

A survey of eyecare affordability among patients seen in collaborative care in Australia and factors contributing to cost barriers

Rene Cheung^{a,b} and Angelica Ly^{a,b,c}

^a School of Optometry and Vision Science, UNSW Sydney, Australia

^b Centre for Eye Health, UNSW Sydney, Australia

^c Corresponding author: a.ly@unsw.edu.au

Article history

Publication date: 19 June 2024

Citation: Cheung R, Ly A. A survey of eyecare affordability among patients seen in collaborative care in Australia and factors contributing to cost barriers. *Public Health Res Pract.* 2024;34(2):e3422415. <https://doi.org/10.17061/phrp3422415>

Key points

- Approximately one-quarter of Australian patients seen in a collaborative eyecare clinic reported not obtaining eyecare services due to cost
- Services not covered by private health insurance or Medicare are the most difficult to afford
- Poorer self-rated health and lack of private hospital insurance negatively affect eyecare affordability

Abstract

Aim: The decline in the real value of rebates from Australia's national public health insurance scheme, Medicare, over the past decade has contributed to increased out-of-pocket costs for eyecare services, which threatens affordability. This study measured eyecare affordability and cost barriers among patients seen in collaborative care.

Methods: We conducted a cross-sectional survey of 252 patients who had attended a collaborative eyecare clinic in the previous year. A modified affordability subscale was used to measure eyecare and general healthcare affordability. Two population scores were calculated: the average percentage of patients experiencing cost barriers (mean of the five item percentages for general healthcare, and optometric and specialist eyecare), and the proportion indicating one or more cost barriers. Factors associated with eyecare and general healthcare affordability were identified using linear regression.

Results: The response rate was 46.8% ($n = 118/252$). The mean percentage of patients not obtaining services because of cost ranged from 23.4% (standard deviation [SD] 8.8) for general healthcare to 25.5% (SD 6.3) for specialist eyecare. Direct or indirect cost barriers to one or more services were experienced by 45.2% ($n = 52/115$) of respondents for optometric eyecare and 40.4% ($n = 44/109$) for specialist eyecare. Services not covered by private health insurance or Medicare (for example, out-of-pocket dental and optical) were ranked the most difficult to afford. Poorer self-rated health ($p = 0.004$, $\beta = 0.293$) and the lack of private hospital health insurance ($p = 0.014$, $\beta = 0.249$) were associated with reduced optometric eyecare affordability. This was also true for specialist eyecare affordability (self-rated health $p = 0.002$, $\beta = 0.306$; private hospital health insurance $p = 0.004$, $\beta = 0.286$). A lack of private hospital health insurance ($p = 0.001$, $\beta = 0.312$), younger age ($p < 0.001$, $\beta = -0.418$) and holding a concession card

($p = 0.011$, $\beta = 0.272$) were all associated with reduced affordability of general healthcare.

Conclusion: A high proportion of patients seen in collaborative care experience cost barriers to accessing eyecare, particularly for services not covered by private health insurance or Medicare. These findings indicate that affordability concerns exist despite significant reductions in the direct cost of services within a collaborative care setting. They also provide insights on the subpopulations most vulnerable to rising eyecare costs.

Introduction

Affordability is a key dimension of healthcare access that corresponds to patients' abilities to pay for healthcare services without excessive expenditure of resources required for basic necessities.¹ Universal health insurance forms an integral part of healthcare systems in high-income countries as a way of improving affordability. Australians benefit from a universal healthcare system (Medicare) that provides patients with rebates of 80–100% of the scheduled fee for most general healthcare and eyecare services.

Patient expenditure on eyecare has increased significantly over the past 10 years.² Fees recommended by Optometry Australia for optometry services are currently A\$65–\$132³, yet the corresponding Medicare rebates are only A\$35.55–\$70.55.⁴ Consequently, the average copayment for optometry services attracting additional fees increased by A\$31.71 between 2010–2020 (inflation adjusted).² Medicare rebates for eye specialist services are also inadequate given that out-of-pocket fees are approximately twice the value of Medicare rebates.^{2,4,5} These changes in out-of-pocket costs are at least partially attributed to the declining value of Medicare rebates relative to inflation. Patients receiving subsidised services may also experience affordability problems related to costs of delayed care⁶, such as productivity losses from reduced visual acuity with prolonged cataract surgery wait times.⁷

