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RESEARCH



Having the conversation about vision for safe driving with older adults: an exploratory study of eyecare professional experiences in England and Australia

Marianne EF Piano ^{a,b}, Nadine Veerhuis ^c, Judith Edwards ^d, Victoria Traynor ^e and Nicola Carey ^{d,e}

^aNational Vision Research Institute, Australian College of Optometry, Melbourne, Australia; ^bDepartment of Optometry and Vision Sciences, University of Melbourne, Parkville, Australia; ^cAged Dementia Health Education and Research, School of Nursing, University of Wollongong, Wollongong, Australia; ^dSchool of Health Sciences, University of Surrey, Guildford, UK; ^eDepartment of Nursing and Midwifery, University of the Highlands and Islands, Inverness, Scotland, UK

ABSTRACT

Clinical Relevance: Eyecare professionals assess older adults against the vision requirements for driving and discuss this with them on a regular basis. Improved access to resources/training would be beneficial and help eyecare professionals navigate more difficult conversations about driving, e.g., following acute vision changes.

Background: The numbers of drivers aged >65 years is increasing in many countries, in line with ageing populations. In most countries the onus is on the driver to self-monitor their vision for driving, by engaging in regular eye tests. Eyecare professionals therefore could play an important role in older driver decision-making about their fitness to drive. There is limited guidance for eyecare professionals regarding how to approach conversations with older drivers about their vision, and when these conversations should be had.

Methods: Semi-structured interviews were undertaken with eyecare professionals involved in vision assessments and decision-making about medical fitness to drive for older adults (optometrists, orthoptists, ophthalmologists). Framework analysis identified challenges and facilitators to conversations with older drivers about vision.

Results: Twenty-six eyecare professionals from Australia (n = 17) and England (n = 9) participated from urban and regional/rural areas. Themes were divided into facilitators (clear standards and comprehensive testing; positive approach; preparation and patient self-awareness; relationships and trust; importance of multiple options in guiding a transition to driving retirement) and challenges (acute loss of visual function; limited self-awareness of the impact of visual problems on driving; and perceived lack of resources and need for training).

Conclusions: Eyecare professionals prefer to have early and regular conversations with older adults about their vision for driving. Acute visual field/acuity loss or onset of double vision, necessitating rapid changes to driving behaviour, were both identified as major challenges for eyecare professionals. Improved access to resources and training would be beneficial, to help eyecare professionals navigate these especially difficult conversations and signpost older drivers to appropriate support.

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Introduction

The numbers of drivers aged >65 years is increasing in many countries, in line with ageing populations.¹⁻³ For older people, driving supports independence, access to social activities and quality of life, with driving retirement linked to depression and social isolation.⁴⁻⁶ Progressive sight-threatening conditions e.g., glaucoma, age-related macular degeneration, diabetic retinopathy, cataracts,⁷ along with physiological changes associated with ageing, such as cognitive decline and sight loss, mean that older drivers are at increased risk of death or injury in road traffic accidents.⁸

UK and Australian guidance detail vision standards for driving,⁹⁻¹¹ legal obligations for drivers,^{10,12} and the role of healthcare professionals^{9,10,13} regarding reporting medical conditions impairing driving fitness. The main differences between the two countries lie in mandated medical review and availability of conditional licencing. In Australia, there are differing mandates for yearly medical review between states, summarised in Table 1, which includes assessment of vision against the standards.⁹⁻¹¹ For example, in New South Wales (NEW SOUTH WALES), vision assessment is mandatory for all

drivers aged 75 and older, whereas in the UK this is currently limited to a self-declaration at age 70 and every 3 years thereafter, although mandating of such assessments is currently being considered.¹⁴

In Australia, healthcare professionals can recommend the application of conditions/restrictions to a licence if criteria for an unconditional licence are not met, to accommodate certain visual problems while maintaining safe driving (summarised in Table 2). Examples include restricting driving at night if significant disability glare is identified, or use of glasses/occluder to control diplopia.¹³ However, within the guidance, a number of similarities can be identified: National vision standards for driving are near identical, focusing on high contrast visual acuity, visual field and binocular single vision, summarised in Table 2.

In both countries, the onus remains on the driver to self-monitor their vision level by engaging in regular eye tests, and declaring medical conditions, such as sight loss, which can impact fitness to drive. Where a driver does not fulfil their legal obligations in this regard, UK and Australian healthcare professionals can make a discretionary report to the driver

Table 1. Breakdown of mandatory medical testing requirements for older Australian personal car drivers by state, in addition to any testing warranted by declaration of a medical condition.

