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RESEARCH

Access to low vision rehabilitation services in Australia: practitioner perspective

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ABSTRACT

Clinical relevance: The burden of vision loss is both personal and economic. Having reduced vision can restrict access to education, job opportunities, and other activities, and patients can require substantial government funds for treatment and rehabilitation. An in-depth investigation of barriers and enablers is required to improve access to low vision rehabilitation services.

Background: Several clinical trials have demonstrated the effectiveness of low vision rehabilitation services, leading to improved clinical and functional abilities. However not all patients make use of these resources.

Methods: A purposive sample of primary eyecare practitioners (optometrists and orthoptists who held a variety of roles in clinical practice, academia and low vision specific organisations) were invited to participate in focus groups that were audio-recorded and transcribed verbatim. The resulting data were de-identified, cleaned, independently coded by two researchers and compared. Data were analysed using an interpretative phenomenological approach that included inductive thematic analysis.

Results: Of the 21 practitioners attending the five focus groups, 67% were female and 33% were male. The participants were optometrists and orthoptists with a wide range (4 to 20+ years) of clinical experience in eyecare service delivery. Four major themes emerged from the analysis: three themes focus on identifying barriers, while one theme highlighted potential enablers. These themes encompassed barriers impacting referral frequency, practitioner knowledge, patient experience, and enablers that suggest improvement options for enhancing low vision services.

Conclusion: Miscommunication between service providers, miscommunication between patients and clinicians, late referral, cost of services and social stigma were major barriers preventing patients from receiving low vision services. Most practitioners admitted limited knowledge of the scope of services provided by low vision organisations, suggesting there is a need for enablers such as professional development, improved communication between service providers, enhanced referral guidelines and increased public awareness.

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Introduction

Underutilisation of low vision services is a significant problem, both in Australia and the rest of the world. The problem may be worsened by the lack of in-depth examination of the viewpoints of eye care professionals in existing literature. Consequently, involving a community of experts could play a role in enhancing our comprehension of possible solutions for improving timely and suitable referrals within Australia's low vision rehabilitation systems. The National Eye Health Study of 2016 revealed that most Australians attended regular ocular examinations, with 67% and 82.5% of Indigenous and non-Indigenous Australians respectively attending an eye examination in the previous two years.[1] While this suggests many Australians attend routinely, this is not the case among the vision-impaired population, as only 31% are aware of low vision rehabilitation services, and barely 20% access them.[2,3] Low vision rehabilitation services can support people with vision impairment, with low vision clinics (vision assessment and provision of magnification devices), counselling, orientation and mobility training, daily living activity training, assistive technology, social services, peer groups, education and employment available.[4] Low vision clinics assist in educating patients to modify their environment through lighting, tactile markers and provide optical devices, mobility aids and assistive technology along with patient education.[4] Several clinical trials have demonstrated the effectiveness of low vision rehabilitation services, leading to improved clinical and functional abilities.[5,6] However not all patients make use of these resources.[1–3,7]

In addition to patient-related issues, there are many recognised clinician-related barriers, including poor understanding of when to refer low vision patients for services, perception that low vision care is not part of general optometric practice, poor remuneration of optometrists for their time and skills and lack of a professional peer support/mentoring group.[8] Additionally, there are no widely accepted guidelines on referral to low vision rehabilitation services in Australia.[9] Although there have been several studies investigating barriers to low vision services, previous studies from the practitioner perspective have been surveys; focus groups could provide a greater depth of understanding.

Research suggests that low vision patients lack awareness of the low vision rehabilitation services available to them. ,[10–12] Pollard et al.[13] surveyed 80 participants in a hospital setting,

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finding that 57.5% were never referred for low vision services despite being eligible. In addition, 26.3% of patients did not take up referrals to low vision services as they felt they were not vision-impaired or that nothing could be done to improve their vision.[13] A lack of communication around timely referrals was felt to be a contributing factor to these low referral rates, making it a key area for further research to identify how to improve knowledge of key referral criteria among practitioners.