Another potential reason for increased out-of-pocket costs is that Medicare coverage of services does not adequately reflect utilisation patterns. For example, at least 55% of optometrists use retinal imaging daily to detect and monitor eye diseases to reduce the risk of vision loss⁸, which is supported by clinical care guidelines.^{9,10} In this application, retinal imaging costs as much as A\$120 out of pocket per visit and can facilitate early intervention, yet it does not attract a Medicare rebate. While state and territory government programs also provide financial support, contributions to optometric eyecare are largely limited to spectacle programs and early childhood vision screening.¹¹

Collaborative eyecare refers to a model of care that involves collaboration between different healthcare professionals within a health system to provide comprehensive eyecare services to patients. Although there are few collaborative eyecare initiatives in Australia,

telehealth and intermediary eyecare delivery models that foster interprofessional collaboration have been shown to reduce costs related to unnecessary referrals, transportation and loss of income.^{12,13} The Centre for Eye Health (CFEH) is an academic, optometry-led clinic, funded by Guide Dogs NSW/ACT, that operates in close collaboration with ophthalmologists from local health districts. The CFEH provides diagnostic imaging and disease management services (after referral from another optometrist or medical practitioner) typical of public hospitals or large private ophthalmology practices at no cost to patients. There is a lack of information on patient perspectives of eyecare affordability in collaborative care, as existing research tends to focus on the cost-effectiveness of eyecare delivery from a provider perspective.¹⁴

The aim of this study was to measure cost barriers to eyecare and identify patient-level factors affecting affordability within a collaborative care setting. Health insurance, income, education, socioeconomic status (a cumulative measure of education, occupation and income)¹⁵, migrant status, health status and self-perceived need for healthcare are factors known to affect general healthcare affordability.¹⁶ We hypothesised that a patient's socioeconomic and health insurance status would have a stronger impact on healthcare and eyecare affordability than other demographic characteristics, and that factors affecting eyecare and healthcare affordability would be the same for both. Understanding patient perspectives will provide valuable insights on how patients are navigating the healthcare system and coping with the financial burden of healthcare costs. It may also help identify ways to reduce the cost of healthcare services and assist the development of new policies to help patients afford necessary care.

Methods

A mail-out, cross-sectional survey of randomly selected patients who previously attended the CFEH in New South Wales was conducted. The research protocol was approved by the UNSW Sydney Human Research Ethics Advisory Committee (HC220358; July 2022).

Survey instrument design

The survey design was informed by a comprehensive literature review of factors influencing healthcare

affordability. Items from the healthcare affordability subscale¹⁶ – a reliable, self-administered questionnaire that measures cost barriers to medically necessary services within a publicly funded healthcare system – were adapted to assess the perceived affordability of eyecare. Self-rated health and demographic factors were captured using items from other established surveys (See Figure S1, available from: https://figshare.com/articles/journal_contribution/Supplementary_docx/25669563).

The first section of the survey probed patient characteristics including age, gender, education, residence, migrant status, private health insurance status, income support, employment, occupation and self-rated general and eye health. Low-income status was assessed by asking about the number of government-issued concession cards held (individuals may be eligible for more than one).

Sections 2–5 of the survey assessed direct and indirect cost barriers to accessing different healthcare services provided by doctors, optometrists and eye specialists. An additional item from the Commonwealth Fund International Health Policy Survey (items 2.1, 3.1 and 4.1, see Figure S1, available from: figshare.com/articles/journal_contribution/Supplementary_docx/25669563) was modified and included into each of the subscales for measuring cost barriers to healthcare, optometric and specialist eyecare, allowing comparisons to existing national data (where available). Response options for the affordability subscale were modified from a frequency scale (never, rarely, sometimes, often and very often) to a five-point Likert agreement scale: “strongly disagree” (score = 1), “disagree” (score = 2), “neither agree nor disagree” (score = 3), “agree” (score = 4), and “strongly agree” (score = 5). The primary outcome measure was responses to the single key question: “For services not covered by health insurance or Medicare, there are times when you decide not to get services prescribed by an optometrist *because of their costs*.” The draft instrument was pilot tested on four adults who had seen an optometrist previously. Based on the feedback provided, the survey was then adapted to improve the formatting and terminology used in the items.

