deeble institute

Deeble Institute for Health Policy Research

Issues Brief

no: 57
31 July 2024

Reinforcing the role of eye care practitioners in falls prevention among older adults

Deeble Scholar | Dr Kam Chun (Terry) Ho
Optometry and Vision Science|
University of Canberra
Terry.Ho@canberra.edu.au

Adj AProf Rebecca Haddock
Executive Director | Knowledge Exchange
Deeble Institute for Health Policy Research
Australian Healthcare and Hospitals Association

Sponsor of the Deeble Scholarship

HESTA An Industry SuperFund

ahha australian healthcare & hospitals association

Acknowledgements

This Issues Brief was developed as part of the Deeble Research Scholarship. I would like to acknowledge HESTA as the supporters of this scholarship. My deepest gratitude goes to A/Prof Rebecca Haddock for her exceptional guidance and unwavering support throughout the development of this Issues Brief. I also extend my sincere thanks to my referees, Professor Lisa Keay and Associate Professor Mei Ying Boon, for their invaluable support and encouragement in my application for this scholarship. Lastly, I wish to express my gratitude to the stakeholders who took the time to meet with me and provided their valuable insights and contributions to this Brief.

Key Messages

- Falls are the leading cause of hospitalised injuries and injury-related deaths among older Australians. The cause of falls in the older adults is multifactorial however older adults with impaired vision are twice as likely to fall than older adults without impaired vision. Around 75% of the patients admitted to hospital following a fall has a correctable vision problem, either by updating a spectacle prescription or the surgical removal of cataract. To minimise the risk of falls in older adults and appropriate care is received, a multifaceted and cross-disciplinary approach is required.

- Guidelines for optometrists have been published that support falls prevention in older patients with appropriate spectacle corrections, but its implementation and impact on falls prevention is unknown. Collecting data about the implementation and benefits of these guidelines to prevent falls in optometric practice is critical as more than 50% of people aged 65 and over received optometry service, placing eye care a good position in preventing falls.

- Referrals by eye care practitioners and general practitioners to other allied health and patient support services are not embedded in routine models of care; and the number of referrals relating to a risk of falls is unknown. Multi-disciplinary falls prevention programs, which integrate general practice and allied health service under a Medicare rebate system (Enhanced Primary Care for Allied Health Professionals) should be scaled to identify older adults at risk of falls and provide evidence-based fall prevention interventions.

- Cataract surgery can reverse falls risks, but a shortage of healthcare professionals and inadequate funding in the eye care sector cause long wait times for surgery in Australia. By increasing investment in the eye care sector, not only can health expenditure be reduced through the prevention of blindness and permanent vision loss, but it can also improve patients' quality of life, increase productivity, and decrease the demand for other healthcare services.

- Evidence showed that eye care delivered is not always optimal. To maintain the quality of care, regular monitoring and evaluation on care received by older adults at risk of falls, their health outcomes and patient experience is needed to ensure the uptake of latest evidence and quality of patient care.

Recommendations

Recommendation 1
Development and implementation of a data quality feedback tool for My Health Record (long-term) and an appropriate digital platform for optometrists (short-term)

Recommendation 2
Standardisation of medical terminologies and diagnostic coding systems for Falls Risk Assessment

Recommendation 3
Enhance quality control and data-driven decision-making in eyecare

Recommendation 4
Integrate optometrists in multi-disciplinary falls prevention programs

Recommendation 5
Implement a comprehensive monitoring and evaluation framework

Recommendation 6
Standardising the cataract referral process and Integrating community and hospital care

Recommendation 7
Set targets for reducing waiting times for second eye cataract surgery

Recommendation 8
Enhance funding for public ophthalmology services

Recommendation 9
Increase funding for outreach cataract surgeries

Table of Contents

Executive Summary

Falls are the leading cause of hospitalised injuries and injury-related deaths among older Australians. Among various contributing factors, impaired vision significantly increases the risk of falls. Approximately 75% of older adults admitted to hospitals following a fall have a correctable vision problem, highlighting the critical role of eye care practitioners in falls prevention.

Falls among older adults result from a complex interplay of factors, including decreased strength, impaired balance, and environmental hazards. A multifaceted and cross-disciplinary approach is essential for effective falls prevention. Optometrists play a pivotal role by ensuring proper spectacle corrections and identifying vision issues that can be addressed through surgery, such as cataracts. However, considerable work is needed to normalize falls prevention as part of optometric practice and increase awareness among other health professionals.

Guidelines for optometrists have been published to support falls prevention, yet the implementation and impact of these guidelines remain underexplored. Data collection on the effectiveness and adoption of these guidelines is critical, as over 50% of Australians aged 65 and older receive optometric services, positioning eye care practitioners as vital contributors to falls prevention.

Current models of care lack routine interdisciplinary referrals for patients at risk of falls, leading to missed opportunities for early intervention. Despite the importance of vision assessments, referrals from GPs to optometrists remain low. Multidisciplinary care plans significantly reduce fall-related hospitalisations, but vision assessment is often excluded from these plans. Including optometrists in multidisciplinary programs could improve patient outcomes, as evidenced by high patient and practitioner willingness to participate in falls prevention programs when optometrists are involved.

Cataract surgery, which can significantly reduce falls risk, faces challenges due to healthcare professional shortages and inadequate funding, resulting in long wait times. Increased investment in the eye care sector can reduce healthcare costs, improve patients' quality of life, and decrease the demand on other healthcare services.

Optimal eye care delivery is not always achieved. Regular monitoring and evaluation of the care received by older adults at risk of falls are needed to ensure the application of the latest evidence and maintenance of high-quality patient care. Implementing standardised diagnostic coding systems and enhancing the interoperability of electronic health records can improve data quality and support falls prevention efforts.

Addressing the multifactorial causes of falls among older adults requires a coordinated effort involving optometrists, general practitioners, and allied health professionals. By enhancing funding, integrating multidisciplinary care models, and ensuring the implementation of evidence-based guidelines, we can significantly reduce the incidence of falls and improve the overall well-being of older Australians.

Background

Falls are the major public health concerns in Australia

Falls are the leading cause of hospitalised injuries and injury-related deaths among older adults. In Australia, around 30% of adults older than 65 years fall once or more and the rate of falls increases with age and frailty level [1]. In 2019–20, falls resulted in 224,000 (42%) hospitalisations and 5300 deaths [2]. Of these, around 60% of hospitalisations and more than 90% of deaths were for people aged 65 and over [3].

Falls and consequent injuries are major public health problems that can result in disability. Over half of the hospitalised injuries involve a fracture with hip and thigh being the most common locations [2]. Older adults often recover slowly from hip fractures and are vulnerable to postoperative complications resulting in permanent disability and needs of care [4].

Falls can result in psychological consequences such as fear of falling, loss of confidence where the older adults refuse to move for fear of recurrent falls and injury [5]. Self-limiting movement and reduced activity will further increase the risk of falling and lead to loss of independence, social isolations, and reduced quality of life [6, 7].

The economic impact of falls is critical to family, community, and society. The person who falls suffer income loss and dependence on caretakers. The cost of fall-related injury in Australia was estimated to be AU$2.3 billion dollars, around 62% of the injury expenditure in older adults aged 60 and over [8]. With the ageing population, this already substantial burden on the Australian health care system will escalate significantly.

While the risk of falls and injury increases with age, falls are not unpredictable accidents. There is clear evidence that falls are multifactorial, and involve a confluence of modifiable social, behavioural, and physical risk factors, such as decreased strength; impaired vision, balance, and gait; and polypharmacy; as well as hazards of the physical environment, such as poor lighting or slippery floors [9]. The risk of falls increases with the number of risk factors that an older adult has. For example, the falls rate increased by four times in people with four or more risk factors compare to those with no risk factors [10]. As such, identification of and addressing the risk factors of falls is the key to prevent falls.

Visual impairment increases the risk of falls

As people age, it is common for their visual functions to decrease, which is associated with an increased risk of falling. In Australia, it is estimated there are over 575,000 people who are blind or vision impaired [11]. Older adults with impaired vision are twice as likely to fall than older adults without impaired vision [12]. Older adults rely heavily on vision to control their balance, identify hazards or obstacles such as stairs, steps and kerbs in their environment and navigate safely around them. Poor vision reduces body control and balance, and substantially increases the risk of falls in an older adult [13]. Importantly, three in four patients admitted to hospital following a fall have a correctable vision problem, either corrected by updating a spectacle prescription or the surgical removal of cataract [14].

More Australians visit an optometrist than any other non-medical health professional, with 6,762 registered optometrists providing over 10.9 million eye care services in 2022-2023 [15, 16]. While <2% of patients seeing general practitioners (GPs) for an eye problem [17], more than 50% of people aged 65 and over received optometry service [18], placing optometrists in a good position in preventing falls, in addition to GPs. This will also provide an opportunity to enhance integration of optometric care into primary care and facilitate collaboration between healthcare professionals. However, considerable work is needed to normalise falls prevention as part of optometric practice and increase awareness among other health professionals.

Since 2009, four new optometry programs located in South Australia [19], rural Victoria [20], Australian Capital Territory [21] and Western Australia [22] have been established to improve service coverage in the regional and rural areas. These programs aim to train local optometrists who are more likely to remain and practice in these underserved rural communities, enhancing access to essential eye care services.

Providing appropriate glasses and cataract surgery are effective in improving vision and falls prevention [23-25]. With appropriate counselling, provision of single lens glasses for older wearers of multifocal glasses who take part in regular outdoor activities reduce 30% of falls [23]. Similarly, performing cataract surgery on the first eye reduces 31% of falls rate where second eye cataract surgery further reduces the fall rates by 50% [25].

Economic modelling in US has shown that prescribing appropriate glasses for active older adults and expedited first eye cataract surgery can reduce falls by 115,209 and 64,717 respectively resulting in US$237 million and US$423 million annually [26]. In Australia, reducing the wait time for cataract surgery from 12 months to 3 months also showed savings of AU$6.6 million for the health system and a reduction in falls by 25% [27].

In 2019, Optometry Australia published [Guidelines for optometrists to help prevent falls in older patients], which guides Australian optometrists on how to manage older patients to minimise the risk of falls. These guidelines were further revised and strengthened to improve its feasibility and implementation [28]. The Guidelines enhances evidence-based management and increases the awareness of optometrists in falls prevention.

