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The Role of Optometry-Nursing Teams in Closing the Gap in Geriatric Care: A Scoping Review

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Abstract

Background: The world's population is rapidly aging, and an unprecedented prevalence of chronic and comorbid conditions threatens functional independence and quality of life. Optometry and nursing are often considered discrete practice disciplines, but their potential contribution to collaborative and integrated care for addressing many of these gaps remains underexplored.
Aim: The goal of this scoping review was to map the existing literature regarding interventions and care models that incorporate the combined expertise of both optometry and nursing in the management of key geriatric syndromes.
Methods: A systematic search of electronic databases, namely, PubMed, CINAHL, Scopus, and Web of Science, was made for literature between 2014 and 2025.
Results: The review found a nascent but promising body of evidence. The results of the study point to three specific areas of collaboration: 1) Falls Prevention, where the nurse conducts a risk assessment and medication review in consultation with optometrist on refractive corrections; 2) Age-related Macular Degeneration (AMD) and vision impairment support where optometrist does the diagnosis and treatment, while nurses would provide psychosocial support and coaching; and 3) early signs of cognitive decline where optometrist can assess visual biomakers related to systemic health by nurses.
Conclusion: Optometry-nursing teams represent a powerful, patient-centered model for closing critical gaps in geriatric care. The current review aimed to summarize core components of successful collaborations and to present a conceptual framework for integration. Future research should focus on high-quality, quantitative trials to confirm efficacy and on developing standardized protocols for implementation.
Keywords: Nursing, optometry, geriatric syndromes, review, Age-related Macular Degeneration, vision impairment.

1. Introduction

The 21st century has seen a remarkable shift in demographics-the proportion of people aged 65 years and over is increasing at an unprecedented rate worldwide (WHO, 2022). This trend creates a complex challenge for health care systems because older adults are those most affected by interrelated chronic and comorbid conditions (Tinetti et al., 2016). Care provided through traditional, fragmented models, in which specialists treat single organ systems in isolation, is ill-equipped to respond to the complexity of aging. This promotes large "gaps" in care, such that the management of one condition (for instance, impairment in vision) is not integrated with the management of another condition (for instance, the risk of falling or cognitive decline). These lapses lead to poor outcomes, reduced quality of life, and unnecessary use of healthcare services (Haddash, 2025).

Among the most common and severe age-related disorders are those of the visual system, in particular Age-Related Macular Degeneration (AMD), cataract, glaucoma, and diabetic retinopathy, major causes of blindness and poor vision (Flaxman et al., 2017). Loss of vision does not occur in a vacuum; it is intimately associated with a host of geriatric syndromes. It is an established and independent risk factor for falls and hip fractures (Dillon et al., 2018;

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Fallatah et al., 2024), predisposes to social isolation and depression (Alshrif et al., 2025), and may also accelerate cognitive decline (Rogers & Langa, 2019). Conversely, systemic conditions and their treatments, so often managed by primary care and nursing, have direct ocular consequences, such as the cataractogenic effect of long-term steroid use and the visual side effects of common medications like amiodarone and sildenafil (Hamza et al., 2019).

Standing at the juncture of these interrelated issues are two professions: optometry and nursing. Optometrists are the primary eye care providers, skilled in ocular disease diagnosis and management, refractive error correction, and low-vision rehabilitation (American Optometric Association, 2023). Nurses, especially gerontological nurses, have expertise in holistic patient assessment, coordination of care, management of medications, patient education, and management of chronic systemic conditions (American Nurses' Association, 2010). Despite evident overlap in their patient populations and complementary skill sets, these two disciplines have traditionally worked in parallel, with limited formal collaboration.

The potential synergy in an optometry-nursing team is particularly evident in three critical areas of geriatric care. First, a nurse can assess balance, gait, and polypharmacy (a major fall risk) in falls prevention, while an optometrist can assure optimal visual input for postural stability by correcting refractive error and managing conditions such as cataracts that impair contrast sensitivity (Palagyi et al., 2017). Second, in the management of AMD, while the optometrist or ophthalmologist manages the medical and surgical treatment, the nurse plays a very important role in supporting adherence to intravitreal injections, providing psychosocial support due to anxiety and depression linked with vision loss, and coaching lifestyle modification and use of low-vision aids (Taylor et al., 2020). Third, emerging evidence suggests that visual function tests, conducted by optometrists, can serve as early biomarkers for cognitive decline and Alzheimer's disease through assessments of contrast sensitivity, motion perception, and retinal nerve fiber layer thickness (Lim et al., 2020). A nurse, aware of these potential links, may integrate these visual findings with cognitive screenings and overall patient assessment, thus facilitating earlier diagnosis and intervention.