The issue of referral is an important obstacle to resolve and, as a first step, this study explored barriers and enablers to accessing low vision rehabilitation services from the clinician perspective. While most barriers could be eliminated through initiatives designed for practitioners, barriers such as transportation remain. Inconsistency in the evidence suggests the need for an in-depth investigation of the barriers to accessing services.

When investigating the reasons behind non-attendance for services, Spafford et al. found that 64.7% of seniors with visual impairment who had not sought low vision care suggested poor communication as a barrier to accessing low vision services.[11] Patients with vision loss were either not informed about the extent and severity of their condition or the available services,[11,12] not referred[10,12,14] or were often told by their eyecare practitioners that nothing can be done to improve their vision.[13] Luu et al.[15] also found that some of the barriers to accessing low vision services included misconceptions by clinicians and patients on when a person could benefit from or qualify for low vision services, lack of awareness concerning available services, limited knowledge of practice guidelines, miscommunication between patients and clinicians, limited access to services and the perceived costs of goods and services. The current referral patterns do not represent a holistic patient-centric approach; hence, a knowledge gap needs to be addressed.[15] While a large range of barriers and enablers have been described, further investigation is required to clarify and understand the impact on patient and clinicians. Additionally, a better understanding of the clinician knowledge gap described by several studies could provide insight for referral services to improve Australia's current model of care.

This study aimed to understand access to low vision services from the perspective of eye care practitioners.

Methods

The study adhered to the tenets of the Declaration of Helsinki and was approved by the Deakin University Human Research Ethics Committee (HEAG-H 2018–328).

Factors that impact vision-impaired patients gaining access to low vision rehabilitation care were investigated using qualitative methodology to gain a deeper insight into barriers and enablers. The experimental design involved focus groups with eyecare professionals. Focus groups were organised and run until data saturation was reached.

To ensure representation of the specific groups of interest, purposive sampling was employed to include optometrists and orthoptists, who possessed diverse experience in clinical practice, higher education, and research associated with low vision service delivery. The participants were recruited from universities, clinics and organisations providing low vision services such as Vision Australia and the Australian College of Optometry. All participants were required to understand and speak English.

Study design

The research questions for the theoretical framework were developed using phenomenology to describe the meaning and significance of clinical experiences with low vision services.[16,17] The decision to use a phenomenological approach was based on the nature of the research question and the aim of capturing the lived experiences and perspectives of practitioners regarding access to low vision services. By adopting phenomenological approach, the aim was to gain an in-depth understanding of the experiences, thoughts, and emotions of practitioners involved in low vision care. This approach recognises the importance of individual perspectives and seeks to uncover the underlying meanings and essences of their experiences, shedding light on the nuances and intricacies of access to low vision rehabilitation services.[16,17] An inductive thematic analysis approach was chosen as its well-suited for exploratory qualitative research because it allows themes to emerge directly from the data without preconceived categories or theoretical frameworks.[16,17]

Five face-to-face focus groups were conducted by the first author (optometrist) with 21 low vision practitioners (FG 1 = 6 participants, FG2 = 4 participants, FG3 = 4 participants, FG4 = 4 participants, FG5 = 3 participants) denoted by C1 to C21 in this manuscript. Evidence suggested that most research studies comprise 4–6 focus groups, sufficient to achieve data saturation. However, more focus groups are required if there are more categories of participants.[18] Groups were organised so that practitioner participants with varying experience and knowledge of low vision were grouped together to allow for different opinions. Clinicians who could not attend the focus groups in person could join via conference telephone call. Focus groups were conducted at Vision Australia offices across the country and at Deakin University's Waurn Ponds campus.

Focus groups were audio-recorded and transcribed verbatim. The questions prepared for the semi-structured interviews are shown in Table 1. The interview guide was pilot tested with four academics (not part of the research team) to ensure that it was understandable. The duration of the focus groups ranged from 30 to 60 minutes. Transcripts were not returned to the participants for comments or corrections. There were no repeat interviews with any focus group participants.