Optometric assessment improves patient referrals for cataract surgery

Comprehensive information of vision status and ocular health provided by optometrists can facilitate the referral process. The pathway to cataract surgery in Australia is initiated by a referral from a primary care provider, predominantly optometrists and general medical practitioners [29]. In this pathway, GPs provide the information on general health and medications where optometrist can provide information on vision and eye health to assist the triage process and reduce the wait time for visiting the ophthalmologist for initial assessment and the subsequent visit for the cataract surgery [29, 30].

In view of increased demand for health expenditure in falls and the association between vision and falls, good coverage of optometric services among older adults and increasing support for optometrists in managing older adults at risk of falls is essential.

Data to inform strategies to implement falls prevention practice in eye care practitioners

To implement falls prevention practice in eye care practitioners, it is important to understand:

- how eye care practitioners are managing patients at risk of falls and their attitude in increasing involvement of falls prevention, and;
- to what extent the published guidelines for optometrists in falls prevention are implemented and why, and how many falls are prevented by implementing these guidelines.

Such information can be used to tailor interventions and training programs to engage and improve eye care practitioners in identifying and managing patients at risk of falls, and identify which strategies are most effective in falls prevention.

Data on practice patterns of optometrists in falls prevention

Optometrists have a key role in falls prevention of their older patients through awareness of their patients' falls history, detection of vision problems, prescribing appropriate glasses that minimise the risk of falling, and counsel and refer patients at risk of falls to relevant professions.

In Australia, data on the knowledge, attitude, and practice patterns of optometrists in falls prevention is lacking and will be required to demonstrate the feasibility of involving optometrists as an additional point of contact for GPs in falls prevention efforts.

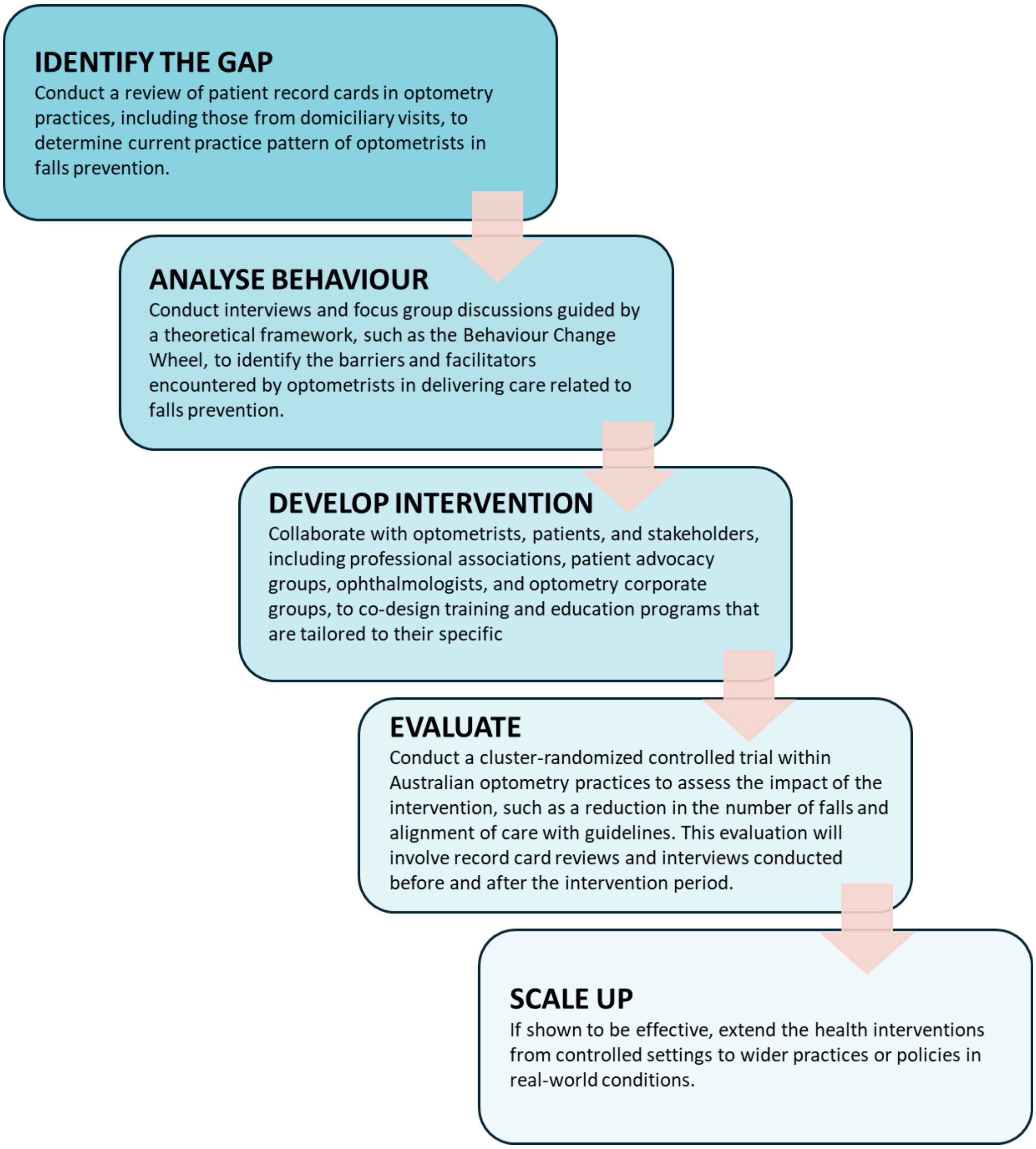
In the United States, a study involving focus groups of both patients and optometrists examined the role of optometrists' as the referral point for falls prevention programs (30). It was found that over 90% of patients were willing to participate in a falls prevention program if recommended by their optometrists. Similarly, 97% of the participating optometrists indicated their willingness to refer patients to falls prevention programs.

The study further found that 17% of the optometrists already referred their older patients to falls prevention programs, with only 2.6% of optometrists mentioned funding as a factor in this process. Unfamiliarity with community-based falls prevention programs and fall assessments was identified as the main obstacle for optometrists in referring patients to falls prevention programs (30).

Data collection from optometrists is also critical to identify areas of practice that require improvement; and for the development of evidence-based interventions and educational programs with the goal of improving patient health outcomes.

Data can be collected using surveys, health record reviews, interviews, and focus groups via the collaboration of healthcare researchers and professional associations (e.g., Optometry Australia). Health improvement methods such as the iCaretrack approach [31] can be used to underpin the development of targeted training and education programs (Figure 1).

Figure 1. Overview of the iCaretrack approach [31] demonstrating the key steps when applied to falls prevention.



Data on implementation and impact of guidelines for optometrists to prevent falls

Inappropriate glasses can increase the risk of falls in older adults [23, 32]. Evidence-based guidelines [33] for optometrists to help prevent falls in these patients with appropriate glasses have been developed, but data on the their implementation is limited; and where recommendations have been implemented, their impact remains unknown. Consequently, guidelines were revised in 2022 for easier implementation into optometric practice [28], but the impact of these changes on practice also remains unknown.

In the UK, guidelines on spectacle prescribing have been specifically developed for patients undergoing cataract surgery [34]. However, these guidelines have not been validated for use in Australia. Cataract surgery is a prevalent elective procedure in Australia, with 323,420 operations performed in 2022 to 2023 [35]. Given the high volume of cataract surgeries, it is crucial to develop and validate guidelines tailored to the Australian context to ensure optimal patient care and outcomes.

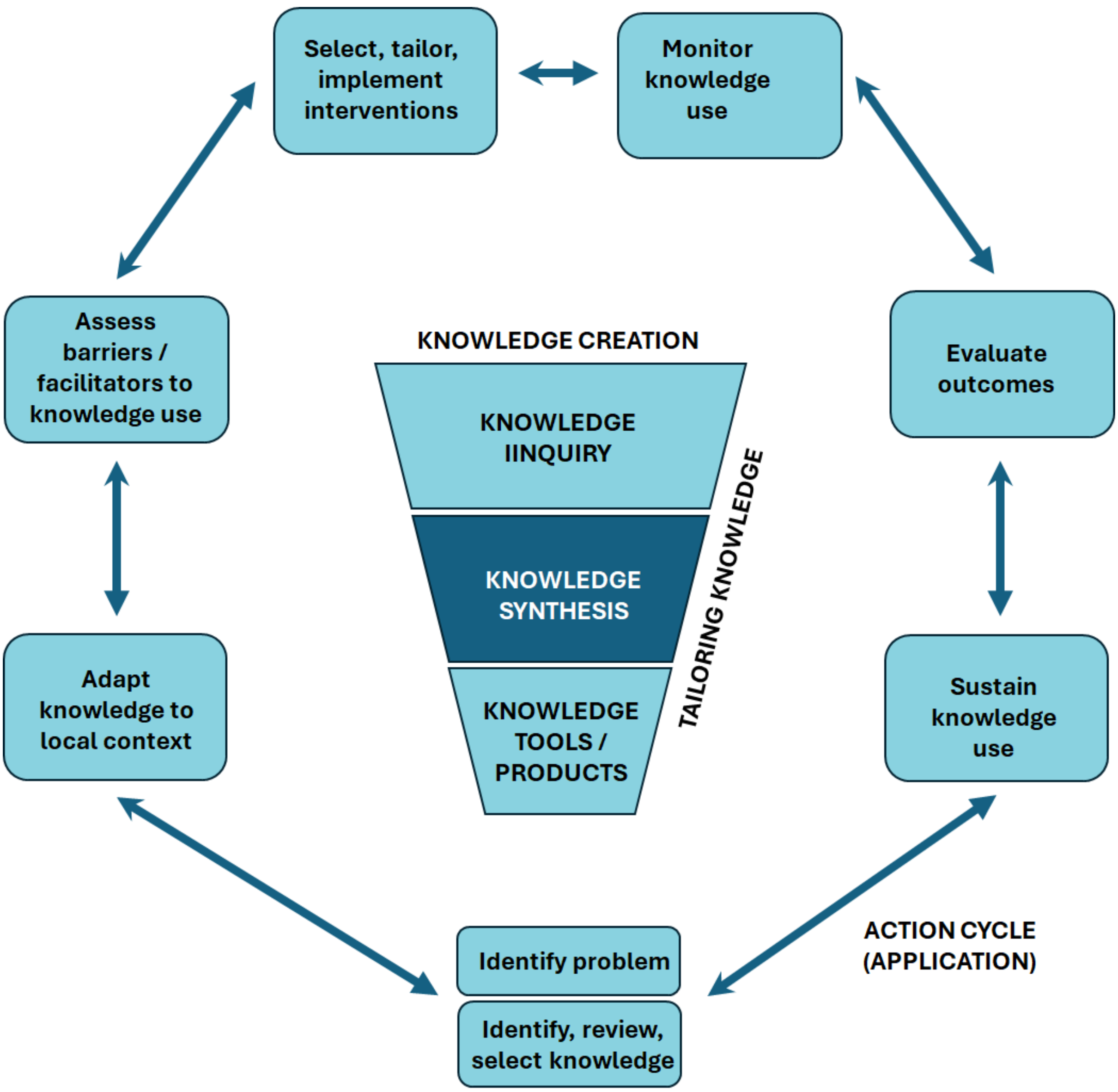
Since cataract surgery is typically performed on one eye at a time, this can result in a temporary imbalance between the patient's eyes until the second eye is operated on. Patients who have undergone cataract surgery have reported feelings of unbalance and difficulties with steps [36], which increases the risk of falls.