Survey administration

A prenumbered survey pack – including a survey booklet, introductory letter and reply-paid envelope – was mailed to each potential participant in August 2022. For each survey pack that was returned, the assigned number was recorded, and the corresponding contact details were removed from the mailing list to maintain participant confidentiality. Non-responders were sent reminder letters and survey packs on three consecutive occasions at 4-weekly intervals between 3 August and 28 September 2022.

Sampling frame

From a total of 6364 patients seen at the CFEH between 31 May 2021 and 31 May 2022, 4749 unique patients were eligible for inclusion in the study. The inclusion criteria were age >18 years, consent for the use of de-identified data for research, and an expressed interest (at a previous visit) in research participation. Patients were excluded if a translator was previously required.

Sample size estimate

Based on a NSW population of 8.13 million, at least 97 participants were needed to provide 95% certainty around a 10% margin of error on the key question.¹⁷ Assuming a response rate of 40%, 252 patients from the 4749 eligible patients were randomly selected and invited to participate.

Statistical analysis

Continuous and categorical data were analysed using descriptive and frequency statistics. The results of centred and balanced Likert scales were described using mean and standard deviation (SD). Overall responses for the key question and other items in the subscales were obtained by rounding the mean and mapping results to the appropriate descriptive statement (for example, a mean score of 3.8 was mapped to overall agreement).

Responses from the adapted healthcare affordability subscale were dichotomised to calculate two overall population scores¹⁶:

- 1) The average percentage of respondents indicating cost-related difficulties across the five items of the questionnaire.
- 2) Percentage of respondents reporting at least one direct or indirect cost-related barrier when seeking healthcare or eyecare.

The responses - “strongly disagree”, “disagree” and “neither agree nor disagree” - were assigned a score of zero, while the responses “agree” or “strongly agree” were assigned a score of one.

The postcode recorded for each respondent was matched to the Australian Bureau of Statistics Socio-Economic Indexes for Areas (SEIFA) decile rank (lowest rank of 1 to highest rank of 10).¹⁸ The recorded occupation was matched to the Australian Socioeconomic Index 2006 (AUSEI06)¹⁹ status score to obtain individual-level socioeconomic status (SES). Associations between the key question and up to ten major variables, including demographic characteristics, private health insurance status and self-rated general and ocular health, were analysed using univariable and multivariable linear regression based on the power analysis calculations by medium effect size.¹⁷ Statistical significance was defined as two-sided 5% significance levels, and paired sample *t* tests were used to compare means. All statistical analyses were performed using the statistical analysis program SPSS (version 25; IBM, Armonk, New York, US).

Results

Data collection ceased 8 weeks after the final survey mail-out. The overall response rate was 46.8% ($n = 118/252$) after one participant who did not complete 66% of the survey was excluded from the final analysis. The individual question completion rate of the remaining participants ranged from 84.7% ($n = 100/118$) to 100% ($n = 118/118$).

Respondent characteristics

The mean age of respondents was 61.2 years (standard deviation [SD] 13.2), and 50.8% ($n = 60/118$) of respondents were female. Postgraduate-level education was the most frequently reported highest qualification (20.3%, $n = 24/118$), followed by Years 9–12 or equivalent (18.6%, $n = 22/118$) and at least one Bachelor degree (17.8%, $n = 21/118$). AUSEI06 scores were in the top two quintiles for 28.0% ($n = 33/118$) of respondents, while 44.9% ($n = 53/118$) had scores in the lowest two quintiles. SEIFA scores were in the top two quintiles for 78.0% ($n = 92/118$) of respondents and in the lowest two quintiles for 10.2% ($n = 12/118$) of respondents. Approximately half the respondents were in paid employment (52.5%, $n = 62/118$).

Private hospital health insurance (PHI) was held by 61.9% ($n = 73/118$) of participants, while 55.1% ($n = 65/118$) reported having private extras health insurance, which was similar to recent population estimates.²⁰ In Australia, extras insurance typically covers ancillary health services such as dental services, physiotherapy and eyecare appliances including contact lenses and spectacles.²¹ At least one government-issued concession card was held by 44.9% ($n = 53/118$) of respondents, with the pensioner concession card being the most frequently held card type (33.1% of respondents, $n = 39/118$). Respondents rated their general health as “very good” or “good” in 66.1% ($n = 78/118$) of instances, and “poor” or “fair” in 23.7% ($n = 28/118$) of instances. Eye health was rated as “excellent” or “very good” by 13.6% ($n = 16/118$) of respondents, while 34.7% ($n = 41/118$) reported that it was “fair” or “poor” (Table S1, available from: figshare.com/articles/journal_contribution/Supplementary_docx/25669563).