Australian State	Mandatory medical review requirements to maintain a driving license
Victoria	None
New South Wales	Yearly medical review at age 75 and above.
Queensland	Yearly medical review at age 75 and above.
South Australia	Yearly self-declaration only at age 75 and above
West Australia	Yearly medical review at age 80 and above
Australian Capital Territory	Yearly medical review at age 75 and above.
Northern Territory	None
Tasmania	None (since 2014)

licencing authority where it is in the public interest. Such disclosures are protected by legislation, but this reporting is not mandatory (excepting the Northern Territory and South Australia), and guidance is strongly oriented towards encouraging the driver to self-declare and follow medical advice, with disclosure as a last resort. This onus to self-monitor and self-declare is a key point of similarity to consider in the context of older driver decision-making regarding driving cessation.

Older drivers have been shown to view healthcare professionals (e.g., in primary care) as trusted authority figures when considering driving decisions,¹⁵ and thus they can play an important role in older driver decision-making about their fitness to drive. However, previous research indicates that discussions about driving with healthcare professionals can be emotionally charged,¹⁵ and studies focusing on physicians^{16,17} and nurse practitioners¹⁷ suggest there is reluctance to routinely discuss driving, more so in more rural/remote areas^{18,19} where alternatives to driving may be limited.

A UK research report for the Department for Transport²⁰ recommended more support and formal training at undergraduate level to help general medical practitioners and other healthcare professionals performing this role, but the form this support should take, or what training should focus on, was not specified. A single study²¹ has looked at the

impact of a workshop intervention for healthcare professionals, to increase their confidence in talking about driving with people living with dementia. However, we were unable to identify interventions or education programmes for healthcare professionals to support these conversations with older adults more generally.

Despite the onus being placed on the driver in the UK and Australia to partake in regular eye tests and self-declare their visual fitness to drive, there is limited guidance for eyecare professionals regarding the best approach to conversations with older people about their vision for driving safety,²² when these conversations should be had, and what support may be most effective.^{23,24} This is important given that global level predictions indicate >2 billion people will be aged 65 years by 2050,²⁵ and concerns that with living and driving longer, road fatality rates amongst older drivers will increase.²⁶ Understanding current challenges, particularly gaps in training, guidance, and available resources to support eyecare professionals is therefore crucial.

The aim was to explore the views and experiences of eyecare professionals in England and Australia with respect to conversations they have with older adults about vision for driving safety.

Methods

Study design

Adopting a descriptive approach²⁷ provides in-depth insight into the perspectives of eyecare professionals regarding conversations with older drivers about vision for driving. To explore this topic thoroughly in line with the chosen approach, semi-structured interviews were undertaken with eyecare professionals to gain rich qualitative data. Ethical approval was obtained from the University of Surrey (UEC 053 FHMS) and University of Wollongong (ETH03735) respectively.

Table 2. Breakdown of the national vision standards for unconditional driving of a non-commercial vehicle unconditionally between Australia and the UK.

Visual Function	Conditions	Australian Standard	UK Standard
High contrast visual acuity	Unconditional	6/12 or better, one/both eyes Letter chart must have 5 letters on 6/12 line (Error threshold: 2 letters)	Car number plate at 20m 6/12 or better, one/both eyes
	Conditional	Above standard met with corrective lenses, or borderline	
Binocular single vision	Unconditional	No diplopia when fixating objects within central 20°	Diplopia controlled with glasses, patch or stable 6+ months with eyecare professional report showing adaptation
	Conditional	Diplopia controlled with glasses or occluder	
Visual field	Unconditional	≥110° horizontal binocular field No significant defect in binocular field within 20° fixation above/below horizontal meridian No significant/unacceptable central field loss: • Cluster 4+ adjoining points completely/partly in central 20° • Cluster 3 adjoining points and separate missed point(s) in central 20° • Central loss >3 missed points as extension of a hemianopia or quadrantanopia	≥120° horizontal binocular field No significant defect in binocular field within 20° fixation above/below horizontal meridian No significant/unacceptable central field loss: • Cluster 4+ adjoining points completely/partly in central 20° • Cluster 3 adjoining points and separate missed point(s) in central 20° Central loss >3 missed points as extension of a hemianopia or quadrantanopia
	Conditional	90-109° horizontal binocular field Longstanding defect with eyecare professional report showing adaptation	
Disability glare	Unconditional	Glare not a marked problem	Glare does not affect ability to pass number plate test
	Conditional	Glare a marked problem	