To mitigate this risk, the power and design of the prescribed glasses and expediting second eye surgery play a crucial role [34]. Therefore, these guidelines will become increasingly important in effectively managing patients undergoing cataract surgery and ensuring appropriate glasses are prescribed to minimise the risk of falls.

Evaluating the effectiveness of these guidelines [28, 34] is critical to the development of future policies. Data can then be used to inform resource allocation that promotes falls prevention and supports the training of optometrists and other healthcare professionals, as well as the provision of appropriate glasses for older patients.

A knowledge translation framework, such as the Knowledge-to-Action framework [37], can be used to ensure that evidence-based guidelines for falls prevention are effectively implemented in optometric practice (Figure 2).

Figure 2. The Knowledge-to-Action framework (adapted from [37]*).* The Knowledge to Action framework consists of two main phases: knowledge creation and action cycle. In the knowledge creation phase, the focus is on identifying knowledge gaps, synthesising knowledge, and developing knowledge tools. This includes identifying evidence regarding the relationship between vision and falls, understanding how vision interventions can prevent falls, evaluating the quality of available evidence, and adapting it to fit Australian optometry practice (e.g., developing falls prevention guidelines for Australian optometrists). This phase is also integrated into the action cycle. The subsequent action cycle involves identifying implementation barriers and facilitators, selecting and tailoring interventions to enhance implementation, and monitoring and evaluating the impact of guidelines for optometrists to prevent falls. Another action cycle may be necessary to sustain the implementation.



Data on My Health Record

The My Health Record serves as a valuable platform for collecting key health information, making it potentially useful for data collection in cases of complex or chronic conditions that require multidisciplinary care, such as falls and diabetes. However, the availability of data within the My Health Record is dependent on healthcare professionals, uploading the relevant clinical documents. Consequently, the data can be missing or incomplete, posing challenges for comprehensive analysis [38].

Incompatibility between optometry practice management system and My Health Record

A lack of interoperability with common optometry practice management systems restricts the system's effectiveness within optometry and other allied health professions [39]. Optometrists can only access patient records through the National Provider Portal via a web browser, requiring separate registration processes for their existing Healthcare Provider Identifier – Individual (HPI-I) number and their organisation's unique Healthcare Provider Identifier - Organisation (HPI-O) number, leading to time-consuming registration process [40].

Without financial compensation for the additional administrative tasks involved in navigating and utilising the My Health Record system, optometrists may be less motivated to engage fully with the system and impedes the potential to understand practice patterns and improve patient care [40]. The lack of remuneration for the extra time and effort required to manage these administrative duties means that optometrists are more likely to prioritise direct patient care activities over these additional tasks. Consequently, this can result in vision impairment being missed as a risk factor in the records accessible to other health practitioners using My Health Record.

Additionally, optometrists may be unaware of other patient risk factors for falls, which would otherwise inform the prescription of appropriate glasses and prompt inquiries about fall history during consultations. Proper management or referrals to ensure patient safety and continuity of care may be overlooked. For patients undergoing fall prevention programs, it is crucial for optometrists to update related health practitioners if any modifications to the programs are needed once new glasses are prescribed.

Addressing these limitations requires significant financial support from the Australian Government to redesign and upgrade the optometry practice management systems [40], enabling the facilitation of shared electronic health records and promoting better-coordinated care for all patients, particularly those at risk of falls and requiring multi-disciplinary team care.

The POpulation Level Analysis and Reporting tool (POLAR GP) in optometry practices

In Australia, the POpulation Level Analysis and Reporting tool (POLAR GP) utilises data extracted from health record management systems to gain insights into various health conditions, improve care, and track patient outcomes over time in general practices [41], but this tool is not currently available for optometry practices.

As a result, optometrists must individually upload reports to My Health Records, a process that is time-consuming and involves switching between optometry practice management systems and the web browser-based My Health Record system.

These administrative burdens contribute to the low usage of My Health Record in optometry practice, leading to incomplete falls risk data on My Health Record. Since vision impairment is a risk factor for falls, missing this vision data can impact the effectiveness of tailored falls prevention programs. Integrating POLAR GP with the My Health Record system would streamline the process of uploading falls data, requiring minimal clinician input.

Importance of integrated systems for multidisciplinary care

There is a lack of comprehensive data and integration, which impedes the understanding of falls prevention and collaboration among healthcare professionals. Patients with balance, strength, gait, or foot-related issues may require care from podiatrists, physiotherapists, or exercise physiologists for exercise prescription [42, 43]. Those with injurious falls, unsteadiness, or recent hospitalisation may need assistance from occupational therapists for home safety assessment [44].

Additionally, patients with vision impairments may require services from ophthalmologists for cataract surgery, optometrists for vision correction, and occupational therapists for home safety assessments [45]. Developing a system to support interdisciplinary care and management of falls risk or expanding the use of tools like POLAR GP to include optometry and other primary healthcare practices such as podiatry, physiotherapy, and occupational therapy can significantly enhance understanding of practice and referral patterns for falls prevention. It can also identify areas for improving collaboration between healthcare professionals. Evaluating the falls data on the relationship between practice patterns and the number of fall-related hospitalisations informs interventions and drives changes in practice patterns for optometrists and multidisciplinary care teams involved in falls prevention among older adults.

Since fall prevention requires multidisciplinary care, having a unified system across all primary healthcare practices will be critical to facilitating an understanding of which care is provided by whom and how it can be used to improve outcomes for those older adults who have fallen. For example, this analysis can identify the best practices in optometry care for fall prevention on what care reduce falls risk.

Inadequate multidisciplinary data collection hinders the identification of high-risk patient populations and effective falls prevention strategies. Falls among older adults are influenced by multiple risk factors, and an increase in these factors raises the likelihood of falls [46]. Therefore, it is critical to obtain multidisciplinary data to identify high-risk patient populations.

However, this requires extensive medical history taking during limited consultation times [47], preventing healthcare practitioners from dedicating more time to proactively developing personalised care plans. Collecting multidisciplinary data through tools like POLAR

GP can help identify high-risk patient populations without the need for extensive medical history taking during limited consultation times. It allows healthcare professionals to access personalised care plans through the system once patients grant access. This enables the patient's GP to have a comprehensive overview of the interventions and treatments implemented, improving patient experience with management continuity and information continuity [48].

Standardisation of medical terminologies and diagnostic coding systems used in health records

The documents uploaded to the My Health Record were not primarily designed for understanding practice patterns, resulting in variations in data structure and recording and making it challenging to identify health records specifically related to falls. The lack of data standardisation poses significant challenges for accurately identifying fall risk factors and ensuring effective targeted interventions for falls prevention. Inconsistent data entry makes it difficult to analyse how often falls risk were assessed and compare outcomes across different healthcare settings.

Although there is no data showing how insistent diagnostic codes were used in falls-related data in Australia, a US study showed that a median of 40% of cases were missed across all falls-related conditions when searching with International Classification of Diseases (ICD) codes alone, and searching the Current Procedural Terminology (CPT) coding alone missed 26% of all fall risk assessments [49].

A retrospective analysis of de-identified electronic health record (EHR) data from two US primary care centre organisations, representing nine physical locations, excluding school-based health centres and dental clinics, demonstrated that inconsistent diagnostic codes were used in falls related data collected on the EHRs [49]. Among the 3,933 patients aged 65 and older, only 133 patients (3.4%) had indication in their medical records of having had an unintentional fall at some point in the past where 34% of them were identified using free-text searches, which is much lower than the US national statistic that falls occur among approximately 40% of adults 65 and older [50]. They found that the ICD-9 coding alone missed a minimum of 1.2% of cases (diabetes type 2) to a maximum of 98% of cases (vision impairment), with a median of 40% of cases missed across all falls-related conditions. Similarly, they found that fall risk assessments in the EHR data were largely found in semi-structured and free-text data. Searching the CPT coding alone missed 26% of all fall risk assessments. The use of unstructured formats, such as free-text instead of standardised medical terms, and the lack of standardisation due to differing terminologies add complexity to data interpretation [51].

The implementation of standardised medical terminologies and diagnostic coding systems in optometry practice management systems, such as the ICD codes, the CPT and the Systemised Nomenclature Of Medicine Clinical Terms (SNOMED-CT) [52], would ensure consistent data entry and improve interoperability between the My Health Record and other healthcare systems [53].

It also improves the searchability of falls-related data, so researchers and practitioners are unable to perform targeted searches, retrieve specific patient records related to falls, and identify patterns, trends, and factors contributing to falls (53). Improved searchability allows practitioners to identify factors contributing to falls more effectively, reduces the administrative burden, and decreases the likelihood of patients receiving redundant tests or potentially contraindicated treatments (54). Although specific numbers were not reported, a pilot study indicated that diagnostic codes were nearly absent in most records (55). This absence compromises the effectiveness of falls prevention efforts by leading to incomplete data collection and analysis.

Therefore, implementing standardised medical terminologies and diagnostic coding systems in optometry practice management is insufficient on its own. Comprehensive education and training for healthcare practitioners on the importance and usage of diagnostic codes are essential. This training ensures accurate data entry, enhances the identification of falls risk factors, and reduces the likelihood of redundant tests or contraindicated treatments, thereby improving overall patient care and targeted falls prevention strategies.