Mean scores to subscale items showed that respondents generally “disagreed” or felt neutral toward statements probing whether they experienced direct cost barriers to general healthcare provided by a doctor or to eyecare services provided by either optometrists or ophthalmologists, including consultation services, prescriptions or follow-up tests (Table S2, available from: figshare.com/articles/journal_contribution/Supplementary_docx/25669563). Similarly, participants disagreed with statements asking about whether they had experienced indirect cost barriers, which showed that participants generally did not consider loss of income or paying for additional services required to attend consultations as

barriers to healthcare or eyecare. Services not covered by private health insurance or Medicare were ranked the most difficult to afford, a statement to which respondents “neither agreed nor disagreed” in all instances based on mean scores.

Population scores

The average percentage of respondents indicating cost-related difficulties across the five subscale items was: 23.4% (SD 8.8) for general healthcare; 23.7% (SD 7.5) for optometric eyecare; and 25.5% (SD 6.3) for specialist eyecare. These values represent the percentage of respondents not obtaining services because of cost barriers. There was no significant difference in affordability scores between eyecare providers ($p = 0.252$), or between optometric eyecare and general healthcare ($p = 0.814$). The percentage of respondents reporting at least one cost barrier to any item in the affordability subscale was 45.2% ($n = 52/115$) for general healthcare, 42.6% ($n = 49/115$) for optometric eyecare and 40.4% ($n = 44/109$) for specialist eyecare (Table S3 available from: figshare.com/articles/journal_contribution/Supplementary_docx/25669563) and Figure 1).