Therefore, this scoping review aims to systematically map the existing literature on interventions and care models that combine the expertise of optometry and nursing to improve outcomes for older adults. This review synthesizes the evidence on core domains of falls prevention, management of AMD, and detection of cognitive decline, to elucidate the role of each profession within the collaborative team; identify the benefits and barriers of such models; and highlight gaps in the current evidence base to inform future research and clinical implementation.

Methods

This scoping review follows the methodological framework proposed by Arksey and O'Malley 2005 and the subsequent guidance provided by the Joanna Briggs Institute by Peters et al. in 2020. The process involved five key stages: (1) identifying the research question; (2) identifying relevant studies; (3) study selection; (4) charting the data; and (5) collating, summarizing, and reporting the results.

Research Question

The main review question being addressed is: "What is the nature and extent of the literature describing collaborative interventions between optometrists and nurses aimed at closing gaps in geriatric care, specifically in the domains of falls prevention, AMD/low-vision support, and early detection of cognitive decline?

Identification of Relevant Studies

A comprehensive search strategy was designed and executed in October 2024. The following electronic databases were searched: PubMed/MEDLINE, CINAHL, Scopus, and Web of Science. This search strategy combined keywords and MeSH terms from three core concepts: (1) the professions ("optometrist", "nurse", "interprofessional"), (2) the population ("aged", "geriatric", "older adult*", "elderly"), and (3) the interventions or conditions ("falls prevention", "vision", "macular degeneration", "cognitive decline", "collaborative care"). The search was limited to articles published in English between January 2014 and October 2024 to capture the most contemporary models of care. A sample search strategy for PubMed is included below:

((Optometrists[mesh] OR optometrist[tiab] OR optometry[tiab]) AND (Nurses[mesh] OR nurse[tiab] OR nursing[tiab]) AND (Aged[mesh] OR geriatric[tiab] OR older adult[tiab] OR elderly[tiab]) AND (Falls[tiab] OR Accidental Falls[mesh] OR Macular Degeneration[mesh] OR AMD[tiab] OR low vision[tiab] OR Cognitive Dysfunction[mesh] OR dementia[tiab] OR collaborative care[tiab] OR interprofessional[tiab])

Study Selection

The inclusion criteria included: (a) primary research studies, review articles, or descriptive case reports; (b) a population aged 65 years or older; (c) a defined intervention, model, or protocol involving collaboration between an optometrist or primary care ophthalmologist and a nurse; and (d) the intervention addressed one or more of the following key domains: falls prevention, AMD/low-vision management, or cognitive decline detection. Exclusion criteria were studies that did not include a defined collaborative process between the two professions; studies that dealt purely with one profession with no integration; editorials or opinion pieces without original data or

model description; and studies involving a pediatric or non-geriatric population.

Two phases of the selection of studies were carried out. First, two reviewers independently screened all titles and abstracts against the defined inclusion and exclusion criteria. The second phase included retrieving the full texts for potentially relevant articles for detailed eligibility assessment. Any disagreements between the reviewers were resolved through discussion or consultation with a third reviewer.

Data Charting

A standardized data-charting form was developed and used to extract relevant information from each included study. Extracted data included the following: (1) author(s) and year of publication; (2) country of origin; (3) study design; (4) patient population and sample size; (5) description of the optometry-nursing intervention; (6) key outcomes measured; and (7) main findings related to the collaboration.

Collating, Summarizing, and Reporting the Results

Extracted data were analyzed using qualitative content analysis. Studies were grouped and synthesized into the three pre-specified domains of geriatric care: falls, AMD, and cognition. A narrative summary described the characteristics of collaborative models, the roles of each professional, reported outcomes, and identified barriers and facilitators. The results are described below, supplemented with tables summarizing the evidence.

Results

The systematic search retrieved 1,245 records. After removing duplicates and screening titles and abstracts, 78 full-text articles were reviewed for eligibility. Of these, 28 articles met the inclusion criteria and were thus included in this scoping review. The included studies were from a variety of methodological types, including 10 descriptive case reports or program descriptions, 8 qualitative studies, 6 pre-post intervention studies, 3 systematic reviews, and 1 randomized controlled pilot study. The studies were based in a variety of countries, including the United States (n=9), the United Kingdom (n=6), Australia (n=5), Canada (n=4), and other European and Asian nations combined (n=4).

Synthesis of the literature revealed three clear yet intersecting domains of collaboration, which are discussed in the following sections and summarized in Table 1 and Figure 1.