The International Classification of Diseases (ICD) is a widely used diagnostic tool globally for epidemiology, health management, and clinical purposes. It standardises the representation of diseases, disorders, injuries, and related health conditions. There are two categories of ICD codes: ICD-CM (Clinical Modification) for diagnostic codes and ICD-PCS (Procedure Coding System) for medical procedures and interventions, commonly used for inpatient reporting and hospital billing. The Current Procedural Terminology (CPT) is the most widely accepted medical nomenclature used to report medical procedures and services under public and private health insurance programs.

The Systemised Nomenclature Of Medicine Clinical Terms (SNOMED-CT) provides standardised terminology for comprehensive knowledge representation in multidisciplinary clinical practice [52]. Unlike ICD, SNOMED-CT captures a broader range of concepts, including clinical findings, symptoms, diagnoses, procedures, organisms, pharmaceuticals, specimens, and more.

Impact of incomplete documentation in my health record on fall prevention in older adults

As of 2024, mechanisms to support data completeness within My Health Record remain inadequate. Emergency departments (EDs) often serve as the first point of contact for acute care among older adults aged 65 years and over following a fall.

Although more than 95% of public hospitals had adopted My Health Record by May 2021 [50], not all records are consistently uploaded [51], including those relating to falls, which are the second most common primary symptoms (14%).

A 6 month survey conducted by a research team at Monash University within the ED of a tertiary metropolitan public hospital in Melbourne, Australia, found that only 39% of users typically engaged with My Health Record less than once per shift [57]. Additionally, almost half of the self-identified users did not consider its use critical for patient care [57]. Instead, My Health Record tends to be used in scenarios where clinicians perceive the greatest benefit, primarily focusing on patients with chronic and complex conditions [57].

The incomplete documentation of fall-related information hinders the potential for identifying older adults at risk of falls or early intervention to prevent subsequent falls. This is particularly critical as multifactorial interventions, where patients are referred to other services based on identified risks, are crucial in fall prevention strategies [52]. A Cochrane Systematic Review reported that clinical assessment by a health practitioners combined with individualised treatment of identified risk factors, referral if needed, and follow-up reduced the rate of falls by 24% [45]. Therefore, enhancing documentation practices and ensuring comprehensive assessments are essential steps in improving the effectiveness of fall prevention programs, enabling timely referrals, and ultimately reducing the incidence of falls among older adults.

Interdisciplinary referrals are not embedded in routine models of care

Patients at risk of falls are seldom directly referred to eye care practitioners, despite general agreement among GPs that vision assessments and treatments should be conducted by these specialists [53]. In a small survey of 37 Australian GPs, only 22 (68%) believed that referring patients to optometrists was necessary for effective evidence-based falls prevention interventions, and only four GPs (11%) had made referrals to optometrists over the 9-month reporting period [53].

Similarly, a study conducted in rural regions of New South Wales found that only a small proportion (23% of 139 participants) of GPs often referred older patients at risk of falling to optometrists for vision assessment [54]. Importantly, patients who received a multidisciplinary falls prevention care plan had a significantly lower risk of fall-related hospitalisation compared to those without such a plan [55]. These low rates of interdisciplinary referrals for patients at risk of falls highlight the missed opportunity for early implementation of falls prevention interventions [56].

Indeed, vision assessment and the provision of glasses is not always considered as part of the multidisciplinary team's interventions for falls prevention. This is evident in a Cochrane review, which identified 44 randomised clinical trials (RCTs) involving 15,733 participants from 16 countries, evaluating the effects of multifactorial and multiple component interventions on falls in older adults living in the community [57]. Surprisingly, only four of the 44 RCTs (9%) included vision assessment and/or provision of glasses as a component.

In Australia, out of the six RCTs conducted, only two incorporated a vision component. This lack of consideration may lead to a lower referral rate to eye care practitioners for patients at risk of falls, potentially compromising their overall care. To address this issue, it would also be worthwhile to collect data from healthcare professionals such as podiatrists, physiotherapists, and occupational therapists on how frequently they inquire about patients' last eye examinations and whether they refer patients at risk of falls for vision assessments. Optimising the coordination between health professionals is crucial for improving patient outcomes and enhancing the effectiveness of falls prevention strategies [58].

Miscommunication in integrated healthcare for fall risk management

Miscommunication between GPs and allied health practitioners, including optometrists, is a significant issue in managing patients at risk of falls. Patients are often advised by their GPs to seek care from these practitioners, but the absence of direct referrals—where GPs themselves arrange the appointments—means patients are responsible for conveying verbal information between GPs and allied health professionals [59].

This can lead to potential miscommunication, compromising the effectiveness of care and increasing the risk of falls [59]. Australian allied health practitioners have emphasised the importance and need of direct communication from individual GPs, ensuring clarity regarding the purpose of the visit for falls prevention and the significance of reporting back to the GPs regarding the care provided to minimise the risk of falls [59].

The exclusion of optometrists from interdisciplinary referral programs limits the effectiveness of falls prevention efforts. Decision support tools and programs are essential for facilitating these referrals between GPs and allied health practitioners [60]. For example, the pilot Integrated Solutions for Sustainable Fall Prevention (iSOLVE) project—a partnership between the University of Sydney, the NSW Clinical Excellence Commission, and Sydney North Health Network (SNHN)—has developed a decision support tool and programs to support interdisciplinary referrals in falls prevention.

However, the iSOLVE project does not include optometrists as part of the multidisciplinary care team, which means that an important aspect of vision care is overlooked in the overall strategy for falls prevention. This exclusion highlights a gap in comprehensive fall risk management, underscoring the need to incorporate optometrists to ensure all relevant health factors are addressed.

The Integrated Solutions for Sustainable Fall Prevention (iSOLVE) project

The Integrated Solutions for Sustainable Fall Prevention (iSOLVE) project [66] is working towards establishing integrated processes and pathways between general practice, allied health services, and programs.

The aim of iSOLVE is to identify older adults at risk of falls and engage a whole-of-primary-care approach to falls prevention.

The project has developed a decision support tool and online resources to support interdisciplinary referral between general and allied health practitioners.

Although iSOLVE is a pilot program and not delivered at scale or part of standard policy/programs in Australia, it serves as an illustrative example of the benefits of such tools. Learning activities, including an Active Learning Module and clinical audit, have been developed to help GPs, practice nurses, and other health professionals to implement the decision tool in general practice and potentially other primary care settings.

The lack of inclusion of optometrists in falls prevention programs neglects their unique patient cohort and potential contribution. GPs, physiotherapists, exercise physiotherapists, occupational therapists and podiatrists who participated in the iSOLVE project indicated that the project improved their inter-professional understanding and collaboration and found that integrating falls prevention into routine practice is easy and essential [61, 62].

Optometrists serve a unique patient cohort, with less than 2% of patients presenting with eye problems among GPs [17], while more than 50% of people aged 65 and over receive optometry services [18]. This is supported by a US study showing that the majority of optometry patients (91% out of 42 participants) expressed willingness to participate in a falls prevention program if recommended by their optometrists, and 97%

of the 268 participating optometrists expressed willingness to refer patients to falls prevention programs [63].

Incorporating optometrists into the iSOLVE project is crucial due to their unique patient cohort and the high potential for patient participation in falls prevention programs when recommended by optometrists.

However, the impact of including optometrists in preventing falls within the multidisciplinary care team is unknown and should be explored to support their inclusion.

Monitoring and evaluation

Lack of monitoring prevents the identification of gaps in care delivery [64]. For example, the iCareTrack project [64], which evaluated the appropriateness of glaucoma and diabetic eye care across a nationally representative sample of 42 Australian optometry practices, found that appropriate eye care was received by patients in only 71% of visits. While optometrists showed high levels of appropriateness (>75%) in performing key aspects of care such as measuring eye pressure and imaging the back of the eye, significant gaps (<50%) were found in the history-taking process, particularly regarding risk factors like ethnicity, steroid use, and the duration of diabetes and blood glucose control. These gaps demonstrate how critical aspects of care can be overlooked without thorough monitoring and evaluation.

Without monitoring and evaluation on the implementation of guidelines, referral practices, and patient outcomes, the role of optometrists in falls prevention remains unclear and suboptimal eye care persists. This lack of oversight leads to missed opportunities to identify how to improve optometrists' integration into falls prevention, which is crucial for making evidence-based decisions on resource allocation, designing interventions, and improving healthcare outcomes [65]. Without optometrists as part of the multidisciplinary team, patients may miss crucial vision assessments that can reduce falls risk. Effective monitoring and evaluation can track the benefits of including optometrists in falls prevention through various measures, including:

- **Number of falls prevented**: Tracking the reduction in fall incidents among patients who received vision assessments and appropriate interventions.
- **Improved quality of life**: Assessing patient-reported outcomes on their daily living activities and overall well-being.
- **Improved functional outcomes**: Measuring improvements in mobility and balance through standardised tests before and after interventions.
- **Improved patient experience**: Collecting feedback from patients on their satisfaction with the integrated care approach.
- **Minimised health-care utilisation**: Monitoring the reduction in hospital admissions and emergency room visits related to falls.
- **Lower costs**: Analysing the cost-effectiveness of incorporating optometrists in falls prevention by comparing healthcare expenses before and after the integration.

Such comprehensive evaluation is critical to ensuring the success of incorporating optometrists in falls prevention strategies and ultimately improving patient care and outcomes.

Inadequate funding for public eye care

Cataract is a leading cause of treatable vision loss in Australia, affecting 20% of Indigenous and 14% non-Indigenous Australians who are aged 40 years or older [66]. Individuals with cataracts may experience various visual impairments, including decreased visual acuity, reduced contrast sensitivity, difficulty in glare conditions and altered colour recognition [67], leading to increased falls risk [68]. These risks are reversible and cataract surgery has been shown to significantly reduce falls, with a 31% reduction after surgery on the first eye and an additional 50% reduction after surgery on the second eye [25]. However, the demand for cataract surgery is high, with over 303,000 procedures performed annually in Australia [69], mostly (70%) in public hospitals [70].

