

# Ophthalmic Care Disparities Among Newcomers to Canada: A Systematic Review and Meta-analysis



UNIVERSITY OF CALGARY

Kareem Sadek\*<sup>1</sup>, Rayyan Zuberi\*<sup>1</sup>, Leena Al-Ani<sup>2</sup>, Aya Al-Dabbagh<sup>3</sup>, Mohamed Bondok<sup>4</sup>, Caitlin McClurg<sup>5</sup>, Abdullah Al-Ani<sup>4</sup>  
<sup>1</sup>Cumming School of Medicine, University of Calgary; <sup>2</sup>Independent Researcher, San Antonio, TX; <sup>3</sup>Independent Researcher, Calgary; <sup>4</sup>Section of Ophthalmology, University of Calgary; <sup>5</sup>Libraries and Cultural Resources, University of Calgary

## Background

- Immigration accounts for two-thirds of Canada's population growth; newcomers represent ~20% of the population, projected to rise further.<sup>1</sup>
- Despite universal healthcare, newcomers face significant inequities in access; recent immigrants are less likely to have a regular physician and often navigate unfamiliar systems with linguistic and financial barriers.<sup>2</sup>
- Vision is critical to quality of life; unaddressed visual impairment is the leading cause of disability-adjusted life years in high-income countries; approximately 1.5 million Canadians live with vision loss.<sup>3,4</sup>
- No systematic review has synthesized evidence on ophthalmic health disparities among newcomers to Canada, which is a critical gap given the scale of immigration and burden of visual impairment

## Why This Study Matters

- First systematic review to synthesize evidence on ophthalmic health disparities in newcomers to Canada
- Newcomers face understudied linguistic, financial, and systemic barriers that may limit access to vision care
- Unaddressed vision problems may result in preventable disability and reduced quality of life
- To synthesize and quantify disparities in ophthalmic care access and disease burden using systematic review and meta-analytic methods

## Methods

- Systematic review and meta-analysis following PRISMA guidelines; registered with PROSPERO: CRD42024572584.
- Eligible studies examined newcomer populations in Canada and reported ophthalmic care access, screening uptake, disease burden, service utilization, or barriers/enablers.
- Two reviewers independently screened studies and extracted data; disagreements were resolved by a third reviewer.
- Screening uptake was pooled using a random-effects model in RevMan 5.4.1.
- Risk of bias was assessed using ROBINS-I, CASP, and JBI tools; certainty of evidence was assessed using GRADE.