Sample and recruitment

Participants were eyecare professionals involved in vision assessment and either giving advice or decision-making about medical fitness to drive for older adults (based on national vision standards for driving). Ophthalmologists and optometrists in both countries perform assessments for the licencing authority. Orthoptists, as binocular vision specialists, were included to obtain views on discussions about driving standards relating to diplopia, and for their role in hospitals assessing acute conditions affecting the visual field, such as stroke. In some parts of the UK, they also perform assessments for the licencing authority.

New South Wales, Australia, and England, UK, were selected as locations for the study on the basis of an ongoing research collaboration between universities in the two regions relating to older drivers, and the presence of very similar vision standards for driving between the two countries. Eyecare professionals e.g., optometrists and orthoptists (both countries) and ophthalmologists were invited through mailing lists/social media accounts of their respective country's professional bodies (College of Optometrists, Optometry Australia New South Wales Branch, British and Irish Orthoptic Society, Orthoptics Australia New South Wales Branch, Royal College of Ophthalmologists).

Ophthalmologists in New South Wales were approached by email invitation using publicly available email addresses. Purposive sampling allowed a broad cross-section of views to be obtained, with a sample of 10–15 eyecare professionals sought in each location.²⁸

Data collection

Information sheets were sent by email at least 48 hours ahead of scheduled telephone interviews. Informed consent was obtained and recorded verbally for those in the UK, whereas signed consent forms were returned by email by Australian participants. Interviews were conducted by two researchers (MP & NV) trained in in-depth interview techniques between May 2019– March 2020.

Informed by previous work in the area of driving retirement,^{29,30} an interview guide was developed to explore topics that included: experience of discussing driving with older patients, and using resources/guidelines in practice, along with perceived role. Interviews lasted approximately 30 minutes and were digitally recorded. The topic guide is provided as a supplementary file and includes some additional questions on assessing vision and applying the driving standards, analysis of which will be published separately. Interview topics were adapted from survey questions used for a previous project with general medical practitioners, which focused upon assessment of medical fitness to drive for people living with dementia, and advising them about driving retirement.²⁹ These questions were informed by an integrative review of the area, encompassing qualitative and mixed methods research.³⁰

Data analysis

Framework analysis³¹ was performed to identify challenges and facilitators to conversations with older drivers about vision. This approach is suited to health research involving semi-structured interviews with multiple disciplines about

a key issue/topic, where such discussions are not likely to yield highly heterogenous data, thereby making it appropriate for our exploration of perspectives from different professions in the same field (eyecare).

Following familiarisation with sample of 12 interview transcripts across the three eyecare professions and both countries (MP), an initial framework was developed using a hybrid approach. Remaining transcripts were coded by a second team member (NV), with further review by the team to ensure the framework remained a good fit across professional groups. Saturation of the data was achieved. NVivo (QSR International, USA) was used to generate a master framework and identification of key themes subject to further refinement during team meetings until consensus was achieved. This framework process allows concept integration into meaningful themes, and associations between themes to be explored and inform the final analysis.

Results

Participant characteristics

Twenty-six eyecare professionals from Australia ($n = 17$) and England ($n = 9$) participated. Most were community-based Optometrists ($n = 17$, 68%); professional experience ranged from 1–45 years (median = 29, IQR = 23), and median age was 51 years (IQR = 23.75, range 24–69 years). Table 3 shows demographic characteristics of the eyecare professionals from each country. Australian eyecare professionals were from a range of metropolitan, regional and rural geographical areas in New South Wales. UK eyecare professionals were from six English counties (Greater Manchester, Dorset, Kent, Merseyside, Sussex and Hertfordshire).

Qualitative findings

Two main themes and a number of subthemes, reflecting facilitators and challenges of conversations between eyecare professionals and older adults about driving safety and driving retirement emerged from the data. Figure 1 provides an

Table 3. Demographic characteristics of eyecare professionals recruited from UK and Australia.

