studies screened for full-text, and 95 studies included for data extraction

Parameter	Percent of Studies Reporting
Studies Conducted in the Northeast	33%
Studies including Native American populations	10%
Studies reported variables measuring socioeconomic status such as household income, federal poverty level, and/or education level.	40%
Studies including Insurance Type	20%

Table 1: Ninety-five studies were selected for data extraction. 32 studies were used as for the preliminary dataset. Notable themes underlying disparities in screening included geography, race/ethnicity, socioeconomic status, and insurance.

Conclusion

- In the current literature on pediatric vision screenings in the U.S., assessment of sociodemographic factors is inconsistent and regional bias exists, highlighting a need for ubiquitous reporting of factors relating to barriers to care and geographical expansion of pediatric vision screening projects.
- Our study hopes to inform policy decisions and inspire researchers to take on pediatric vision screening projects in specific underserved areas.

References

1. Grossman, D. C., Curry, S. J., Owens, D. K., Barry, M. J., Davidson, K. W., Doubeni, C. A., Epling, J. W., Kemper, A. R., Krist, A. H., Kurth, A. E., Landefeld, C. S., Mangione, C. M., Phipps, M. G., Silverstein, M., Simon, M. A., & Tseng, C.-W. (2017). Vision screening in children aged 6 months to 5 years. *JAMA*, 318(9), 836. <https://doi.org/10.1001/jama.2017.11260>