Factors contributing to affordability barriers

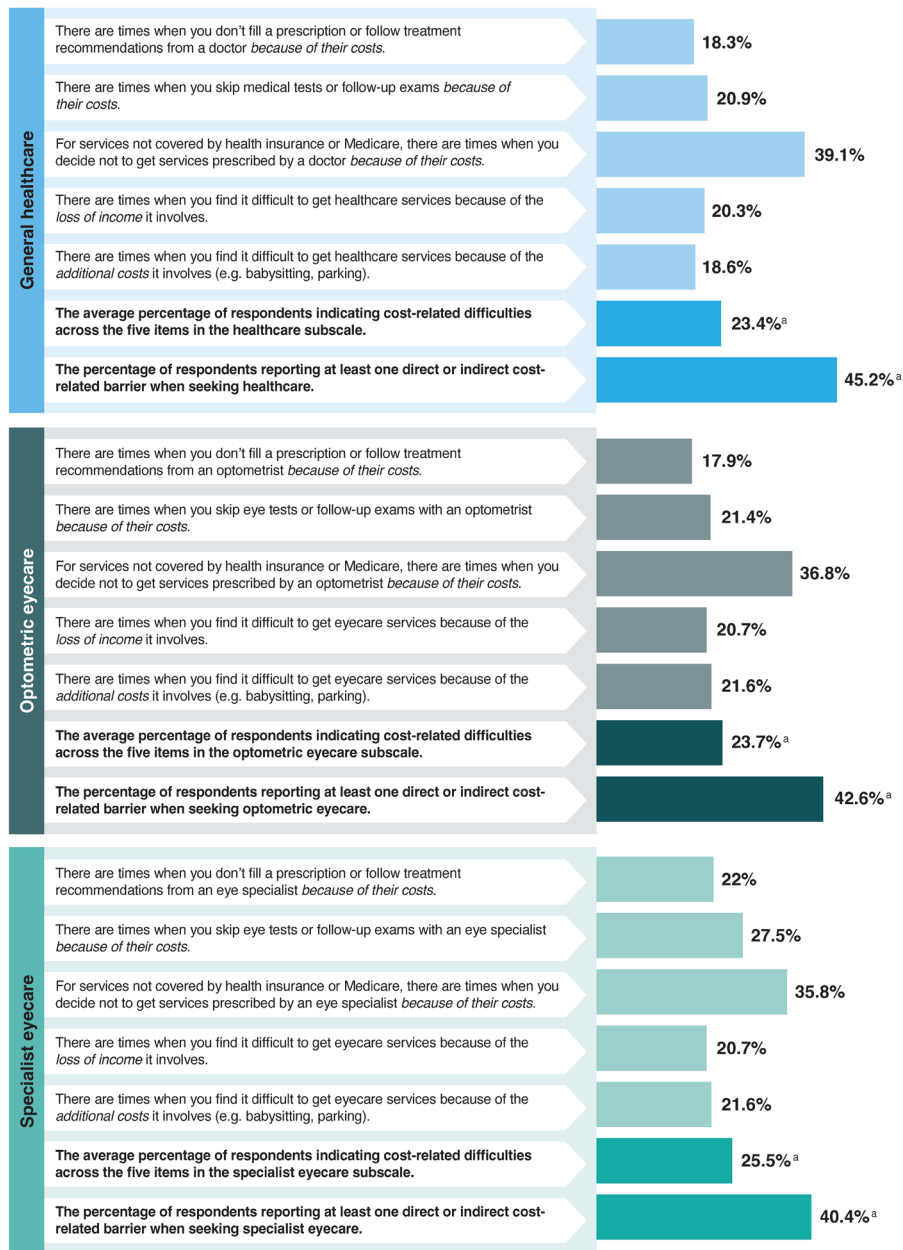
Optometric eyecare services

Overseas country of birth ($p = 0.036$, $\beta = 0.213$), lack of PHI ($p < 0.001$, $\beta = 0.347$), lack of private extras health insurance ($p = 0.005$, $\beta = 0.268$), poorer self-rated eye health ($p = 0.004$, $\beta = 0.271$) or general health ($p < 0.0001$, $\beta = 0.376$), and the number of government-issued concession cards held ($p = 0.048$, $\beta = 0.185$) were associated with the primary outcome measure on univariable analysis. On multivariable analysis, lack of PHI ($p = 0.014$, $\beta = 0.249$) and poorer self-rated general health ($p = 0.004$, $\beta = 0.293$) remained significantly associated with cost barriers to obtaining services not covered by private health insurance or Medicare (Table S4, available from: figshare.com/articles/journal_contribution/Supplementary_docx/25669563).

Specialist eyecare services

Lack of PHI ($p < 0.0001$, $\beta = 0.388$) or private extras health insurance ($p = 0.001$, $\beta = 0.319$), and poorer self-rated general health ($p < 0.0001$, $\beta = 0.401$) or eye health ($p = 0.001$, $\beta = 0.326$), were also positively correlated with the primary outcome measure on univariable analysis. Again, only a lack of PHI ($p = 0.004$, $\beta = 0.286$) and a poorer general health rating ($p = 0.002$, $\beta = 0.306$) remained significant in the multivariable analysis (Table S4, available from: figshare.com/articles/journal_contribution/Supplementary_docx/25669563). Thus, poorer general health and not having PHI were also associated with greater cost barriers to obtaining services not covered by private health insurance or Medicare for eye specialist services.

Figure 1. Comparison of the occurrence rate of cost barriers in general healthcare and in eyecare provided by optometrists and eye specialists



Notes: The vertical axis shows the item description for each subscale as summarised in Table S3, available from: figshare.com/articles/journal_contribution/Supplementary_docx/25669563. Only respondents with complete subscale scores were included in the percentage score calculations.

^a Population scores

General healthcare services

On univariable analysis, lack of PHI ($p < 0.001$, $\beta = 0.341$) or private extras health insurance ($p = 0.003$, $\beta = 0.286$), and poorer self-rated general health ($p = 0.002$, $\beta = 0.292$) and eye health ($p = 0.031$, $\beta = 0.201$), were associated with reduced affordability of general healthcare services not covered by private health insurance or Medicare. Multivariable analysis showed

that a lack of PHI ($p = 0.001$, $\beta = 0.312$), younger age ($p < 0.001$, $\beta = -0.418$) and holding more government-issued concession cards ($p = 0.011$, $\beta = 0.272$) were all associated with reduced general healthcare affordability. Again, neither SEIFA decile rank nor individual SES indicators were significantly associated (Table S4, available from: figshare.com/articles/journal_contribution/Supplementary_docx/25669563).

Discussion

This is the first study to examine eyecare affordability in a collaborative care setting and the factors associated with experiencing cost-related barriers. Approximately one-quarter of participants reported not obtaining eyecare services because of cost, and nearly half indicated that they experienced one or more cost-related barrier to obtaining eyecare.