Demographic category	NEW SOUTH WALES ($n = 17$)	England ($n = 9$)	Combined ($n = 26$)
Participants (total n)			
Female (n)	8	5	13
Male (n)	9	4	13
Profession (n)			
Optometrist	13	4	17
Orthoptist	4	3	7
Ophthalmologist	0	2	2
Age range (years)			
Median (IQR, range)	56 (18, 24–68)	46 (12, 24–69)	51 (23.75, 24–69)
Time since qualification (years)			
Median (IQR, range)	35 (18, 1–43)	16 (10, 3–45)	29 (23, 1–45)
Highest qualification (n)			
Undergraduate	10	3	13
Masters degree	4	3	7
PhD	2	1	3
Other post-graduate qualification	1	2	3

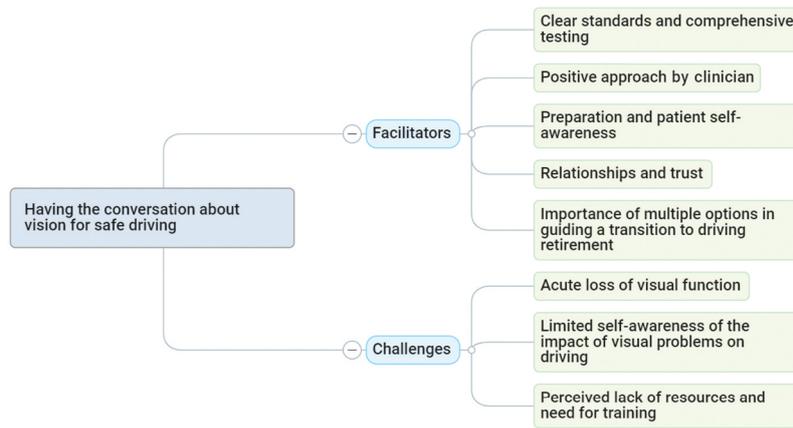


Figure 1. Overview of themes identified within the study.

overview of the themes. Number of respondents is added in brackets beside each sub-theme to demonstrate the level of support for the theme.

Quotations are used to illustrate themes. To protect anonymity of participants, references to names or places have been removed from these quotations. Countries have been abbreviated to Au= Australia, UK = United Kingdom.

Facilitators

Clear standards and comprehensive testing (n = 15)

Eyecare professionals from both countries (n = 13) felt vision standards for driving relating to visual acuity and visual field were clear and straightforward, helping to facilitate conversation about driving and meeting the required standard. Eight participants discussed utilising results from vision assessments as a reference point to guide conversations with older adults about where their vision was in relation to driving standards and available treatment options i.e., cataract removal.

Eyecare professionals considered themselves to be best placed to accurately assess vision for driving and make decisions about whether the standards were met. This empowered them to initiate conversations with older drivers to support their own decision-making process about fitness to drive.

"I think that we're [optometrists] probably the only accurate interface for assessing visual function. Most general medical practitioners don't have an accurate way of measuring Snellen and most patients don't come into contact with ophthalmology. The only contact they would have with someone that can tell them exactly where they sit in relation to legality for driving would be us". [Optometrist-2-UK]

Positive approach (n = 6)

Eyecare professionals in both countries acknowledged the importance placed on driving by older people, and the sense of loss associated with enforced driving retirement. A positive and sensitive approach to starting conversations was preferred, with a strong emphasis on not being prescriptive or "on the attack" (Orthoptist-22-AU).

"If it's someone who's new and comes in to see me, I will be very gentle about it but I will be explaining why, and I will be explaining all sorts of other things as well" [Optometrist-1-AU]

"You can be honest without being brutal. I think it is very important not to be brutal with them because this is earthshattering for them". [Optometrist-19-AU]

Participants discussed that they aimed to support people to meet the standards for as long as possible. Recommendations to withdraw the licence were viewed as the last resort, with few instances of outright refusal to comply recalled.

Preparation and patient self-awareness (n = 9)

Eyecare professionals were clear about the importance of older people deciding to retire, or restrict driving, be that through self-declaration to the driving authority (UK) or requesting a modified licence (Australia). They perceived their role to be guiding the older person towards self-awareness of their visual difficulties. The preferred approach of early and regular conversations was considered important, especially for age-related eye diseases associated with a gradual loss of visual function over a prolonged time-period. This preparation often included discussing alternatives to driving, such as identifying family members who could help, suggesting moving to areas with better public transport links, or signposting to local transport schemes and other support sources.