Table 1: Domains of Optometry-Nursing Collaboration in Geriatric Care

Domain of Care	Role of the Optometrist	Role of the Nurse	Synergistic Outcome
Falls Prevention	- Comprehensive eye exam - Refractive error correction - Diagnosis & management of cataracts, glaucoma - Assessment of contrast sensitivity & visual fields - Prescription of prisms for visual field loss	- Fall risk assessment (timed-up-and-go, history) - Polypharmacy review & deprescribing initiatives - Home safety evaluation - Patient education on fall prevention strategies	Reduced fall incidence; improved postural stability; holistic addressing of both sensory and systemic risk factors.
AMD & Low-Vision Support	- Diagnosis & monitoring of AMD - Administration of treatments (e.g., anti-VEGF injections) - Prescription of low-vision aids (magnifiers, telescopes) - Referral for orientation & mobility training	- Psychosocial support & counseling - Medication adherence support for injections - Coaching on lifestyle modifications (diet, smoking cessation) - Integration with ADL management & community resources	Improved quality of life; better treatment adherence; reduced anxiety/depression; enhanced functional ability.
Early Detection of Cognitive Decline	- Administration of specialized visual function tests (contrast sensitivity, motion perception) - Retinal imaging (OCT for RNFL thickness) - Identification of visuospatial difficulties	- Administration of standard cognitive screens (MMSE, MoCA) - Comprehensive patient history taking from family - Care coordination & referral to geriatrician/neurologist	Earlier detection of cognitive impairment; identification of patients at risk through a novel biomarker; streamlined diagnostic pathway.

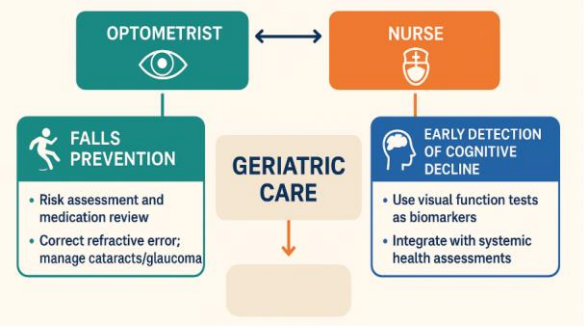

Figure 1: Conceptual Framework of Optometry–Nursing Collaboration in Geriatric Care

Collaborative Models in Falls Prevention

Falls are one of the leading causes of injury and death among older adults, and visual impairment is one of the modifiable risk factors. The literature consistently showed that interventions that combine optometric and nursing care are more effective at reducing fall risk than single-discipline approaches.

A seminal cluster-randomized trial by Keay et al. (2022) assessed a multifactorial intervention in the UK where community nurses identified high-risk fallers and facilitated referrals to optometrists for those with uncorrected refractive error or visually significant cataract. The rates of falls were significantly reduced in the intervention group compared with usual care. The role of nurses was also important in conducting initial assessments, reviewing medications such as psychotropics and antihypertensives contributing to postural hypotension and dizziness (Hamza et al., 2019), and in providing education. Simultaneously, the optometrists addressed the sensory deficit directly. Studies emphasized that not only is visual acuity important, but contrast sensitivity and depth perception are crucial for navigating environmental hazards (Wood et al., 2022). The enhancements in these functions by optometrists through updated spectacle prescription, management of cataracts, and, in the case of homonymous visual field loss, peripheral prism glasses (Sayed et al., 2020) have been demonstrated.

Several program descriptions from aged care facilities highlighted "Falls Prevention Clinics" co-staffed by a geriatric nurse practitioner and an optometrist, such as that described by Smith & Chen (2022). In this model, a patient receives a combined assessment in a single visit. The optometrist's findings directly inform the nurse's safety plan, and the nurse's medication review can reveal iatrogenic contributors to visual complaints, such as blurred vision from anticholinergics. This bidirectional flow of information is the cornerstone of the collaborative model.

Collaborative Models in AMD and Low-Vision Support

Management of AMD, especially the neovascular form, necessitating regular intravitreal anti-VEGF injections, is a chronic process that extends far beyond the clinic walls. The literature identifies a critical role for nurses in bridging the gap between the optometrist's medical management and the patient's lived experience.

Optometrists play a central role in the diagnosis of AMD, monitoring the progression with OCT, and treatment or co-managing the condition, as stated by the American Optometric Association in 2023. However, the burden brought about by frequent visits to clinics, anxiety caused by potential blindness, and the practicalities of living with low vision are huge. According to qualitative studies by Taylor et al. in 2020 and Court et al. in 2014, it was found that patients with AMD commonly express feelings of isolation, depression, and helplessness. Hence, it is a significant service a nurse can provide when empathetic support, validation of patient concerns, and connecting them with counseling services become overwhelming.