Insufficient growth in public full-time equivalent (FTE) funding for ophthalmologists has resulted in a shortage of public ophthalmology training positions and imbalance in the ophthalmology workforce between the public and private sectors. As of 2024, the currently used funding model, through the Specialist Training Program, allocates $105,000 per FTE position and an additional $25,000 Rural Support Loading allowance for training in regional, rural, and remote areas.

However, according to the 2018 Australia's Future Health Workforce - Ophthalmology Report, this funding only supports 115 FTE positions (15.6% of 738 Australian ophthalmologists) working in the public sector nationwide (Table 1) [71]. Despite a strong interest among ophthalmologists to work in the public system, with approximately 45% of respondents regularly delivering public sector services, the lack of sufficient state funding limits opportunities [72].

Without increased state funding for specialist positions in public hospitals, expanding the number of specialists will mainly benefit the private sector, exacerbating disparities in access to care, increasing waiting times for public patients, and potentially leading to a two-tiered healthcare system. Accordingly, expanding training positions without adequate public hospital funding will not address waiting times for cataract surgeries or effectively reduce falls risk [73].

Table 1. Ophthalmology specialist clinicians (headcount and sector: proportion of specialist clinical FTE in public and private) by state and territory. Adopted from 2018 Australia's Future Health Workforce - Ophthalmology Report [71]

State and Territory	Headcount	Specialist clinical FTE	
		% Public	% Private
NSW	289	10.7	89.3
VIC	188	20.4	79.2
QLD	121	12.3	87.7
SA	51	22.9	77.1
WA	57	19.4	80.6
TAS	18	9.5	90.5
NT	5	77.6	22.4
ACT	9	35.9	64.1
Total	**738**	**15.6**	**84.3**

Funding model to support in public ophthalmology service for timely cataract surgeries

Financial uncertainty in the current funding for public hospital services in 2024 is making it difficult to recruit ophthalmologists in public hospitals [78, 79]. The funding for public hospital services is only planned on a short-term basis, typically on a yearly basis, with no assurance of ongoing funding [80]. According to the Vision 2030 and Beyond Report, The Royal Australian and New Zealand College of Ophthalmologists (RANZCO) has suggested that having medium-term (four- to five-year) financial certainty in Local Hospital Networks (LHNs) will help to ensure that the necessary ophthalmology workforce is recruited and retained in public hospitals [78]. This will improve the access to cataract surgeries and gradually decrease the unequal access to such surgeries in public hospitals.

This short-term funding model also contributes to the workforce maldistribution, with a large proportion of the regional population lacking access to specialist services [78]. This maldistribution is characterised by a concentration of specialists in metropolitan areas, leaving regional and remote areas underserved. For example, 30% of all Australians and 60% of those who identify as Aboriginal and Torres Strait Islanders live in regional areas [81], yet these areas face a severe shortage of ophthalmologists with only 15% of RANZCO accredited training positions are in regional Australia [78].

RANZCO has already taken steps to address the workforce maldistribution by increasing the number of training positions in regional areas, ensuring trainees spend at least one year in these settings to expose them to regional practice challenges and encourage long-term careers. Leveraging the Commonwealth's Specialist Training Program, RANZCO funds regional training positions, but the short-term funding model creates uncertainty, making it difficult to plan and maintain training positions.

Long wait time for cataract surgery

Waiting times for cataract surgery is a significant issue in public hospital settings. In 2018-19, NSW had the longest median wait time for cataract surgery, exceeding 9 months (278 days), while Victoria and Queensland had the shortest median wait time of approximately 3 months (84 days) (Table 2) [74].

Table 2. Waiting time of cataract surgery to admissions from public hospital elective surgery waiting lists. Adopted from Elective surgery waiting times 2021-22 data tables 2022 [74].

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
Admission	20,487	12,930	7,704	7,281	6,064	3,085	13	622	58,186
Days waited at the 50th percentile	278	84	84	108	120	123	n.p.	200	158
Days waited at the 90th percentile	413	316	329	349	351	347	n.p.	602	369
Percentage waited more than 365 days	19.2	4.8	2.7	7.1	6.6	9.0	n.p.	30.4	10.6
*The abbreviation 'n.p.' has been used to denote there were fewer than 100 admissions and the data were suppressed									

Delaying cataract surgery can increase the risk of falls, fractures, and poorer general health [24]. A prospective study conducted on 329 adults aged 65 years or older, who were awaiting cataract surgery in Australian public hospitals, revealed that 101 participants (30.7%) reported a total of 267 falls during the waiting period, with a median observation time of 176 days [75]. It is notable that over half of the falls experienced by older individuals with cataracts are injurious. This, in turn, leads to higher healthcare costs and increased demand on aged care and social welfare systems [27, 76].

Economic modelling suggests that reducing the wait time for cataract surgery from 12 months to three months can lead to savings of AU$6.6 million for the Australian health system and a 25% reduction in falls [27]. Addressing cataract surgery waiting times can improve vision outcomes, save costs, and significantly reduce falls.

Eye care practitioners in falls prevention

Hidden wait time for cataract surgery

In addition to long wait times from admission to cataract surgery; waiting times for initial referrals to public hospital outpatient ophthalmology services, commonly known as the "hidden wait time" are also long, which is not captured in the data (Table 2). For example, a study conducted at two major metropolitan hospitals, the Sydney Eye Hospital and Westmead Hospital ophthalmology clinics in NSW, found that 61% of patients were still awaiting their initial outpatient appointment 12 months after being referred, indicating prolonged waiting periods [28].

When considering both the wait time from admission to cataract surgery and the hidden wait time, it has been estimated that the best-case scenario for a public patient would be to receive surgery within 4 months of referral, while the worst-case scenario could result in a wait of over 30 months (2.5 years) [26]. These extended waiting periods further heighten the risk of falls among older adults who experience visual impairment due to cataracts. A study involving 329 older adults aged 65 or older, who were referred by optometrists, general practitioners, or ophthalmologists for first eye cataract surgery to five major public hospital eye clinics in Sydney, Melbourne, and Perth, Australia, found a substantial rate of falls and fall injuries among those waiting for surgery [83, 85].

The annual incidence of falls was 1.2 per person [83], significantly higher than the rates observed in studies of the older community-dwelling population in the United States, which report an annual incidence of 0.4–0.6 falls per person in those aged 65 years and older [86].This underscores the critical need to reduce wait times for cataract surgery to mitigate fall risks and enhance the safety and well-being of older adults.

Inequitable access to cataract surgery

Insufficient funding in public hospitals to have enough ophthalmologists FTE has significantly restricted the number of cataract surgeries performed, leading to disparities in timely treatment access between privately and publicly funded patients [77]. Privately funded patients can undergo surgery within weeks as there are no elective surgery waitlists in the private hospital system; after seeing the surgeon, the patient can select a date for the operation. In contrast, publicly funded patients may face wait times of up to 30 months [12].

This disparity is especially concerning for Indigenous individuals, as a larger proportion of them depend on public hospital services for cataract surgery (80% [78] compared to 29% of non-Indigenous Australians [79]), placing a disproportionate burden on their access to timely care. The median wait time for Indigenous Australians in 2021 and 2022 was 35 days (24%) longer than that of non-indigenous Australians, including those who did not report their Indigenous status [80].

Patients residing in regional and remote areas experience even longer wait times (Table 3) [80], further exacerbating this issue and potentially contributing to the longer wait time experienced by Indigenous individuals, who are more likely to live in these regions.

Table 3. Time within which 50% of patients were admitted (days) from public hospital waiting lists, for cataract surgery by remoteness area of usual residence in 2021–22. Adopted from Admitted Patient Care 2021–22 [80].

	Remoteness area of residence					
Intended procedure	Major Cities	Inner Regional	Outer Regional	Remote	Very Remote	Total
Cataract surgery (day)	124	183	192	137	195	147

Conclusions and Recommendations

The implementation of a robust falls prevention strategy is essential to address the increasing incidence of falls among older adults in Australia. Our multifaceted recommendations focus on enhancing data quality, standardizing medical terminologies, expanding analytical tools, integrating multidisciplinary care, and improving funding models to support timely cataract surgeries. By prioritising these initiatives, we aim to foster a healthcare environment where optometrists and other health professionals are well-equipped to contribute effectively to falls prevention efforts. These measures are critical to ensuring that healthcare services are comprehensive, accessible, and tailored to meet the needs of our ageing population. Integrating optometrists into multidisciplinary falls prevention programs and enhancing outreach services are crucial steps in this direction.

Recommendation 1: Development and implementation of a data quality feedback tool for My Health Record (long-term) and an appropriate digital platform for optometrists (short-term)

To ensure a comprehensive and accurate representation of patients' health information, it is essential to develop a data quality feedback tool. This tool will assess the completeness of health record data and provide feedback to healthcare professionals, including optometrists [81]. The data quality feedback tool will incentivise healthcare professionals to diligently upload all relevant clinical documents, particularly those related to falls prevention and other conditions. By receiving valuable feedback on the completeness of their data, professionals will be encouraged to maintain thorough and accurate records [81]. Implementing this tool will improve data completeness, enhance the understanding of practice patterns, and evaluate the impact of guideline implementation. Furthermore, it will make My Health Record data more accessible for research and public health purposes, thereby enabling evidence-based decision-making and improving population health outcomes. This initiative requires collaboration between healthcare providers, software developers, and policymakers to ensure its effectiveness and integration into existing systems.

As a short-term solution, an appropriate digital platform or communication system specifically for optometrists should be developed. This platform should focus on identifying older people at risk and ensuring vision-related falls risk factors are managed, including optimising vision and conservative management of changes to spectacle prescriptions in older people at risk of falls. This short-term solution will facilitate seamless data sharing among healthcare providers, improving communication and coordination among optometrists, general practitioners, and other allied health professionals involved in falls prevention.

Recommendation 2: Standardisation of medical terminologies and diagnostic coding systems for Falls Risk Assessment

Effective collaboration between healthcare providers, software developers, researchers, and policymakers is essential to address the challenges of standardizing medical terminologies and diagnostic coding systems. This recommendation focuses on enhancing falls prevention strategies through ongoing investments in the development and maintenance of the My Health Record system.

The standardisation of medical terminologies and diagnostic coding systems is crucial for improving data quality and facilitating better communication among healthcare professionals. This initiative aims to ensure that the My Health Record system is continuously improved and aligned with evolving research needs and quality improvement initiatives related to falls prevention.