Where there was an acute loss of visual function, eyecare professionals identified that the passage of time had an important facilitating role in the older driver coming to terms with the news, although this did not make the initial conversation any easier.

"It never gets easier but when you bring them back to review it, they've had time to reflect. You know, you've given them some really difficult information but, when they come back, there are very few that are still very resistant. They've, obviously, come around to it" [Orthoptist-1-UK]

In some instances (n = 6), the patient's family were identified as a facilitator for this process, primarily in a support role to encourage compliance.

"If possible, I would be making the recommendations about not driving in the presence of family, so that more than one person is aware of the recommendations". [Optometrist-1-AU]

In general, compliance with recommendations about driving was observed by practitioners to be good, based on patient self-report or information supplied by accompanying family members. Most eyecare professionals recalled just one or two instances that required a report to the driving authority (UK) or general practitioner of non-compliance (Australia), with this

non-compliance usually by the patient's own admission, although two participants (1 UK, 1 AU) reported instances of witnessing non-compliant patients driving in their local community.

Relationships and trust (n = 6)

Regular consultations over time were felt to develop trust and an ongoing relationship with older drivers, providing opportunities for conversation as vision declined. This was seen as particularly important for eyecare professionals practicing in rural/remote areas, where preparing to retire from driving could carry a greater degree of biographical disruption, such as moving home to improve public transport access.

"... patients, that have macular degeneration where they might still be driving but they live in a more remote area, I actually give them advice well in advance that they should move, we're always sort of recommending that. They don't always listen to me". [Optometrist-7-AU]

Strong working relationships and trust were identified as an important source of support for conversations with older drivers (n = 5). In both countries, the ophthalmologist was for example, identified by optometrists and orthoptists as being a 'senior' source of opinion that older drivers could trust, along with reinforcing their recommendations (n = 8).

"... I think it's more I would refer to them probably sometimes if I needed someone with slightly more seniority, as much as I can deal with it and I can tell a patient that, that they shouldn't be driving. Sometimes they need to hear it from a consultant and that, sometimes that, that's a good, a good pathway". [Orthoptist-1-UK]

Importance of multiple options in guiding a transition to driving retirement (n = 12)

Understanding options for treatment referrals and conditional licences helped guide conversations participants had with older people. This in turn influenced when alternatives to driving were introduced, which could be early in the process if the treatment options were limited, or vision was changing quickly. In rural Australia, where older drivers face long waits to see a specialist, maintenance of driving was not always an option.

"I can say, "This is where your vision is. This is what you need to be and these are our options. What are you doing?" and it just comes naturally. It's just one of those conversations that we have". [Optometrist-11-AU]

Adopting a stepped transition to driving retirement was central to the positive approach eyecare professionals reported, and helped ensure that older drivers were aware all avenues had been exhausted before driving retirement was recommended. For example, as mentioned in the Introduction, Australian eyecare professionals have the option to impose conditions on a licence instead of revoking it, e.g., must wear a patch to control diplopia, no driving at night, must only drive on local roads. These conditions can be imposed where visual performance doesn't quite meet the standards for an unconditional licence (Table 2), allowing older adults to retain their licence subject to regular review. However, some optometrists felt the nature of the restrictions they chose to apply was somewhat arbitrary.

In the UK conditional licences are not an available option for eyecare professionals to recommend – although a few participants commented that patients in their care would self-report that they had restricted their driving, this did not influence their application of the standards.

"You have to meet the standard if you're ever going to drive a car, and you don't meet that standard. So, even though you only go to the supermarket on a Tuesday and turn left, you are not legally entitled to". [Optometrist-2-UK]

Challenges

Acute loss of visual function (n = 7)

Challenges were reported to occur when older adults experienced a sudden or acute loss of visual function, such as sudden onset diplopia, or visual field or acuity loss secondary to trauma or acute pathology, e.g., stroke, with no opportunity for the above conversations with eyecare professionals.

Such instances, where the eyecare professional must inform the person at their initial visit that they do not meet the standards for driving, were identified as being among the most challenging conversations to navigate and could also cause distress to the eyecare professional.