Data analysis

The resulting data were deidentified, cleaned, independently coded by two researchers, and compared. Qualitative data analysis software, NVivo (Version 11, QSR International Pty Ltd, Doncaster, VIC Australia), was used to analyse the data and to group important and relevant quotes within manually coded categories of major themes and subthemes. Transcripts were checked for accuracy and data immersion using audio verification. The researchers created lists of initial ideas based on interesting findings in the data, then generated initial codes and grouped text segments with similar meanings.[16] Codes were grouped into categories, forming themes based on patterns and key aspects of interest. Mindmaps were used to sort codes into themes, and the researchers met to describe, define, and revise themes to ensure they were cohesive.[17] Mind maps are visual representations that help organise and connect ideas, concepts, and themes. In

Table 1. Semi structured interview guide.

Q1. How much do you know about Vision Australia and other low vision services?
Q2. If applicable, how often do you refer your visually impaired patients to Vision Australia? ***Probes:*** How do your patients normally react when you refer them to low vision rehabilitation services? How difficult is it to get appointments organised for your patients and why? How important is the report you receive?
Q3. Fewer than 20% of people with vision impairment access low vision services. What do you think about the referral uptake of low vision rehabilitation services?
Probes: what are the barriers, including professional barriers (e.g. inadequate remuneration, time, lack of awareness, lack of training, attitudes, not knowing where or when to refer, training). What impact do you think new treatments are having on uptake of low vision services, in particular anti-VEGF? What can be done to increase the uptake?
Q4. What factors motivate you to refer patients to low vision rehabilitation services?
Q5. Some people don't follow through with their referral or come for their appointment – why do you think this is the case? Do you feel that they may be referred too soon or too late?
Q6. Which (if any) low vision services have proven to be helpful? How so?
Q7. What do you believe can be done to improve low vision services in Australia?
Q8. Is there anything else you want to add?

qualitative research thematic coding processes, mind maps are used as a tool to visually explore and map the relationships between different themes, facilitating the identification and analysis of patterns and connections within the data. Differences in coding or theme identification were resolved through discussion amongst the research team to reach consensus.

Results

This study took place in 2019 in Australia. It included participants living and/or practising across all Australian States and territories. Clinicians were aged between 25 and 65 years.

Of the 21 practitioners, 67% were female and 33% were male, and included optometrists ($n = 11$), orthoptists ($n = 5$), optometric academics ($n = 3$) and vision science researchers ($n = 2$) all with a range of clinical experience (4 to 20+ years). Most participants practised in a capital city ($n = 7$) or outer metropolitan region ($n = 7$). Other participants provided clinical services in large regional centres ($n = 3$), rural areas ($n = 3$) and a small regional centre ($n = 1$). In Australia, most of the population lives in major cities, with only 26% residing in regional Australia and 2% in remote areas.[19] Four major themes were identified from practitioner perspectives (Table 2): referral frequency, service uptake, co-management, and improvement options. The italicised phrases represent subthemes within the larger context. In the results section, quotation marks are used to indicate a direct quote from a participant. When a quote from a participant is presented, it is explicitly linked to the corresponding informant's identity to provide clarity and transparency in attributing the statement.

Major theme 1: referral frequency

In terms of factors impacting frequency of patient referral, *absence of clarity about services*, *complicated referral guidelines*, *patients at the stage of grief*, and *patients not ready to be referred* were some of the reasons provided for very few referrals being made and patients falling through the cracks (Table 2). One practitioner mentioned that 'often people don't know, they think guide dogs is just about dogs for patients who are legally blind' (C1). When discussing patients falling through the cracks, clinicians agreed that perhaps more patients could be referred for low vision rehabilitation services. Some practitioners suggested that the low uptake of services could be attributed to patients not being ready to be referred. Patients go through a grieving process when they

Table 2. Barriers and enablers to accessing low vision rehabilitation services – practitioner perspectives.