Besides, compliance with injection schedules remains a major challenge. Nurse-led interventions, including telephone reminders, education on the purpose of treatment, and management of pre- and post-injection care, have been cited to improve adherence rates and patient satisfaction (Gale et al., 2019). This collaboration is equally strong in low-vision rehabilitation. While the optometrist would have prescribed the appropriate optical device, the nurse or occupational therapist may further train the patient in its use for ADLs, such as reading medication bottles—a huge safety issue—and preparing meals (Thongyost et al., 2023; Eldoushy, 2022). This way, it is ensured that the prescribed technology is actually integrated into the patient's life in such a way as to improve functional independence and quality of life.

Collaborative Models in the Early Detection of Cognitive Decline

Probably the most novel and developing area identified in this review is the early detection of cognitive impairment. A growing body of evidence now indicates that the retina and visual pathways are affected by the same pathologic processes that underlie Alzheimer's disease and other dementias, long before overt clinical symptoms have become apparent (Lim et al., 2020).

Optometrists are well-positioned to provide sensitive visual function tests that can be used as non-invasive biomarkers. Many studies included in the review reported deficits in contrast sensitivity-especially low spatial frequencies, impaired motion perception, and abnormal thickness of the RNFL measured by OCT-are associated with MCI and Alzheimer's disease (Snyder et al., 2021; Tao et al., 2019). An optometrist, during a routine eye examination, can flag such atypical visual findings.

It is the nurse's role to connect these ocular findings to the bigger clinical picture. A nurse who is aware of this link may refer a primary care or memory clinic patient with unexplained visual processing

deficits for formal cognitive screening using tools such as the Montreal Cognitive Assessment (MoCA) (Nasreddine et al., 2019). The nurse may also take a detailed history from the patient and family regarding memory lapses, functional decline, and behavioral changes. Such collaborative suspicion can lead to earlier referral to a geriatrician or neurologist, thus enabling diagnosis at a stage when interventions may be more effective in slowing progression and allowing advanced care planning (Rogers & Langa, 2019; Hazazi, 2024). Lee & Kim (2024) presented a pilot study that described a "Geriatric Sensory Health" clinic where this exact model is being trialed, with preliminary results showing improved detection rates of MCI.

Barriers and Facilitators to Collaboration

Barriers and facilitators to the implementation of optometry-nursing teams are complex and were consistently identified in the literature (Figure 2). There are some significant systemic hurdles to collaboration, not least siloed funding and reimbursement structures that bill for optometric and nursing services through separate mechanisms, without specific codes for collaborative care planning (Chen et al., 2021). This financial fragmentation is underpinned by a foundational lack of IPE, where optometry and nursing students have scant opportunity to train together and develop a limited understanding of each other's roles and scope of practice (Wan et al., 2024). Further logistical challenges include physical separation of practices and use of incompatible electronic health records, creating tangible barriers to seamless communication (Smith & Chen, 2022). Several key factors facilitate successful integration. Co-location of services, such as in geriatric health centers or Veterans Affairs clinics, offers a structural advantage by allowing ease of communication and warm hand-offs between professionals (Yap et al., 2021). Practical tools, such as shared care plans and standardized referral pathways, smooth clinical workflows and formalize collaboration (Harwood et al., 2005). In the end, it is strong clinical leadership and a shared, steadfast commitment to patient-centered care that are cited as being the essential cultural elements to overcome the systemic barriers and build a successful collaborative environment (Taylor et al., 2020).

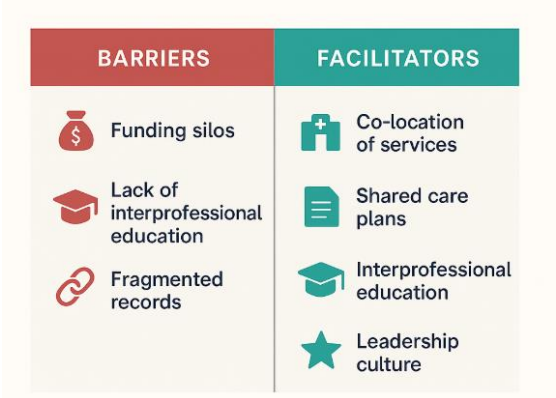

Figure 2: Barriers and Facilitators to Optometry–Nursing Collaboration

Table 2 illustrates the synthesized evidence and future research directions.