"the most extreme I've had is being told that it was going to end somebody's marriage. And, and that's really hard 'cos, you have to try not to take it personally and it can, you know, it really affects you". [Orthoptist-1-UK]

"it can be a wide range of responses from people going, "Yeah, I know it's coming. I know my vision's been deteriorating. I've sort of self-restricted anyway". I've also had people to say, "If you cancel my form, I may as well go and top myself". So, it can be very, very delicate having that conversation with people". [Optometrist-6-AU]

Limited self-awareness of the impact of visual problems on driving (n = 10)

Conversations were also challenging when patients had limited self-awareness or refused to acknowledge the impact of a visual problem on their ability to drive safely. Difficulties arose primarily in cases where visual function was borderline with respect to required standards (discussed by 7 participants), or subjective components of visual assessment, that impacted driving but were difficult to measure and evidence clinically, such as disability glare and diplopia (discussed by 6 participants).

Some older adults were resistant to wearing glasses simply to meet visual acuity standards, while others denied having diplopia upon hearing they would need to be declared. Disability glare was also identified as a difficult concept to explain to older drivers (mentioned by 3 participants).

"there's an awful lot of, of advising drivers, not just older drivers, about the impact of diplopia on their driving. That is a really tricky situation to handle because the volume of patients that have terrible diplopia that, when you say, "You can't drive with diplopia", suddenly don't like it all and say, "It's raging double vision when I'm watching telly but I never get it when I'm driving". [Orthoptist-2-UK]

Perceived lack of resources and need for training (n = 17)

A lack of available resources and training in both the UK and Australia was reported to affect participants confidence and skill in navigating these challenging conversations about driving retirement with older people.

"I think teaching about how to deal with emotional people would be worthwhile and that's including people like older people obviously in this context where they're probably a bit more likely to be upset or emotional about it". [Orthoptist-22-AU]

In UK hospitals, the role of the Eye Clinic Liaison Officer was acknowledged to be a key source of emotional support for older drivers (n = 5) as they were able to signpost to available

alternatives to driving and third sector support. This role however does not exist in Australia, and participants reported variable levels of knowledge regarding available resources and support for older drivers. Eleven optometrist participants (Au n = 9, UK n = 2) mentioned directing patients to third sector organisations such as sight loss charities to discover available resources.

Experienced Australian optometrists, particularly in rural areas, felt more confident in signposting to resources, whereas others were less certain about what was available, or their knowledge was built on experiences of others close to them.

Outside national driving authority websites, resources such as support groups, and local alternatives to driving were limited and deemed lacking, discussed by 13 participants, especially patient-facing information, and access to support in rural areas. One UK orthoptist interviewed felt it necessary to develop their own written guide to support patients in selecting the correct options when self-declaring to the driving authority.

“there probably should be more resources out there to help them come to terms with it [driving retirement] because a lot of them feel like it’s a real loss of independence and they really don’t know what to do or how to cope with it. Whether it be like a phone line or a support group or something like that they can like give them a bit of a sense it’s not just them. Yes. That would be worthwhile”.
[Orthoptist-22-AU]

Discussion

This study is the first to specifically explore views and experiences of multiple eyecare professionals regarding the conversations they have with older adults about vision for driving safety. Our study found eyecare professionals considered having conversations with older drivers about their vision was a key part of their role and critical in preparing older people about future potential changes to driving behaviour. Given the concerns regarding the projected rise in older people, subsequent increase in the number of road traffic collisions and reluctance that older people have about planning for, or discussing driving retirement with family or physicians,³² this study is timely and of international relevance.

Eyecare professionals in our study felt they were best placed to assess and explain the impact of vision changes upon ability to drive safely. Similar findings were reported by eyecare professionals in an earlier US based study³³ which explored optometrist and ophthalmologist attitudes and behaviours towards discussing driving. Although the same sense of responsibility has been reported by other groups of healthcare professionals such as physicians^{16,17} and nurses¹⁷ based in primary care, these professionals were reluctant to routinely discuss driving, more so in rural/remote settings^{18,19} where alternatives to driving may be limited. Eyecare professionals, whose relationship often spans decades, would therefore appear to be in an ideal position to help prepare and support older drivers with chronic or acute eye disease for driving cessation.¹⁵

Adopting a gradual approach was identified as being key to improving self-awareness and acceptance about driving and vision changes, often over multiple visits. Nurse practitioners have reported adopting a similar approach when supporting older adults to make decisions about driving retirement.³⁴ The benefits of brief discussions which encourage behaviour change in other domains, i.e., smoking and diet have previously been reported.^{35,36} Prior research emphasises the importance of insight and self-awareness as triggers for driving behaviour change.^{37–39} The present findings suggest that eyecare professionals may be utilising such conversations as a form of brief intervention to raise awareness.