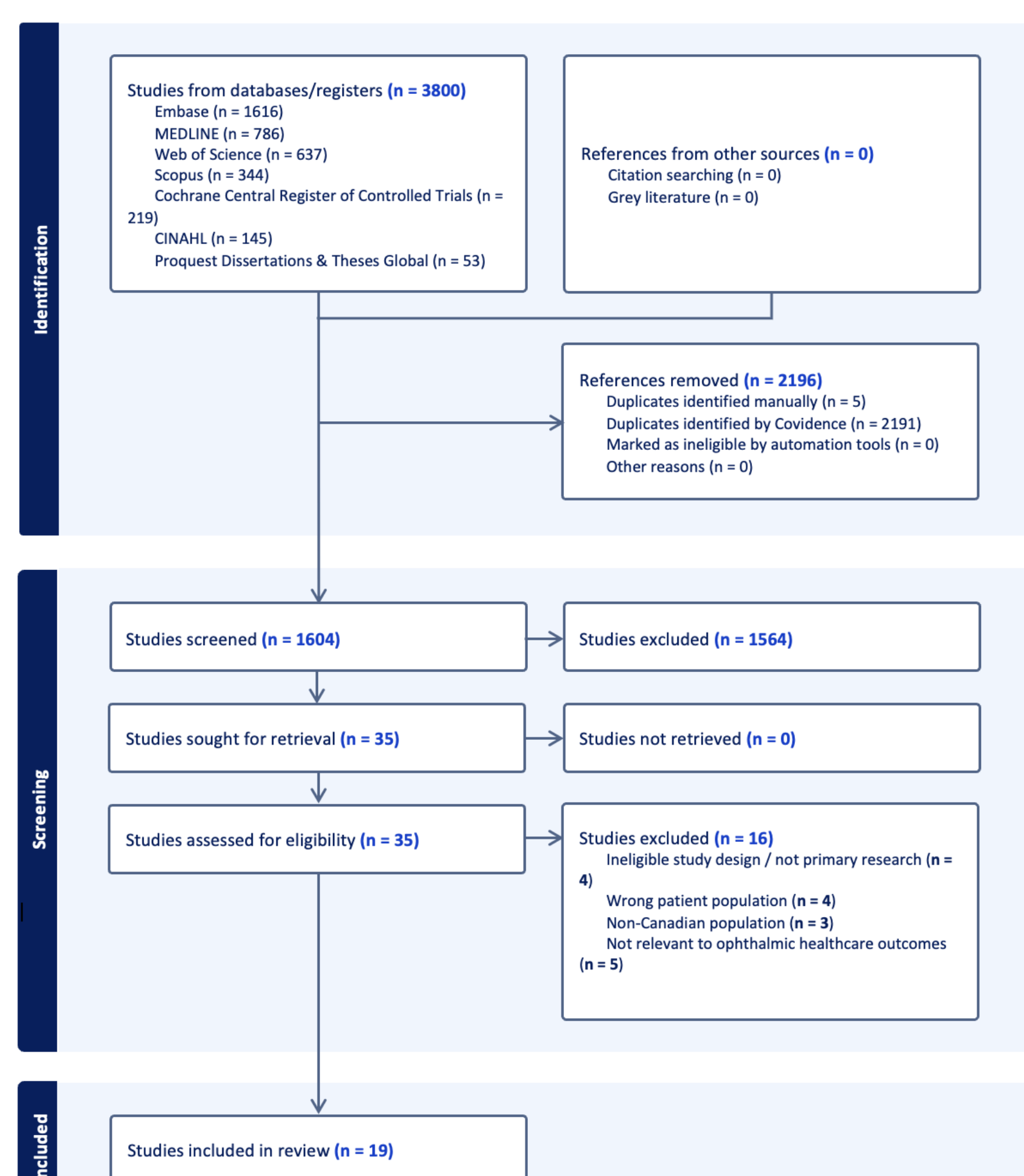


Figure 1. PRISMA flow diagram showing study identification, screening, eligibility assessment, and inclusion. Nineteen studies were included in the systematic review.

## Results: Screening Uptake Meta-analysis

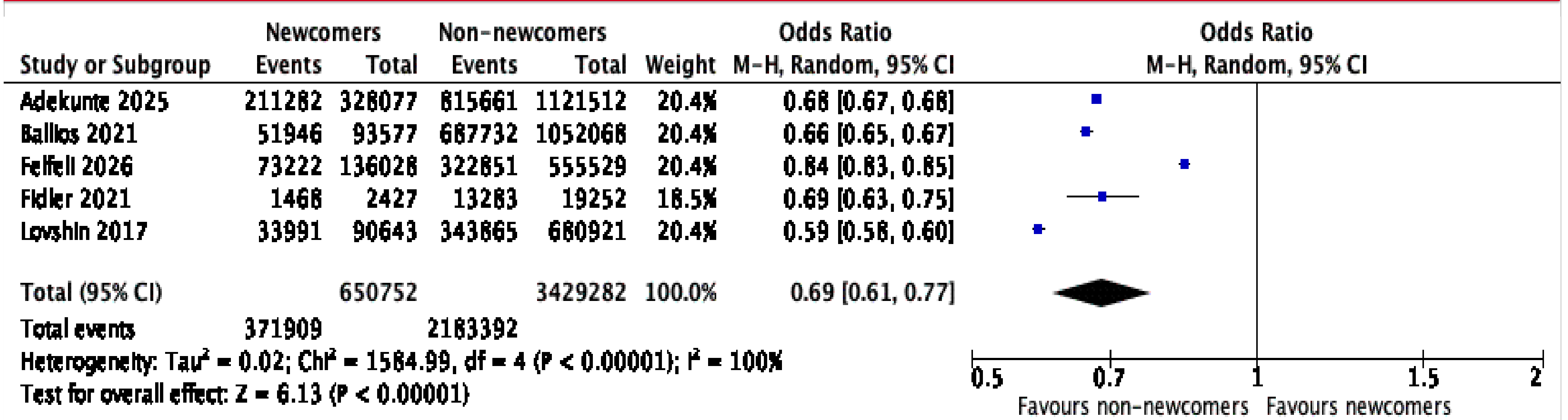


Figure 2. Forest plot of eye screening uptake among newcomers versus non-newcomers in Canada, showing lower screening among newcomers (OR 0.69, 95% CI 0.61–0.77). Sensitivity analysis excluding a potentially overlapping Ontario diabetes cohort remained consistent: OR 0.69, 95% CI 0.59–0.81.