Major Themes		Subthemes
Barriers	Theme 1: Referral frequency	• Absence of clarity about services • Complicated referral guidelines • Patients at the stage of grief • Patients not ready to be referred • Limited knowledge on low vision services
	Theme 2: Service uptake	• Lack of practitioner awareness • Confronting and challenging appointments • Longer consultation time • Practitioners not proactive • Co-morbidities • Cost • Lack of access • Stigma • Fear of losing independence • Patient mental health • Social factors • Patient's negative experiences • Miscommunication between patients and clinicians • Patients referred too late
	Theme 3: Co-management	• Miscommunication • Service providers not sending a report back with details of the services provided
Enablers	Theme 4: Improvement options	• Improved awareness among clinicians • Continuing professional development/clinical education • Improved low vision clinics • Changes in optometry curriculum • Increased public awareness • Establishing national referral guidelines

are diagnosed with vision impairment. It is a challenge to refer patients for low vision rehabilitation services when they are at the *stage of grief*. A clinician reiterated that the 'majority of the patients are in denial' (C2).

The study identified that few referrals were made by practitioners who participated in the focus groups. Clinicians accepted that they had *limited knowledge on low vision services*; however, some participants mentioned that they were aware of organisations that advocate for services, provide assistance with activities of daily living (ADLs) and accessing government schemes, prescribe and provide optical devices, organise *social* support groups, and have established a radio station for the visually impaired.

The focus groups' participants agreed that the need for patients' psychological support, help with mobility, positive patient attitude, and the potential impact of social support groups were among some of the motivating factors for referral.

Major theme 2: service uptake

There were many patient and practitioner factors for the low uptake of services. Some participants agreed that *anti-VEGF treatment* may be a contributing factor as patients are referred to ophthalmologists for injections that often enhance their vision to some extent and who then refer on to low vision services. A few other potential contributing factors to the low uptake included *lack of practitioner awareness*, *confronting and challenging appointments* and *longer consultation time* that discourage practitioners from conducting low vision workups, and clinicians not organising appointments hence are not proactive. Some other reasons were *co-morbidities*, *cost*, *lack of access*, *stigma*, *fear of losing independence*, severity of *patient mental health* issues, *social factors*, and *patient's negative experiences with low vision services*. *Miscommunication between patients and clinicians*, *patient misinformed*, and patients being *referred too late*.

Some practitioners found the low vision consultations to be *confronting and challenging*, where a participant commented, 'I found them quite upsetting consultations for myself, because they're quite confronting' (C1).

Many practitioners concurred on *co-morbidities* being a major barrier preventing patients from receiving low vision rehabilitation services. Co-morbidities can be a major barrier because they can have a significant impact on a patient's overall health and functioning. Patients with multiple health conditions may find it challenging to prioritise low vision rehabilitation services, especially if they manage other medical treatments or appointments. Several practitioners believed that *cost* prevented patients from using low vision services as low vision equipment can be expensive. *Lack of access* is another concern as a clinician explained 'it's actually probably another problem. I reckon a lot of older people in nursing homes don't access optometric services, when they have low vision as frequently as they should' (C4).

Low vision patients are often afraid of losing independence, and practitioners believed it may play a significant role in the lower uptake of services. Similarly, *patient mental health* is a barrier as 'patients are significantly affected by the diagnosis of low vision and are potentially depressed' (C4) so they could be reluctant to accept support or access services. Additional, prior negative patient experiences with low vision services were determined as a barrier discouraging service attendance.

Many practitioners agreed that *stigma* is a key barrier as 'patients believe that by accessing services at somewhere like Vision Australia and the fact that it's an organisation for people who are blind and therefore, they feel like they have to accept that they are blind so there's a huge social aspect' (C2).

Major theme 3: co-management

When discussing experiences of co-managing with low vision clinics, clinicians tried to accentuate the major drawback of co-management. Most practitioners agreed that there was *miscommunication between practitioners*, and they were not sent a *report* back from the service providers. In support of this, one stated, 'I've never received a report back. I think that might be a real gap for me. It's not that I don't have confidence in what they [low vision service providers] do. It would be great to get something back, and it gives you a better understanding of what's happening' (C7).

Major theme 4 (enablers): improvement options

When practitioners were asked what could be done to improve services, ideas for possible improvements included the need for *spreading awareness of services among clinicians*, *continued professional and/or clinical education*, *improved low vision clinics*, changes in *Optometry curriculum*, increased *public awareness*, and putting together national *referral guidelines*.