Behaviour change models, which describe behaviour and factors influencing it, can be leveraged to understand how such interventions can support behaviour change, such as deciding to restrict or stop driving. These multistage models, such as the Precaution Adoption Process Model⁴⁰ (Figure 2), can terminate when the individual decides not to take precautions i.e., make a change to driving behaviour, based on the information they currently have.^{37,39} Thus, timely and regular conversations about driving, initiated by the healthcare professional, provide an opportunity for older drivers to progress through the behaviour change model stages again, for example, when approaching the point where the vision standards for driving are no longer met. However, exploration of how healthcare professionals could support movement between behaviour change model stages has been limited

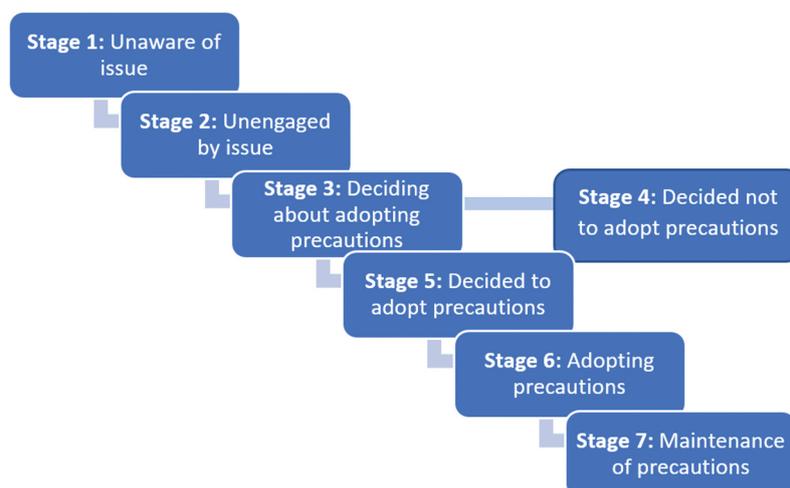


Figure 2. The Precaution Adoption Process Model.⁴⁰ This is an example of a behaviour change model, with multiple stages that the individual progresses through when deciding whether or not to act on an issue, be that through adoption of precautions or cessation of a risky behaviour.

in the context of driving behaviour. Further work in this area would aid understanding of the mechanisms by which advice from eyecare professionals can mediate older driver decision-making about driving behaviour.

Discussions about driving have been previously identified to trigger strong emotions for older adults.¹⁵ In the present study, eyecare professionals identified discussions about driving could be especially stressful or upsetting for themselves and the older driver when arising from an acute loss of visual function, or not meeting the standards on a first visit to a particular optometrist. Studies attempting to apply multi-stage behaviour change models to driving retirement have identified these models are not well fitted to circumstances where there is an abrupt change in health status, as this results in stages of the model being skipped.^{37,38,41} Thus the concept of conversations regarding driving as a brief intervention, to encourage transitions between behaviour change model stages as suggested above, is less applicable in this scenario. This in turn limits the ability of eyecare professionals to adopt the same supportive and preparatory role in these situations, compared to instances of chronic eye disease where there is an existing relationship. The present findings suggest there is a need for additional support in such scenarios, for both eyecare professionals and older drivers, but more research to corroborate this would be helpful.

There is however a lack of consensus about the form this support or training should take, reflected by dearth of available evidence in this area. Some examples of forms of support include i) improved undergraduate provision to improve confidence when undertaking vision assessment for fitness to drive²⁰; ii) workshop to increase confidence in talking about driving with older adults, based on previous successful workshop about discussing this topic with people living with dementia²¹; iii) provision of counselling/conversation guides.⁴² A variety of education and support interventions for older drivers are additionally under development or trial, such as healthcare professional-led interventions^{43,44} and peer support groups.^{45,46}

In the present study, participants suggested that communication skills training and/or patient-facing resources would be helpful, to support eyecare professionals and patients respectively. Identification and consolidation of patient-facing resources, to develop a more integrated early support pathway for older drivers with progressive sight loss, could therefore assist in discussions about driving retirement or restrictions. This would facilitate consistency of patient experience in Australia and the UK.