By addressing data completeness, standardisation, and searchability within the My Health Record system, healthcare stakeholders can unlock its full potential as a valuable resource. This will enable the identification of falls risk factors, tracking of patient outcomes, and implementation of targeted interventions.

Ultimately, this approach will contribute to better falls prevention strategies and improved care outcomes for patients, particularly those with vision impairments and other complex or chronic conditions that increase their risk of falls. This initiative requires a coordinated effort and substantial investment in infrastructure and training to ensure its success and sustainability.

Recommendation 3: Enhance quality control and data-driven decision-making in eyecare

To enhance falls prevention strategies, it is essential to extend the use of the POpulation Level Analysis and Reporting (POLAR GP) tool or similar analytical tools to optometry and other primary healthcare practices [41]. These tools, already effective in general practice, can streamline data collection and analysis, reducing the administrative burden on healthcare professionals and improving data quality.

Integrating these tools with the My Health Record system will facilitate seamless data sharing among healthcare providers, enhancing communication and coordination among optometrists, general practitioners, and other allied health professionals involved in falls prevention.

Utilising the data collected through these tools will help identify best practices in falls prevention, track patient outcomes, and develop targeted interventions, ultimately improving patient care and reducing the incidence of falls [41].

Additionally, enabling healthcare professionals to access comprehensive patient data will support the development of personalised care plans, ensuring continuity of care and better management of patients at risk of falls. Expanding the use of POLAR GP or similar tools across various healthcare practices is crucial for data-driven decision-making and improving patient outcomes in falls prevention [48].

Recommendation 4: Integrate optometrists in multi-disciplinary falls prevention programs

To enhance the effectiveness of falls prevention strategies, it is crucial to integrate optometrists into the existing multi-disciplinary falls prevention programs. This integration will promote multidisciplinary collaboration and ensure that vision care is included in falls prevention efforts. By facilitating direct referrals between general practitioners and optometrists, patients at risk of falls will receive comprehensive care.

Providing training and resources for optometrists within these programs will enable them to participate effectively in falls prevention programs. Encouraging optometrists to refer patients to these programs will increase patient engagement and participation. Integrating optometrists into multi-disciplinary falls prevention programs will improve the identification and management of older adults at risk of falls, leading to better patient outcomes and reduced fall-related injuries.

Recommendation 5: Implement a comprehensive monitoring and evaluation framework

Effective monitoring and evaluation are essential for clarifying the role of optometrists in falls prevention and ensuring optimal eye care. Developing a comprehensive monitoring and evaluation framework will track the benefits of including optometrists in falls prevention initiatives. This framework will assess the reduction in fall incidents, improvements in patient quality of life and functional outcomes, patient satisfaction, reduction in healthcare utilisation, and cost-effectiveness.

Implementing this framework will provide valuable insights into the success of integrating optometrists into falls prevention strategies, leading to improved patient care and outcomes. This will ensure that optometrists' contributions to reducing falls risk are well-documented and leveraged for better resource allocation and intervention design.

Recommendation 6: Standardising the cataract referral process and integrating community and hospital care

An audit of cataract referral letters in two major metropolitan hospitals, Sydney Eye Hospital and Westmead Hospital ophthalmology clinics in NSW, revealed that the clinical details within the referrals were insufficient for patient triage. This highlights the need for a standardised cataract referral process to reduce wait times for surgery [29, 82]. Implementing a standardised cataract referral process in public hospitals is crucial to reducing wait times for cataract surgery, improving patient outcomes, and streamlining the referral and triage process for healthcare providers.

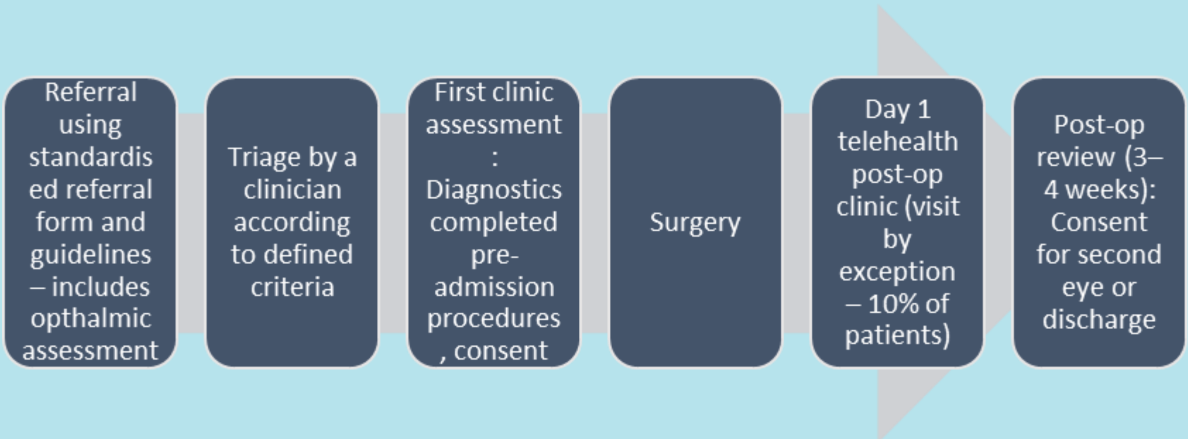
Such impact is demonstrated from the following case:

Royal Victorian Eye and Ear Hospital

In 2014 the Royal Victorian Eye an Ear Hospital addressed growing waiting lists, low surgery conversion rates, and longer waiting times for cataract surgery (92) the redesign of care models and establishing the Surgical Ophthalmology Service (SOS) with a structured triage process (Figure 3). This occurred through the:

- Introduction of a standardised referral template and clear guidelines for primary healthcare providers to gather essential patient information and assign consistent, evidence-based clinical priorities to each referral; and
- Promotion of the template and guidelines to primary healthcare providers and logged and documented referrals and triage outcomes

Figure 3. Process of referral and triage. Adopted from Cataract – Clinical Care Standard.



Data collected provided insights to the Eye and Ear's Ambulatory Services leadership team of the patient journey and the overall performance of the SOS Clinic, allowing them to identify and address issues promptly. As a result, cataract surgery wait time significantly decreased from 1,506 days in 2016 to 153 days in 2018. The new model also led to an 80% reduction in the new patient waiting list for clinic visits and increased conversion rates from 53% to 69% between January 2015 and January 2018. This excessive reduction in the patient waiting list highlights the importance of standardizing the cataract referral process in public hospitals and integrating community and hospital care to reduce wait times for cataract surgery.

Recommendation 7: Set targets for reducing waiting times for second eye cataract surgery

Delays in performing second eye cataract surgery can lead to a significant vision imbalance between the operated and unoperated eye, resulting in a two-fold increase in the risk of falls for susceptible patients [83, 84]. Currently, patients in NSW who have undergone first eye surgery must rejoin the waiting list for the second eye, often facing delays of up to 12 months.

To address this, the NSW Ministry of Health has approved a new policy, effective on 1st July 2024, to reduce this interval to within 3 months, acknowledging the critical importance of timely second eye surgery. However, this policy change is not yet implemented nationwide. Therefore, we recommend revising the guidelines for second eye cataract surgery timing on a national level to ensure consistent and timely care across all public hospitals.

Recommendation 8: Enhance funding for public ophthalmology services

To ensure timely cataract surgeries and address workforce maldistribution, it is crucial to enhance funding for public ophthalmology services. Securing long-term funding for regional training programs, increasing regional training positions, and supporting the integration of Specialist International Medical Graduates (SIMGs) will create a more balanced distribution of the ophthalmology workforce [78].

These actions will improve access to specialist services for regional populations, reduce wait times for cataract surgeries, and ensure timely and equitable treatment for all patients, especially those in underserved areas. Implementing this improved funding model will ultimately enhance patient care outcomes and reduce the disparities in access to eye care.

Recommendation 9: Increase funding for outreach cataract surgeries

Addressing the significant shortfall in outreach services for cataract surgeries is crucial, especially for Indigenous populations and those in regional areas. Indigenous Eye Health modelling using AIHW data [85] indicates a substantial gap in outreach services. Many regional Local Health Networks lack public ophthalmology outpatient services, making outreach programs essential for providing necessary eye care. Current data shows a shortage of 33,000 services in the visiting optometry scheme and 1,400 outreach cataract surgeries annually [85]. The number of Indigenous people accessing outreach optometry and ophthalmology services has increased, but current funding is insufficient. An additional 59,588 optometry services and 2,461 ophthalmic services are needed each year [86]. The RANZCO recommends that all Fellows supported by government outreach funds should not charge Indigenous patients gap fees. This policy is critical for ensuring necessary clinical assessments before referrals to public hospital cataract surgery waiting lists [87].

References

1. Centre for Health Advancement and Centre for Epidemiology and Research. New South Wales (NSW) Department of Health. Falls Prevention Baseline Survey: 2009 Report 2010 [Available from: https://www.health.nsw.gov.au/surveys/other/Pages/falls-prevention-survey.aspx.

2. Australian Institute of Health and Welfare. Injury in Australia: Falls. Canberra: Australian Institute of Health and Welfare 2022 [Available from: https://www.aihw.gov.au/reports/injury/falls.

3. Australian Institute of Health and Welfare. Falls in older Australians 2019–20: hospitalisations and deaths among people aged 65 and over. AIHW, Australian Government; 2022.

4. Bertram M, Norman R, Kemp L, Vos T. Review of the long-term disability associated with hip fractures. Inj Prev. 2011;17(6):365-70.

5. Legters K. Fear of falling. Phys Ther. 2002;82(3):264-72.

6. Lachman ME, Howland J, Tennstedt S, Jette A, Assmann S, Peterson EW. Fear of falling and activity restriction: the survey of activities and fear of falling in the elderly (SAFE). J Gerontol B Psychol Sci Soc Sci. 1998;53(1):P43-50.

7. Schoene D, Heller C, Aung YN, Sieber CC, Kemmler W, Freiberger E. A systematic review on the influence of fear of falling on quality of life in older people: is there a role for falls? Clin Interv Aging. 2019;14:701-19.

8. Australian Institute of Health and Welfare. Injury expenditure in Australia 2015–16. Canberra: Australian Institute of Health and Welfare 2020 [Available from: www.aihw.gov.au/reports/health-welfare-expenditure/injury-expenditure-in-australia-2015-16.