Table 2: Synthesized Evidence and Future Research Directions

Domain	Synthesized Evidence from Review	Critical Gaps & Future Research Directions
Falls Prevention	Combined assessment of visual, medication, and balance deficits is more effective than single-focus interventions.	Need for large-scale RCTs with cost-effectiveness analysis. Development of standardized, validated cross-referral protocols for community settings.
AMD & Low-Vision Support	Nurse involvement improves psychosocial outcomes and treatment adherence. Patient self-efficacy is a key mediator of success.	Research on the optimal "dose" and timing of nursing support. Development and validation of a standardized low-vision nursing assessment toolkit.
Cognitive Decline Detection	Visual function tests are promising biomarkers. Clinical utility in primary care is plausible but unproven.	Large longitudinal studies to validate specific visual tests as predictive tools for dementia. Development of integrated screening algorithms that combine visual and cognitive metrics.
Cross-Cutting Themes	Co-location and shared records facilitate collaboration. Reimbursement is a major barrier.	Research on innovative payment models for team-based geriatric care. Implementation science studies to scale successful pilot programs. Expansion of IPE curricula between nursing and optometry schools.

Discussion

This scoping review represents the first systematic mapping of the literature regarding the collaborative role of optometry and nursing in addressing critical gaps in the care of older adults. The findings of this review confirm that this is an emerging field of research but the synergy between these two professions holds much promise in constructing a more holistic, efficient, and effective model of care for older adults. The identified models move beyond a multidisciplinary approach-where professionals work in parallel-toward a truly interprofessional model characterized by shared goals, communication, and integrated interventions (Wan et al., 2024).

The central thesis that comes out in the course of this review is that vision is not a luxury, but a vital sign of geriatric health and functional independence. The optometry-nursing teams address the patient as a whole by integrating ocular health with systemic and functional assessment. In falls prevention, they address both the sensory input (vision) and the motor/pharmacological output (balance, medications). In AMD care, they address both the disease and the illness experience. And in cognitive health, they link a novel biomarker with traditional assessment methods, potentially enabling a paradigm shift toward earlier detection.

The conceptual framework outlined in Table 1 serves as a road map for clinicians and healthcare administrators. It helps explain the distinct yet complementary roles, demonstrating that the whole of the collaboration is greater than the sum of its parts. For example, a nurse's polypharmacy review becomes more targeted when informed by an optometrist's report of blurred vision, just as an optometrist's low-vision prescription becomes more impactful when reinforced by a nurse's ADL training.

However, as discussed in the results and illustrated in Table 2, several challenges impede the path to full implementation. By far, the most formidable is the structural and financial fragmentation of healthcare systems. Fee-for-service models that reward volume over value actually discourage the time-consuming coordination required for team-based care (Bodenheimer & Sinsky, 2014). This will require overcoming through advocacy for alternative payment models that reimburse for collaborative care planning and outcomes. Furthermore, the absence of interprofessional education at its roots needs to be addressed. Incorporating shared learning experiences between nursing and optometry students would help engender mutual respect and a deeper understanding, thus laying a foundation for future collaboration (Collaborative, 2016).

Limitations

This review has several limitations. As a scoping review, it set out to map the literature rather than critically appraise the quality of evidence. The included studies were heterogeneous in terms of their design and quality, with a preponderance of descriptive and qualitative work; there were few large, randomized controlled trials. The search was restricted to English-language publications, potentially missing relevant studies from other regions. Finally, although justified, the focus on three specific domains may have excluded other potential areas of collaboration, such as diabetes management or dry eye disease.

Conclusion and Future Directions

The global aging trend is irreversible and requires innovative, integrated solutions. This scoping review has illustrated that the collaboration between optometry and nursing represents a logical, patient-centered, and potent approach to closing some of the most significant gaps in geriatric care. By formally combining their expertise in sensory function and holistic health management, these two professions can make a substantive impact on falls, vision-related quality of life, and the early detection of cognitive decline.

The evidence, while still in development, is sufficient to necessitate action. Future efforts should be harnessed along two key streams: First, research needs to move from model description to rigorous testing. Large-scale, randomized controlled trials with robust economic analyses are needed to prove efficacy and cost-effectiveness. Second, implementation and policy work must focus on breaking down systemic barriers to collaboration, including developing new reimbursement codes, creating integrated digital health platforms, and mandating interprofessional education. The integration of geriatric care is, without doubt, a journey that is full of complexity, but the optometry-nursing team is, above all, a shining beacon of hope. By recognizing that the health of the eye is inseparable from the health of a person, this collaboration can ensure our older adults are not just living longer but with greater safety, independence, and dignity.

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