Two main differences were identified between experiences of eyecare professionals in the two locations studied. First, for Australian eyecare professionals, conditional licences were perceived as one solution when exhausting all possible alternatives before driving cessation, whereas this is not an option in the UK. However, Australian participants reported that a lack of specific guidelines about when to apply a restriction made decision-making related to this feel largely arbitrary. This was also demonstrated in a practice survey of 300 optometrists across Australia for older drivers with central vision impairment⁴⁷: the visual acuity level at which restricted licences were deployed varied between practitioners, and 40% of those surveyed wanted more specific guidance on appropriate driving restrictions to apply for certain levels of visual acuity. This may explain the other finding of the survey that although restricted licences were routinely discussed

with patients, they were much less frequently deployed. More clarity on this could help eyecare professionals practicing in Australia to more confidently recommend restricted licences as a supportive tool for older drivers.

Second, UK eyecare professionals operating within the integrated hospital eye clinic system often have access to an additional support source for patients that they can signpost to, namely the Eye Clinic Liaison officer. This role does not exist in Australia but could be potentially explored for adoption within public hospital systems, although may be less practical in private clinic and community optometry settings, thus does not negate the need for comprehensive mapping of support options available. Despite New South Wales differing from the UK by mandating an annual medical review including a sight test from age 75, experiences of practitioners relating to instances of non-compliance and reporting were similar, as well as their identification of challenges and facilitators to conversations about driving. This may be because the onus is on the driver to return the completed medical review form to the driving authority in New South Wales, creating opportunities for non-compliance. Further, the challenges and facilitators identified by participants may be applicable regardless of whether the attendance of older drivers for the test was mandated or voluntary.

As a qualitative study, we acknowledge that the findings reflect the views of participants who volunteered to be interviewed. While we achieved a spread of orthoptist and optometrist input in both locations (New South Wales, Australia, and UK), sample size within each profession was limited, thus our findings do not enable deep insight to individual profession perspectives. Further, we were only able to interview two UK ophthalmologists, despite broadly advertising the opportunity in both regions. Although their views corroborated those of others interviewed, the range of opinions and experiences of this professional group is subsequently narrower and may not be generalised outside the UK's integrated eye clinic system.

We also acknowledge that the study is limited to participants from England, UK and New South Wales, Australia. Given the existence of nationally agreed driving standards for both countries, the views and experiences of those we interviewed are unlikely to be unique to these regions. However, there is very limited literature to compare against for eyecare professionals elsewhere regarding this topic. Although we endeavoured to purposively sample from both rural and urban areas in both locations, to obtain a broad range of perspectives, it is important to remember, as outlined in [Table 1](#), variations exist between Australian states in mandatory medical review. This may limit generalisation of the experiences of New South Wales eyecare professionals to those operating in other states under different requirements, such as Victoria, Northern Territory and Tasmania, which have no mandatory testing.

Similarly, differences between the UK and Australia may have contributed to some differences in perceptions and experiences between practitioners in the two countries, such as lack of mandatory testing in the UK, and options for recommending a conditional licence existing in Australia, where visual performance is borderline for certain standards ([Table 2](#)). These differences are particularly relevant in relation to reporting non-compliance, and exhausting all possible options before recommending driving cessation.

Conclusion

Eyecare professionals prefer to have early and regular conversations with older adults about their vision for driving. Subsequently, acute visual field/acuity loss or onset of double vision, necessitating rapid changes to driving behaviour, were both identified as major challenges for eyecare professionals when having conversations about driving. Improved access to resources and training would be beneficial and help eyecare professionals navigate these especially difficult conversations. Older drivers would similarly benefit from improved availability and awareness of resources to support their decision-making processes regarding driving behaviour. Future research involving older drivers could identify how conversations about vision for driving support these processes. Future work to map and consolidate resources would help standardise patient experience.

Given that the older adult population in the UK, Australia and around the world continues to rise, improving access to training for eyecare professionals, and patient facing resources are both key to supporting older adults make informed decisions about driving behaviour, ultimately minimising road fatality rates in this population.

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ORCID

Marianne EF Piano  <http://orcid.org/0000-0003-0714-6339>

Nadine Veerhuis  <http://orcid.org/0000-0003-2627-7457>

Judith Edwards  <http://orcid.org/0000-0002-6531-1315>

Victoria Traynor  <http://orcid.org/0000-0003-4515-7602>

Nicola Carey  <http://orcid.org/0000-0003-2841-1760>

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