Check for updates

Received: March 14, 2026 | Accepted: June 25, 2026

DOI: 10.1002/ovs2.70088

INVITED REVIEW

Global scope of glaucoma clinical practice for optometrists

Jonathan Denniss[1] | **Brendan T. Barrett**[1] | **Riccardo Cheloni**[1,2] | **Patrick J. G. Gunn**[3,4] | **Robert A. Harper**[3,4] | **Sarah MacIver**[5] | **Allison M. McKendrick**[6,7,8] | **Stephen Ocansey**[9] | **Philip R. K. Turnbull**[10] | **John G. Flanagan**[11]

[1]School of Pharmacy, Optometry & Medical Sciences, University of Bradford, Bradford, UK

[2]Moorfields Eye Hospital NHS Trust, London, UK

[3]Manchester Royal Eye Hospital, Manchester University NHS Foundation Trust, Manchester, UK

[4]Faculty of Biology, Medicine and Health, University of Manchester, Manchester, UK

[5]School of Optometry & Vision Science, University of Waterloo, Waterloo, Ontario, Canada

[6]Department of Optometry & Vision Sciences, University of Western Australia, Perth, Western Australia, Australia

[7]Lions Eye Institute, Perth, Western Australia, Australia

[8]Department of Optometry & Vision Sciences, The University of Melbourne, Melbourne, Victoria, Australia

[9]School of Optometry and Vision Sciences, University of Cape Coast, Cape Coast, Ghana

[10]School of Optometry & Vision Science, University of Auckland, Auckland, New Zealand

[11]Herbert Wertheim School of Optometry and Vision Science, University of California Berkeley, Berkley, California, USA

Correspondence

Jonathan Denniss, School of Pharmacy, Optometry & Medical Sciences, University of Bradford, Bradford, UK.
Email: j.denniss@bradford.ac.uk

John G. Flanagan, Herbert Wertheim School of Optometry and Vision Science, University of California Berkeley, Berkley, CA, USA.
Email: jgflanagan@berkeley.edu

ABSTRACT

Purpose: The role of optometrists in glaucoma care is evolving rapidly in many parts of the world. This review aims to describe the current global scope of clinical practice for optometrists with respect to glaucoma, highlighting progress and identifying barriers to care across diverse regions.

Methods: We reviewed the current landscape of optometric glaucoma practice across Africa, Australia and New Zealand, Canada, Europe, the United Kingdom (UK), and the United States of America (USA). The review of practice in each region was led by authors active in the region using, where possible, publicly available legislation, published guidelines, and peer-reviewed publications. For Africa and Europe, where the general scope of practice and training level of optometrists varies by country, we used the World Council of Optometry Competency Framework and the European 'Blue Book' to benchmark levels of proficiency and standardize comparisons between jurisdictions. A survey was also distributed to optometrists across Europe to collect further information on glaucoma practice patterns, given the lack of published information for many European countries. No countries with optometry in Asia, Mexico, the Greater Caribbean Region, Central, or South America were included in this review.

Results: The global landscape is characterized by a significant shift from traditional 'case-finding' to comprehensive diagnostic and therapeutic management. In the USA, all 50 states permit independent topical therapy, with an increasing number authorizing laser procedures. In the UK and New Zealand, independent prescribing and expanding roles in laser procedures are also available to optometrists with higher qualifications. Conversely, Europe and Africa exhibit stark variations between countries; while countries, such as Ghana and Nigeria, train to the Doctor of Optometry level with high nominal scope, 'effective' scope is often constrained by equipment shortages and high medication costs. A 'regulatory lag' persists in some regions, where legislative expansion has not yet translated into broad clinical uptake.

Conclusions: Optometrists are increasingly essential to patient access and sustainable glaucoma care delivery. Although educational and training standards continue to improve, significant barriers—including regulatory restrictions,

Sarah MacIver, Stephen Ocansey, and John G. Flanagan are fellows of the American Academy of Optometry (FAAO).

Jonathan Denniss and John G. Flanagan contributed equally to this work.

This is an open access article under the terms of the Creative Commons Attribution License, which permits use, distribution and reproduction in any medium, provided the original work is properly cited.

© 2026 The Author(s). Optometry and Vision Science published by Wiley Periodicals LLC on behalf of American Academy of Optometry.

inconsistent public funding, and resource limitations—must be addressed to optimize optometry's role in addressing the global burden of glaucoma.

INTRODUCTION

The scope of optometric practice varies worldwide and is currently undergoing significant evolution in many regions. A key driver for the development of optometry is the increasing global burden of age-related eye diseases. Glaucoma, as a leading cause of irreversible blindness, presents a major challenge to healthcare systems. Recent analysis suggests that 80.5 million people worldwide were living with glaucoma in 2024, with a projected increase to over 190 million by 2060 due to our aging and increasingly myopic population.[1] The increased prevalence of glaucoma is compounded by a current or projected shortage of ophthalmologists in many jurisdictions.[2,3] Therefore, the role of optometrists in the detection, diagnosis, and management of glaucoma has become an important growth area for the profession worldwide.

Although, in many countries, optometric involvement in glaucoma is minimal or limited to opportunistic case finding, some countries offer much greater scope of practice. For example, in the United Kingdom (UK), increasing numbers of optometrists attain higher qualifications in glaucoma and independent therapeutic prescribing, as well as training in laser procedures, increasing their permitted scope of practice. In the United States of America (USA), all 50 states now permit independent topical glaucoma therapy, with increasing numbers also authorizing laser procedures such as selective laser trabeculoplasty (SLT). Variations on this evolution of practice are also seen in Canada, Australia, and New Zealand, whereas stark variations are seen between countries in Africa and Europe.