9. Rubenstein LZ. Falls in older people: epidemiology, risk factors and strategies for prevention. Age Ageing. 2006;35 Suppl 2:ii37-ii41.

10. Tinetti ME, Speechley M, Ginter SF. Risk factors for falls among elderly persons living in the community. N Engl J Med. 1988;319(26):1701-7.

11. Tong BA, Duff G, Mullen G, M. O'Neill. A Snapshot of Blindness and Low Vision Services in Australia. Sydney: Vision 2020 Australia, National Disability Services, Australian Blindness Forum August 2015.

12. Saftari LN, Kwon OS. Ageing vision and falls: a review. J Physiol Anthropol. 2018;37(1):11.

13. Lord SR, Menz HB. Visual contributions to postural stability in older adults. Gerontology. 2000;46(6):306-10.

14. Cox A, Blaikie A, Macewen CJ, Jones D, Thompson K, Holding D, et al. Optometric and ophthalmic contact in elderly hip fracture patients with visual impairment. Ophthalmic Physiol Opt. 2005;25(4):357-62.

15. Australian Institute of Health and Welfare. Eye health: AIHW, Australian Government; 2021 [Available from: https://www.aihw.gov.au/reports/eye-health/eye-health/contents/treatment-and-management.

16. Britt H, Miller GC, Henderson J, Bayram C, Harrison C, Valenti L, et al. General practice activity in Australia 2015–16: Sydney University Press; 2016.

17. Australian Institute of Health and Welfare. Medicare-subsidised GP, allied health and specialist health care across local areas: 2013–14 to 2018–19 2020 [Available from: https://www.aihw.gov.au/reports/primary-health-care/medicare-subsidised-health-local-areas-2019/contents/allied-health-services/optometry.

18. Flinders University. Flinders to introduce first optometry course in SA 2009 [Available from: https://news.flinders.edu.au/blog/2009/03/17/flinders-to-introduce-first-optometry-course-in-sa/.

19. Deakin University. Optometry [Available from: https://www.deakin.edu.au/study/find-a-course/medicine/optometry.

20. McMillan A. Canberra students to be ‘life-long learners’ 2017 [Available from: https://www.optometry.org.au/workplace/canberra-students-tobe-life-long-learners/.

21. The University of Western Australia. Postgraduate Doctor of Optometry [Available from: https://www.uwa.edu.au/study/courses/doctor-of-optometry.

22. Haran MJ, Cameron ID, Ivers RQ, Simpson JM, Lee BB, Tanzer M, et al. Effect on falls of providing single lens distance vision glasses to multifocal glasses wearers: VISIBLE randomised controlled trial. Bmj. 2010;340:c2265.

23. Harwood RH, Foss AJ, Osborn F, Gregson RM, Zaman A, Masud T. Falls and health status in elderly women following first eye cataract surgery: a randomised controlled trial. Br J Ophthalmol. 2005;89(1):53-9.

24. Keay L, Ho KC, Rogers K, McCluskey P, White AJ, Morlet N, et al. The incidence of falls after first and second eye cataract surgery: a longitudinal cohort study. Med J Aust. 2022;217(2):94-9.

25. Stevens JA, Lee R. The Potential to Reduce Falls and Avert Costs by Clinically Managing Fall Risk. Am J Prev Med. 2018;55(3):290-7.

26. Huang-Lung J, Angell B, Palagyi A, Taylor H, White A, McCluskey P, et al. The true cost of hidden waiting times for cataract surgery in Australia. Public Health Res Pract. 2021.

27. Ho KC, Elliott D, Charlesworth E, Gyawali R, Keay L. Feasibility of Implementing Recommendations to Reduce Fall Risk in Older People: A Delphi Study. Optom Vis Sci. 2022;99(1):18-23.

28. Do VQ, McCluskey P, Palagyi A, Stapleton FJ, White A, Carnt N, et al. Are cataract surgery referrals to public hospitals in Australia poorly targeted? Clin Exp Ophthalmol. 2018;46(4):364-70.

29. Victorian Government Department of Health. Specialist clinics in Victorian public hospitals. Access policy Melbourne: Health Service Programs Branch, Victorian Government Department of Health; 2021 [Available from: https://www.health.vic.gov.au/publications/specialist-clinics-in-victorian-public-hospitals-access-policy.

30. Miyawaki CE, Mauldin RL, Carman CR. The Potential of Optometrists' Referrals of Older Patients to Community-Based Exercise Programs: Findings From a Mixed-Methods Study. J Aging Phys Act. 2020;28(2):194-207.

31. Gyawali R, Toomey M, Stapleton F, Keay L, Jalbert I. Enhancing the appropriateness of eyecare delivery: the iCaretrack approach. Clin Exp Optom. 2023;106(8):825-35.

32. Lord SR, Dayhew J, Howland A. Multifocal glasses impair edge-contrast sensitivity and depth perception and increase the risk of falls in older people. J Am Geriatr Soc. 2002;50(11):1760-6.

33. Charlesworth E, Ursell P, Ho KC, Keay L, Elliott DB. Developing refractive management recommendations for patients undergoing cataract surgery: A Delphi study. Ophthalmic Physiol Opt. 2023;43(1):150-9.

34. (AIHW) AIoHaW. Admitted patient care 2020–21: Australian hospital statistics, Chapter 6: What procedures were performed?External link: AIHW; 2021 [Available from: https://www.aihw.gov.au/reports-data/myhospitals/sectors/admitted-patients.

35. Huang J, Angell B, Palagyi A, McCluskey P, White A, Abbott J, et al. Data Compilation and Analysis to Inform Development of Strategy to Improve Access to Public Cataract Services in Australia 2021 [26 May 2023]. Available from: https://www.vision2020australia.org.au/wp-content/uploads/2021/09/Report-on-Access-to-Public-Cataract-Services-in-Australia_Full-Report-2021.pdf.

36. Webber KJ, Fylan F, Wood JM, Elliott DB. Experiences following cataract surgery - patient perspectives. Ophthalmic Physiol Opt. 2020;40(5):540-8.

37. Graham ID, Logan J, Harrison MB, Straus SE, Tetroe J, Caswell W, et al. Lost in knowledge translation: time for a map? J Contin Educ Health Prof. 2006;26(1):13-24.

38. Ni K, Chu H, Zeng L, Li N, Zhao Y. Barriers and facilitators to data quality of electronic health records used for clinical research in China: a qualitative study. BMJ Open. 2019;9(7):e029314.

39. Hume M. What’s in the 2022-23 Federal Budget for the eye health sector? 2022 [Available from: https://www.insightnews.com.au/whats-in-the-2022-23-federal-budget-for-the-eye-health-sector/.

40. Optometry Australia. Optometry Australia’s submission to the Senate Standing Committees on Community Affairs inquiry regarding the My Health Record system 2022 [Available from: https://www.aph.gov.au/DocumentStore.ashx?id=ed724b57-26eb-44d0-871b-ef56ab58c1b1&subId=659130.

41. Georgiou A, Li J, Pearce C, McLeod A, Wabe N, Hardie RA, et al. COVID-19: protocol for observational studies utilising near real-time electronic Australian general practice data to promote effective care and best-practice policy-a design thinking approach. Health Res Policy Syst. 2021;19(1):122.

42. Spink MJ, Menz HB, Fotoohabadi MR, Wee E, Landorf KB, Hill KD, et al. Effectiveness of a multifaceted podiatry intervention to prevent falls in community dwelling older people with disabling foot pain: randomised controlled trial. Bmj. 2011;342:d3411.

43. Moncada LVV, Mire LG. Preventing Falls in Older Persons. Am Fam Physician. 2017;96(4):240-7.

44. Peel N, Steinberg M, Williams G. Home safety assessment in the prevention of falls among older people. Aust N Z J Public Health. 2000;24(5):536-9.

45. Gillespie LD, Robertson MC, Gillespie WJ, Sherrington C, Gates S, Clemson LM, et al. Interventions for preventing falls in older people living in the community. Cochrane Database Syst Rev. 2012;2012(9):CD007146.

46. Pfortmueller CA, Lindner G, Exadaktylos AK. Reducing fall risk in the elderly: risk factors and fall prevention, a systematic review. Minerva Med. 2014;105(4):275-81.

47. Toomey M, Gyawali R, Stapleton F, Ho KC, Keay L, Jalbert I. Facilitators and barriers to the delivery of eye care by optometrists: a systematic review using the theoretical domains framework. Ophthalmic Physiol Opt. 2021;41(4):782-97.

48. Reid R, Haggerty J, McKendry R. Defusing the confusion: concepts and measures of continuity of healthcare. Ottawa: Canadian Health Services Research Foundation; 2002.

49. Baus A, Zullig K, Long D, Mullett C, Pollard C, Taylor H, et al. Developing Methods of Repurposing Electronic Health Record Data for Identification of Older Adults at Risk of Unintentional Falls. Perspect Health Inf Manag. 2016;13(Spring):1b.

50. Michael YL, Whitlock EP, Lin JS, Fu R, O'Connor EA, Gold R, et al. Primary care-relevant interventions to prevent falling in older adults: a systematic evidence review for the U.S. Preventive Services Task Force. Ann Intern Med. 2010;153(12):815-25.

51. Terry AL, Chevendra V, Thind A, Stewart M, Marshall JN, Cejic S. Using your electronic medical record for research: a primer for avoiding pitfalls. Fam Pract. 2010;27(1):121-6.

52. Vuokko R, Vakkuri A, Palojoki S. Systematised Nomenclature of Medicine-Clinical Terminology (SNOMED CT) Clinical Use Cases in the Context of Electronic Health Record Systems: Systematic Literature Review. JMIR Med Inform. 2023;11:e43750.

53. Sarwar T, Seifollahi S, Chan J, Zhang XZ, Aksakalli V, Hudson I, et al. The Secondary Use of Electronic Health Records for Data Mining: Data Characteristics and Challenges. Acm Comput Surv. 2023;55(2).

54. Fennelly O, Grogan L, Reed A, Hardiker NR. Use of standardized terminologies in clinical practice: A scoping review. Int J Med Inform. 2021;149:104431.

55. Ho KC, Rahardjo D, Stapleton F, Wiles L, Hibbert PD, White AJR, et al. Can the appropriateness of eye care be measured through cross-sectional retrospective patient record review in eye care practices in Australia? The iCareTrack feasibility study. BMJ Open. 2019;9(3):e024298.