Cost barriers to optometric eyecare

Reduced eyecare affordability over the past decade potentially affects a large proportion of Australians; uptake of optometric services is high, with 67.0–82.5% of Australians having undergone an eyecare examination in the previous 2 years.²²

Collaborative care models are typically funded by government and/or not-for-profit organisations to improve healthcare affordability and mitigate the direct and indirect costs of obtaining services. Despite this, nearly one-quarter of respondents indicated they did not obtain optometric eyecare services, and 36.5% avoided services not covered by private health insurance or Medicare due to cost. This suggests a mismatch between Medicare coverage of optometric services and actual practice patterns, which likely has an even greater impact on eyecare affordability outside collaborative care settings.

Cost barriers to specialist eyecare

Medicare support for eye specialist services has also effectively reduced over time⁵, with median out-of-pocket payments of A\$96 for ophthalmology services and only 18.7% of services bulk-billed through Medicare.² Although the proportion of Australians seeking specialist eyecare services is lower than that for optometric eyecare²², they are at higher risk of visual loss, so ensuring affordable services for these people is a priority.^{9,10}

The proportion of participants in our study who have problems affording optometric eyecare was similar to that for specialist eyecare, with 27.9% indicating that they did not visit an eye specialist for services when they had an eye problem and 27.0% indicating that they skipped eye tests or follow-up examinations because of cost. These results are comparable to national data, which report decreasing affordability of all specialist medical services, with 21.8% of Australians delaying or not seeking services when needed.²⁰ Approximately one-third of participants in our study also reported avoiding services not covered by private health insurance or Medicare because of cost, which may again indicate that there is inadequate Medicare coverage for eye specialist services.

Thus, patients with access to collaborative eyecare services still experience difficulties affording eye specialist services. This suggests that factors other than direct cost influence eyecare affordability. For example, patients may continue to see their optometrist or ophthalmologist privately due to convenience, or

because they incur additional transport and time costs when travelling to collaborative care clinics. The lack of difference in perceived affordability of optometric versus specialist eyecare consultations could be attributed to adjustments in optometric fees in response to higher overhead costs from reducing Medicare revenue, lower patient volume compared to ophthalmology practices, as well as lost opportunity to offset costs from private revenue associated with supplying optical appliances in practices^{23,24} adopting a medical optometry model.²⁵ Self-selection bias may also play a role, as previous work has found that low-income earners are significantly less likely to use specialist services and more likely to use GP services (after adjusting for need). Greater cost barriers from higher out-of-pocket payments associated with specialist services may contribute to increased reliance on primary care services.²⁶ A similar dynamic may exist within eyecare settings where services attracting Medicare rebates are used disproportionately more than others that are unsupported by insurance, such as retinal imaging, specialised dry eye treatments and binocular vision training. It would be interesting to explore in future work which services are most affected by perceptions of reduced affordability.

Factors affecting eyecare affordability

In Australia, having inadequate or no private health insurance¹⁵, being female, having a long-term health condition, residing outside metropolitan or regional areas, socioeconomic disadvantage²⁰ and younger age² have all been associated with reduced healthcare affordability. We also found that lacking PHI and having poorer self-rated general health negatively affect the affordability of eyecare services not covered by public or private health insurance, whether they are provided by optometrists or eye specialists. Interestingly, self-rated health did not affect healthcare affordability while lack of PHI, younger age and holding more government-issued concession cards was negatively associated with healthcare affordability. Thus, it cannot be assumed that factors impacting eyecare and healthcare affordability are the same.

The lack of correlation between SES indicators and affordability was unexpected. Collaborative care may reduce access inequities related to SES. However, differences in methods for measuring SES, and in health system structures between countries, could also have contributed to this result. Individuals may also employ other coping strategies to afford services, as suggested by the free response comments from the surveys; for example, drawing on community support (“*I couldn't have my eye op if my daughter didn't assist, as out-of-pocket [costs were] \$2700.*”) or choosing providers who do not charge copayments (“*As I have spent a fortune on my wife's healthcare, we always look at using [providers] who don't charge gap payments.*”) (Table S5, figshare.

com/articles/journal_contribution/Supplementary_docx/25669563).

Overall, these findings indicate that current collaborative eyecare models may be improved by providing additional support for individuals who are in poorer health or do not have PHI. Additionally, public health policies need to use eyecare-specific strategies to optimise access to eyecare.