Practitioners recommended an *increased awareness of the available services among clinicians* as lower uptake of services could be attributed to their lack of knowledge in this area. One practitioner summarised this by saying, 'I don't think the onus should ever be fully on the patient as there are many clinicians out there, that just don't have a great awareness of the services available, so they wouldn't even offer it to the patient' (C4).

Continued clinical education was considered a key enabler, as the more clinicians are exposed to the topic of low vision management, the more they will be involved in provision of services or referral of low vision patients. The personal experiences of the practitioners revealed that there probably is not enough emphasis on low vision education at conferences, so perhaps lobbying for more continuing professional development (CPD) events addressing low vision would help bridge this gap.

Changes in the *Optometry curriculum* could incorporate extra clinical exposure of optometry students to low vision patients and additional low vision education during optometry training. A clinician said that 'maybe if we increase the frequency of clinical placements, if possible, that would be good' (C2). In support of additional low vision education to optometry students, a practitioner stated that 'I think there's an element of a lack of exposure on a training level. Most people are not actually exposed to a deserving active care of people with low vision, so I think a lot of our graduates finish their courses uncomfortable with that. Perhaps reintroducing some of the hands-on low-vision stuff in the curriculum may be of benefit as well' (C8).

When discussing the need to increase uptake of services, it was suggested that *low vision clinics* would have to improve their policies around co-management of low vision patients.

Mobile low vision clinics could increase the uptake of services as ‘it’s really hard to refer some patients when they’re from low socioeconomic background, retired or pensioners. They’re not able to go that far. More clinics, more locations if possible’ (C19).

Several practitioners explained that poor understanding of the available low vision services could be a barrier; therefore, increased *public awareness* could be an enabler to increase the uptake of low vision services. Clinicians felt that national *referral guidelines* would reduce the confusion around the referral criteria and could be a helpful tool to increase access to low vision rehabilitation services.

Discussion

Low vision rehabilitation services in Australia are not fully utilised, and while barriers and enablers to patient access have been identified,[1,6] there is a lack of detailed information and underrepresentation of the practitioner voice. To address this gap, this study sought to provide a more comprehensive understanding as it aimed to investigate barriers and enablers to accessing low vision rehabilitation services in Australia from a practitioner perspective. This perspective is crucial in identifying effective interventions that can be implemented to target the problem of underutilisation. Four major themes were identified when analysing the focus groups: referral frequency, service uptake, co-management, and improvement options. The focus groups revealed that most practitioners had limited knowledge of the scope of services provided by low vision organisations. Results from the focus groups suggested the need for continued clinical education, improved communication between service providers and referring clinicians, enhanced referral guidelines and increased public awareness.

Barriers and enablers to accessing low vision services

Focus groups revealed inconsistencies around referral and inadequacies around communication of current low vision services. Previously, it has been hypothesised that an appropriate referral and triage process is a major enabler of low vision service uptake.[20] A lack of knowledge among clinicians[21] has also been found to be a contributing factor to the low uptake of available low vision rehabilitation services. Also, practitioners often fail to refer patients with mild vision loss (visual acuity of 6/15 to 6/21) for low vision rehabilitation services and do not prescribe low vision aids for patients with visual acuities of 6/7.5 to 6/12.[22]

In the UK, patients with vision loss are supported through Eye Clinic Liaison Officers (ECLOs), an effective method of educating newly-diagnosed low vision patients about their diagnosis and adjusting to vision loss.[23] One option could be to adopt a similar approach in Australian settings where designated practitioner groups could be assigned to establish links between service providers and low vision patients.

Miscommunication between patients and practitioners

Results from the focus groups indicate that many patients were not well informed about the extent of their vision impairment, vision loss prognosis or low vision rehabilitation services. These findings are supported in the literature, where a strong relationship exists between level of vision loss and awareness of low vision services.[10,12] Spafford et al.[11] interviewed 34 elderly patients with vision loss who had not sought low vision services and found that 73.5% did not attend low vision services because they were unaware how to attend, and 64.7% revealed that their practitioners had not provided sufficient information on services. An Australian survey of 98 visually impaired patients found that around 85% of the patients considered the provision of service-related information as an enabling factor to access low vision services.[24] Practitioners’ reluctance to actively and efficiently engage in the process is due to their lack of comfort and competency in low vision work, a strong theme in the focus groups. One possible solution could be to develop easily accessible resources for eye care professionals to facilitate early referral to low vision rehabilitation services.