56. Australian Government Australian Digital Health Agency. My Health Record Statistics and Insights May 2021 2021 [Available from: https://www.digitalhealth.gov.au/sites/default/files/documents/myhealthrecord-statistics-may21.pdf.

57. Mullins A, O'Donnell R, Morris H, Ben-Meir M, Hatzikiriakidis K, Brichko L, et al. The effect of My Health Record use in the emergency department on clinician-assessed patient care: results from a survey. BMC Med Inform Decis Mak. 2022;22(1):178.

58. Lee SH, Yu S. Effectiveness of multifactorial interventions in preventing falls among older adults in the community: A systematic review and meta-analysis. Int J Nurs Stud. 2020;106:103564.

59. Kielich K, Mackenzie L, Lovarini M, Clemson L. Urban Australian general practitioners' perceptions of falls risk screening, falls risk assessment, and referral practices for falls prevention: an exploratory cross-sectional survey study. Aust Health Rev. 2017;41(1):111-9.

60. Barnett L, van Beurden E, Eakin E, Dietrich U, Beard J, Newman B. Falls prevention in rural general practice: what stands the test of time and where to from here? Aust N Z J Public Health. 2003;27(5):481-5.

61. Casey CM, Parker EM, Winkler G, Liu X, Lambert GH, Eckstrom E. Lessons Learned From Implementing CDC's STEADI Falls Prevention Algorithm in Primary Care. Gerontologist. 2017;57(4):787-96.

62. Guirguis-Blake JM, Michael YL, Perdue LA, Coppola EL, Beil TL. Interventions to Prevent Falls in Older Adults: Updated Evidence Report and Systematic Review for the US Preventive Services Task Force. Jama. 2018;319(16):1705-16.

63. Hopewell S, Adedire O, Copsey BJ, Boniface GJ, Sherrington C, Clemson L, et al. Multifactorial and multiple component interventions for preventing falls in older people living in the community. Cochrane Database Syst Rev. 2018;7(7):CD012221.

64. Atwal A, Caldwell K. Do multidisciplinary integrated care pathways improve interprofessional collaboration? Scand J Caring Sci. 2002;16(4):360-7.

65. Liddle J, Clemson L, Mackenzie L, Lovarini M, Tan A, Pit SW, et al. Influences on general practitioner referral to allied health professionals for fall prevention in primary care. Australas J Ageing. 2020;39(1):e32-e9.

66. Clemson L, Mackenzie L, Roberts C, Poulos R, Tan A, Lovarini M, et al. Integrated solutions for sustainable fall prevention in primary care, the iSOLVE project: a type 2 hybrid effectiveness-implementation design. Implement Sci. 2017;12(1):12.

67. Liddle J, Lovarini M, Clemson L, Mackenzie L, Tan A, Pit SW, et al. Making fall prevention routine in primary care practice: perspectives of allied health professionals. BMC Health Serv Res. 2018;18(1):598.

68. Mackenzie L, Liddle J, Clemson LM, Tan ACW, Lovarini M, Pit SW, et al. Perspectives of Australian GPs on tailoring fall risk management: a qualitative study. Aust J Prim Health. 2021;27(5):409-15.

69. Ho KC, Stapleton F, Wiles L, Hibbert P, White A, Jalbert I. iCareTrack: measuring the appropriateness of eyecare delivery in Australia. Ophthalmic Physiol Opt. 2020;40(4):433-41.

70. Reynolds HW, Sutherland EG. A systematic approach to the planning, implementation, monitoring, and evaluation of integrated health services. BMC Health Serv Res. 2013;13:168.

71. Foreman J, Xie J, Keel S, van Wijngaarden P, Sandhu SS, Ang GS, et al. The Prevalence and Causes of Vision Loss in Indigenous and Non-Indigenous Australians: The National Eye Health Survey. Ophthalmology. 2017;124(12):1743-52.

72. Crabtree HL, Hildreth AJ, O'Connell JE, Phelan PS, Allen D, Gray CS. Measuring visual symptoms in British cataract patients: the cataract symptom scale. Br J Ophthalmol. 1999;83(5):519-23.

73. Ivers RQ, Cumming RG, Mitchell P, Attebo K. Visual impairment and falls in older adults: the Blue Mountains Eye Study. J Am Geriatr Soc. 1998;46(1):58-64.

74. Australian Institute of Health and Welfare. Admitted patient activity 2023 [Available from: https://www.aihw.gov.au/reports-data/myhospitals/intersection/activity/apc.

75. Australian Governement Department of Health and Aged Care. Australia's Future Health Workforce – Ophthalmology 2018 [Available from: https://www.health.gov.au/sites/default/files/2023-03/ophthalmology-australia-s-future-health-workforce-report_0.pdf.

76. The Royal Australian and New Zealand College of Ophthalmologists. Eye 2 Eye. Spring 2017 Volume 20 Issue 3 2017 [Available from: chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://ranzco.edu/wp-content/uploads/2018/10/Spring-2017-Eye2Eye.pdf.

77. Freed GL, Turbitt E, Allen A. Public or private care: where do specialists spend their time? Aust Health Rev. 2017;41(5):541-5.

78. The Royal Australian and New Zealand College of Ophthalmologists. RANZCO Vision 2030 and beyond 2022 [Available from: https://ranzco.edu/wp-content/uploads/2023/06/RANZCO-Vision-2030-and-beyond-v2.pdf.

79. Australian Medical Association. Hospital funding flaws exposed deep in budget papers.2022. Available from: https://www.ama.com.au/ama-rounds/27-october-2022/articles/hospital-funding-flaws-exposed-deep-budget-papers.

80. Australian Medical Association. New AMA Report Card Reveals Uncomfortable Truths About Australia's Health System.2024. Available from: https://www.ama.com.au/ama-rounds/19-april-2024/articles/new-ama-report-card-reveals-uncomfortable-truths-about-australias.

81. Australian Bureau of Statistics. Estimates and projections, Aboriginal and Torres Strait Islander Australians2019. Available from: https://www.abs.gov.au/ausstats/abs@.nsf/mf/3238.0.

82. Australian Institute of Health and Welfare. Elective surgery waiting times 2021-22 data tables 2022 [Available from: https://www.aihw.gov.au/getmedia/6348652f-959a-447a-93a5-c8081c085106/Elective-surgery-waiting-times-2021-22.xlsx.aspx.

83. Palagyi A, McCluskey P, White A, Rogers K, Meuleners L, Ng JQ, et al. While We Waited: Incidence and Predictors of Falls in Older Adults With Cataract. Invest Ophthalmol Vis Sci. 2016;57(14):6003-10.

84. Watson WL, Li Y, Mitchell RJ. Projections of hospitalised fall-related injury in NSW, Australia: impacts on the hospital and aged care sectors. J Safety Res. 2011;42(6):487-92.

85. Keay L, Palagyi A, McCluskey P, Lamoureux E, Pesudovs K, Lo S, et al. Falls in Older people with Cataract, a longitudinal evalUation of impact and riSk: the FOCUS study protocol. Inj Prev. 2014;20(4):e7.

86. Verma SK, Willetts JL, Corns HL, Marucci-Wellman HR, Lombardi DA, Courtney TK. Falls and Fall-Related Injuries among Community-Dwelling Adults in the United States. PLoS ONE. 2016;11(3):e0150939.

87. Randall DA, Reinten T, Maher L, Lujic S, Stewart J, Keay L, et al. Disparities in cataract surgery between Aboriginal and non-Aboriginal people in New South Wales, Australia. Clin Exp Ophthalmol. 2014;42(7):629-36.

88. Australian Commission on Safety and Quality in Health Care. Australian Atlas of Healthcare Variation 2017: 4.6 Cataract surgery Sydney: ACSQHC; 2017 [Available from: https://www.safetyandquality.gov.au/sites/default/files/migrated/4.6-Cataract-surgery.pdf.

89. Australian Institute of Health and Welfare. Admitted patient care 2021–22 6 What procedures were performed? 2023 [Available from: https://www.aihw.gov.au/getmedia/377ad78d-6955-478e-9983-c8f10a641d64/6-admitted-patient-care-2021-22-tables-procedures.xlsx.aspx.

90. van der Bij S, Khan N, Ten Veen P, de Bakker DH, Verheij RA. Improving the quality of EHR recording in primary care: a data quality feedback tool. J Am Med Inform Assoc. 2017;24(1):81-7.

91. Ho KC, Tran J, Hoang D, Kaushik S, Ford B, Palagyi A, et al. Standardising the cataract referral process for public hospitals: perspectives of optometrists in New South Wales, Australia. Clin Exp Optom. 2020;103(2):201-6.

92. Australian Commission on Safety and Quality in Health Care. Cataract Clinical Care Standard Sydney: ACSQHC; 2021 [Available from: https://www.safetyandquality.gov.au/sites/default/files/2021-09/Cataract%20Clinical%20Care%20Standard.pdf.

93. Taylor HR, Anjou MD. Cataract surgery and Indigenous eye care: A review. Clin Exp Ophthalmol. 2020;48(4):512-6.

94. Australian Institute of Health and Welfare. Indigenous eye health measures 2021 2021 [Available from: https://www.aihw.gov.au/reports/indigenous-australians/indigenous-eye-health-measures-2021/contents/summary.

95. The Royal Australian and New Zealand College of Ophthalmologists. RANZCO position statement: Billing of Indigenous patients Sydney: The Royal Australian and New Zealand College of Ophthalmologists; 2017 [Available from: https://ranzco.edu/wp-content/uploads/2018/11/Indigenous-MBS-gap-position-statement-updated-2018.pdf

Contact:
Adj AProf Rebecca Haddock
Executive Director Knowedge Exchange
Australian Healthcare and Hospitals Association.
Email: rhaddock@ahha.asn.au

Citation: Ho KC and Haddock R. (2024). Reinforcing the role of eye care practitioners in falls prevention among older adults. Deeble Issues Brief No 58. Australian Healthcare and Hospitals Association, Australia.

AHHA acknowledge the Aboriginal and Torres Strait Islander peoples as Australia's First Nation Peoples and the Traditional Custodians of this land. We respect their continued connection to land and sea, country, kin, and community. AHHA also pays our respect to their Elders past, present, and emerging as the custodians of knowledge and lore.