Strengths and limitations

This study fills an important knowledge gap in the literature on eyecare affordability. It used robust sampling and survey distribution methods to optimise response rates, which exceeded the minimum sample size required. Furthermore, rather than sampling from the general population, we sampled from a subpopulation of individuals previously identified as needing further eyecare. This is an important distinction, as affordability is the economic capacity to spend time and resources to access healthcare *where there is a perceived need*.¹ Another strength of our study was that the non-response rate was below 10% for all items except the question probing country of birth, for which the non-response rate was 16.1%.

A limitation of the study was that our patient population was from a collaborative eyecare clinic, which is not a widely implemented clinical model in Australia, and excluded non-English speakers. Therefore, the results cannot be generalised to the Australian population, especially to non-English speaking communities who are more likely to be recent migrants with low health literacy. Future work should consider multisite sampling from community clinics with provisions for non-English speakers to identify any additional characteristics associated with reduced eyecare affordability. Additionally, as the survey items were worded to ensure generalisability, they also lacked specific information on the types of services for which cost barriers were experienced. Thus, the findings may not apply to all types of eyecare services but instead, provide general insight into eyecare affordability.

We also modified scoring methods for determining the population scores, which differs from the suggested application. However, the purpose of the population scores is to compare results longitudinally and between population subgroups, rather than to provide an absolute measure of affordability.

Conclusion

Cost barriers to eyecare are frequently experienced and affect a high proportion of Australian patients attending a collaborative eyecare clinic that provides services at no cost. This highlights the need for additional support for patients who are in poorer health or do not have PHI to improve the affordability of eyecare services.

Acknowledgements

This research was funded by the UNSW Sydney Australian Human Rights Small Grants Funding Scheme. Additional funding was provided by the Centre for Eye Health, Guide Dogs NSW/ACT.

Peer review and provenance

Externally peer reviewed, not commissioned.

Competing interests

None declared.

Author contributions

RC and AL conceived the study and its design. RC identified participants and collected the data. Both RC and AL were involved in data analysis, manuscript preparation and the dissemination of study findings.

References

1. Levesque J-F, Harris MF, Russell GJ. Patient-centred access to health care: conceptualising access at the interface of health systems and populations. *In J Equity Health*. 2013;12:18.
2. Duckett S, Stobart A, Lin L. Not so universal: how to reduce out-of-pocket healthcare payments: Victoria: Grattan Institute; 2022 [cited 2024 Apr 22]. Available from: grattan.edu.au/report/not-so-universal-how-to-reduce-out-of-pocket-healthcare-payments
3. Optometry Australia. Private billing guidelines and fee setting. Melbourne, Victoria; Optometry Australia; 2022 [cited 2023 Jan 30]. Available from: www.optometry.org.au/practice-professional-support/medicare-private-billing-health-funds/private-billing-guidelines-fee-setting
4. Department of Health. Medicare Benefits Schedule Book. Optometrical Services Schedule. Canberra, ACT: Commonwealth of Australia; 2015 [cited 2021 Sep 27]. Available from: [www.mbsonline.gov.au/internet/mbsonline/publishing.nsf/Content/CF1350417910EAE6CA25817D0015AF5B/\\$File/201709-Optom.pdf](http://www.mbsonline.gov.au/internet/mbsonline/publishing.nsf/Content/CF1350417910EAE6CA25817D0015AF5B/$File/201709-Optom.pdf)
5. Australian Medical Association Limited. AMA: list of medical services and fees. Canberra, Australia: Australian Medical Association; 2018. Available from authors.
6. Lundström M, Albrecht S, Roos P. Immediate versus delayed sequential bilateral cataract surgery: an analysis of costs and patient value. *Acta Ophthalmologica*. 2009;87(1):33-8.
7. Australian Institute of Health and Welfare. Elective surgery waiting times 2022–2023. Canberra, ACT: AIHW; 2023 [cited 2024 Apr 22]. Available from: www.aihw.gov.au/reports-data/myhospitals/sectors/elective-surgery