## Results: Study Selection & Characteristics

The search identified 3,800 records. After removing 2,196 duplicates, 1,604 titles/abstracts were screened and 35 full texts were assessed. **Nineteen studies** were included in the review, of which **five contributed to the screening uptake meta-analysis**.

Evidence domain	Studies, n	Main finding
Screening uptake	5	Lower among immigrants than non-immigrants
Barriers to ophthalmic care	9	Recurrent linguistic, financial, navigation, and system-level barriers
Disease burden / visual impairment	3	Limited and heterogeneous; strongest signal in refugee/recent-arrival cohorts
Service utilization	2	Lower or delayed follow-up in some newcomer groups
Enablers of care	5	Interpreter support, community-based care, primary care integration, and low-cost services

Evidence was concentrated in screening uptake and access barriers, while disease burden and service utilization outcomes were less frequently reported.

## Results: Barriers & Enablers to Care

Barriers	Examples	Enablers
Language/communication	Difficulty understanding screening and provider instructions	Interpreter services
Health literacy/navigation	Unfamiliarity with referrals, insurance, and preventive care	Culturally tailored education; navigation support
Cost/coverage	Out-of-pocket eye exam and glasses/contact lens costs	Free/subsidized care; clearer coverage pathways
Transportation/time	Distance, missed work, settlement priorities	Community screening; flexible appointments
Referral gaps	Limited primary care or specialist referral pathways	Primary care integration; reminder systems
Social/cultural barriers	Stigma, discrimination, social isolation	Community partnerships; peer outreach

Barriers were recurrent across studies and operated at patient, provider, and health-system levels.

## Results: Disease Burden & Unmet Need

Population	Main finding
Syrian pediatric refugees	32-fold higher visual impairment; 17.9-fold higher myopia prevalence
Syrian adult refugees	13.2-fold higher visual impairment; 19-fold higher uncorrected vision problems
Afghan refugees	High visual impairment and unmet screening need
New immigrants, Northern Ontario	Refractive error and undiagnosed ophthalmic conditions identified
National self-reported data	No consistent association with immigrant status

Disease burden evidence was limited and heterogeneous, with the strongest signal among refugee and recently arrived newcomer cohorts.

## Discussion

- Newcomers had lower eye screening uptake despite Canada's universal healthcare context, suggesting that formal coverage alone does not ensure equitable access.
- Barriers were multi-level, spanning language, health literacy, cost, transportation, primary care connection, referral pathways, and system navigation.
- Disease burden evidence was less consistent than screening uptake evidence, but refugee and recently arrived newcomer cohorts showed substantial unmet need, often related to uncorrected refractive error.
- Heterogeneity likely reflects real differences across newcomer subgroups, migration pathways, provincial coverage, and care settings.
- Future research should disaggregate outcomes by newcomer category, province, language, ethnicity, and time since arrival.

## Conclusion

Newcomers to Canada face persistent barriers to ophthalmic screening and care. Lower screening uptake among immigrants, combined with unmet eye-care needs in refugee and recently arrived cohorts, supports the need for culturally informed outreach, interpreter-supported care, navigation support, and improved access to low-cost vision services.

## Take-Home Points

- Immigrants had lower eye screening uptake than non-immigrants: OR 0.69, 95% CI 0.61–0.77.
- Barriers were linguistic, financial, logistical, and system-level.
- Refugee and recently arrived newcomer cohorts showed the clearest unmet eye-care need.

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## References:



Component	Inclusion
Population	Newcomers to Canada, including immigrants, refugees, asylum seekers, temporary residents, migrant workers, undocumented migrants, or international students
Comparator	Non-newcomers, Canadian-born groups, long-term residents, or no comparator for descriptive/qualitative studies
Outcomes	Screening uptake, ophthalmic care access, disease burden, service utilization, barriers/enablers

Contact Information:  
Kareem.sadek@ucalgary.ca