Absence of effective communication between low vision service providers and primary and secondary practitioners

Communication failures from service providers made it difficult for some practitioners to inform their patients on what to expect when visiting a low vision service provider and inhibited identification of additional patients who may have benefited from services. A substantial portion of the practitioners acknowledged that they never received written reports from service providers, making it difficult to evaluate effectiveness of their referral due to the absence of feedback, consistent with a previous study which revealed 39.4% of respondents received written reports less than 25% of the time.[25] Lack of feedback reduces practitioners’ ability to judge appropriateness and effectiveness of referrals. Service provider reports can provide deeper insight and increase the likelihood of future, earlier referrals.

Need for educational resources

Referral criteria for low vision services have been a challenge for clinicians to comprehend, leading to knowledge gaps and limited patient access to low vision rehabilitation. The American Academy of Ophthalmology[26] developed an initiative in 2007 that highlights the responsibility of eye care professionals to refer or provide low vision rehabilitation services to patients with vision loss. Resources including videos, patient handouts, referral guidelines,[9] subsidy schemes, and links to low vision services have been developed to facilitate early referral.

Technology has evolved, and early referral of patients is increasingly effective as low vision rehabilitation is now the standard of care for patients with progressive vision loss. This research revealed a need to raise awareness on examinations for vision loss and where, and at what stage, to refer patients for low vision services. Enablers such as resources facilitating early referral and modifications to optometry curriculum were suggested to increase awareness and education.

Cooperation between service providers, clearer referral guidelines, timely referral, educational resources to facilitate referrals, and increased public awareness are significant steps to ensure effective low vision adjustment process. Referral can help reduce the impact of vision loss and improve quality of life including emotional wellbeing.[27,28] However, barriers such as limited publicity of available services,[2] low referral rates,[12] poor understanding of when to refer and lack of defined referral criteria,[8,9] miscommunication between healthcare professionals, transportation issues and service costs, co-morbidities, income, and standard of education can reduce the use of services.[29]

Collaboration between optometry schools, national low vision service providers, advocacy groups, and patient support groups could bridge the distance between low vision patients and service providers, clinicians, and low vision knowledge. Continuing education courses on vision loss could be organised more frequently as part of annual clinical and continuing education conferences.

This study investigated the barriers to accessing low vision care through clinicians, national service providers such as Vision Australia and advocacy groups like Glaucoma Australia and Retina Australia. These findings were used to develop referral guidelines[9] and can inspire change in the low vision sector to develop programs to increase awareness of low vision services, inform low vision organisations, and help eye care professionals understand the integral nature of low vision management. One limitation of this study is the absence of ophthalmologists in the focus groups, highlighting the need for future research to include a broader range of eye care professionals in order to comprehensively investigate access to low vision rehabilitation services.

Conclusion

This research identified barriers to accessing low vision rehabilitation services from the perspective of referring clinicians. Referral delay was partly due to lack of clear referral guidelines and miscommunication between patients and clinicians. Limited access to low vision services, cost and social stigma associated with vision loss were major barriers preventing patients from receiving services. Practitioners admitted limited knowledge of low vision organisations scope of service, suggesting the need for enablers such as professional development, improved communication between service providers, enhanced referral guidelines and increased public awareness of available low vision services. Over the past decades there has been little substantial change as findings indicate that practitioners continue to fall short in providing adequate and timely referrals of patients so they can receive evidence-based low vision support and rehabilitation. It is imperative professional organisations to better advocate for improved policy and legal frameworks, as well as improved financial incentives, to help remove barriers to referral. Primary care practitioners should better educate themselves on guidelines for referral and the range of available services from which their patients might benefit.

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Disclosure statement

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