8. Cheung R, Ho S, Ly A. Optometrists' attitudes toward using OCT angiography lag behind other retinal imaging types. *Ophthalmic Physiol Opt.* 2023;43(4):905–15.
9. Optometry Australia. Clinical practice guide for the diagnosis, treatment and management of age-related macular degeneration. Melbourne, Victoria: Optometry Australia;2019 [cited 2024 Apr 22]. Available from: www.optometry.org.au/wp-content/uploads/Professional_support/Practice_notes/AMD-Clinical-Practice-Guide-2019_final_designed_v5.pdf
10. Flaxel CJ, Adelman RA, Bailey ST, Fawzi A, Lim JI, Vemulakonda GA, et al. Diabetic retinopathy preferred practice pattern®. *Ophthalmology.* 2020;127(1):P66–145.
11. Australian Institute of Health and Welfare. Eye health. Canberra, ACT: AIHW; 2023 [cited 2024 Apr 22]. Available from: www.aihw.gov.au/reports-data/health-conditions-disability-deaths/eye-health/overview
12. Razavi H, Copeland SP, Turner AW. Increasing the impact of teleophthalmology in Australia: analysis of structural and economic drivers in a state service. *Aust J Rural Health.* 2017;25(1):45–52.
13. Wang H, Kalloniatis M. Clinical outcomes of the Centre for Eye Health: an intra-professional optometry-led collaborative eye care clinic in Australia. *Clin Exp Optom.* 2021;104(7):795–804.
14. Turner AW, Mulholland W, Taylor HR. Funding models for outreach ophthalmology services. *Clin Exp Ophthalmol.* 2011;39(4):350–7.
15. Dawkins B, Renwick C, Ensor T, Shinkins B, Jayne D, Meads D. What factors affect patients' ability to access healthcare? An overview of systematic reviews. *Trop Med Intl Health.* 2021;26(10):1177–88.
16. Haggerty JL, Levesque J-F. Development of a measure of health care affordability applicable in a publicly funded universal health care system. *Can J Public Health.* 2015;106(2):e66–71.
17. Green SB. How many subjects does it take to do a regression analysis. *Multivariate Behav Res.* 1991;26(3):499–510.
18. Australian Bureau of Statistics. Socio-Economic Indexes for Areas. Canberra, ACT: ABS; 2023 [cited 2024 Apr 22]. Available from: www.abs.gov.au/websitedbs/censushome.nsf/home/seifa
19. Australian Council for Educational Research. Australian Socioeconomic Index 2006 (AUSE106). Canberra, ACT: ACER; 2006 [cited 2024 Apr 22]. Available from: www.acer.org.au/ausei06
20. Australian Bureau of Statistics. Patient experiences. Canberra, ACT: ABS; 2022 [cited 2023 Jan 25]. Available from: www.abs.gov.au/statistics/health/health-services/patient-experiences/latest-release#:~:text=There%20was%20an%20increase%20in,38.9%25%20compared%20to%2037.4%25
21. Department of Health and Aged Care. Extras and ambulance cover. Canberra, ACT: Australian Government, 2019 [cited 2024 Apr 23]. Available from: www.health.gov.au/topics/private-health-insurance/what-private-health-insurance-covers/extras-and-ambulance-cover#extras-cover
22. Foreman J, Xie J, Keel S, Taylor HR, Dirani M. Utilization of eye health-care services in Australia: the National Eye Health Survey. *Clin Exp Ophthalmol.* 2018;46(3):213–21.
23. Sharma A, Jofre-Bonet M, Panca M, Lawrenson J, Murdoch I. An economic comparison of hospital-based and community-based glaucoma clinics. *Eye.* 2012;26(7):967–71.
24. Hribar MR, Huang AE, Goldstein IH, Reznick LG, Kuo A, Loh AR, et al. Data-driven scheduling for improving patient efficiency in ophthalmology clinics. *Ophthalmology.* 2019;126(3):347–54.
25. Ng RJ, Martis RM. Medical optometry: a new term to describe the therapeutic scope in Australia and New Zealand. *Clinical and Experimental Optometry.* 2021;104(4):532–4.
26. Pulok MH, van Gool K, Hall J. Inequity in physician visits: the case of the unregulated fee market in Australia. *Soc Sci Med.* 2020;255:113004.

Copyright: 

© 2024 Cheung & Ly. This article is licensed under the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International Licence, which allows others to redistribute, adapt and share this work non-commercially provided they attribute the work and any adapted version of it is distributed under the same Creative Commons licence terms. See: www.creativecommons.org/licenses/by-nc-sa/4.0/