Optometrists around the world are trained to different standards, practice in different healthcare systems, and have different legal entitlements. This complicates comparison of the scope of optometric practice in glaucoma between jurisdictions. However, the World Council of Optometry (WCO) Competency Framework for Optometry[4] provides a standardized framework for comparing the roles of optometrists. This framework establishes a spectrum of proficiency ranging from 'introductory' to 'expert.' Although 'intermediate' practice focuses primarily on refractive services, it is only at the 'advanced' proficiency level (WCO Category 4) or higher that optometrists are expected to deliver comprehensive eye care, including the detection, diagnosis, and management of selected eye conditions or disorders such as glaucoma. Similarly, in Europe, the 'Blue Book' produced and updated by the European Council of Optometry and Optics (ECOO)[5] provides data on the similarities and differences in optometric education and scope of practice between countries. For countries where independent glaucoma care is within the scope of practice the profession is operating at the WCO Category 4 'advanced' proficiency level or higher. For the purposes of this review, the classifications are helpful for considering the differences in training and scope for Europe, excluding the UK, and Africa. We do not include any information about countries with optometry in Asia, Mexico, the Greater Caribbean Region, Central, or South America. This in part reflects that there are relatively few countries in these regions that meet WCO Category 4 standards, and enjoy a registrable legislatively protected profession. Notable exceptions include Hong Kong and Mexico.

Significance

We review the scope of clinical practice in glaucoma by optometrists in Africa, Australia and New Zealand, Canada, Europe, UK, and USA. We discuss significant progress in optometric involvement in glaucoma care, benefitting patients in many regions as well as remaining barriers to enhanced scope.

The review of practice in each region was led by authors active in the region using, where possible, publicly available legislation, published guidelines, and peer-reviewed publications. In addition, a survey was distributed to optometrists across Europe to collect further information on glaucoma practice patterns, given the lack of published information for many European countries. The review aims to describe the current scope of clinical practice in glaucoma for optometrists across these diverse regions, highlighting progress and identifying remaining barriers to optometric involvement in glaucoma care.

Africa

Stephen Ocansey

The scope of optometric practice across African countries varies significantly, particularly in ocular disease management and therapeutic privileges. These variations are largely influenced by national legislation, historical educational models (e.g., British vs. French systems), and healthcare infrastructure/system. In 2016, Africa had

15389235, 2026, 7, Downloaded from https://onlinelibrary.wiley.com/doi/10.1002/ovs2.70088 by NICE, National Institute for Health and Care Excellence, Wiley Online Library on [24/07/2026]. See the Terms and Conditions (https://onlinelibrary.wiley.com/terms-and-conditions) on Wiley Online Library for rules of use; OA articles are governed by the applicable Creative Commons License

roughly 9000 optometrists, mostly in Nigeria (4000), South Africa (3500), and Ghana (500).[6] Francophone (French-speaking) Africa had just 148 optometrists—1 per 1.8 million population compared with 1 per 80,000 in Anglophone (English-speaking) Africa.

Regulatory integration and recognition

Optometry is regulated in most sub-Saharan African countries (about 75%), but the nature and extent of scope vary substantially. The profession is officially recognized in Ghana, Nigeria, Malawi, South Africa, Mozambique, and Somalia,[7] but the degree of professional autonomy differs across jurisdictions. Ghana and Nigeria regulate optometry through allied health regulatory bodies, whereas South Africa recognizes WCO Category 3 optometrists with limited progression to Category 4. Mozambique regulates optometry through ophthalmology, restricting independent practice. Kenya lacks formal government recognition of optometry, and practice is largely confined to refraction services.

These regulatory differences are reflected in the scope of practice across linguistic and historical blocks. In Anglophone countries, such as Ghana and Nigeria, optometrists typically have broader and expanding scopes, including therapeutic privileges that support the diagnosis and management of ocular diseases.[8,9] South Africa expanded optometric therapeutic rights in 2015, although only a minority of practitioners have obtained registration to administer ocular therapeutics, including those required for glaucoma care.[10] In francophone countries (e.g., Cameroon and Côte d'Ivoire), optometry remains underdeveloped, with limited legislation and low integration within public health systems. Practice generally mirrors the French model, focusing primarily on refraction with minimal involvement in disease management, and the use of diagnostic pharmaceutical agents is often restricted. In Lusophone countries (Portuguese-speaking e.g., Mozambique, Angola), optometry is still emerging, with efforts underway to strengthen training programs and establish clear regulatory frameworks. Given this variability, glaucoma care across the continent is highly jurisdiction specific.

Education and scope designation

Optometry education exists in at least 12 Sub-Saharan African countries, with 78% of programs established after 2000 and Nigeria hosting over 40%.[7] Programs range from 3-year BSc degrees to 6-year Doctor of Optometry (OD) programs in Ghana and Nigeria. Ethiopia, Kenya, Ghana, Nigeria, and South Africa offer postgraduate degrees in optometry or related programs. Several countries, including Ghana, Nigeria, Malawi, Mozambique, and Somalia train optometrists to WCO Category 4, supporting expanded glaucoma management responsibilities. The duration and structure of optometry training significantly influence practitioners' scope of practice. Countries offering 6-year OD programs generally produce graduates with broader therapeutic and management competencies compared to countries with 4-year Bachelor of Optometry (BOptom) degrees, where additional certification may be required for therapeutic practice. Historically, some francophone countries offer only 2- or 3-year diploma programs targeting optometric technicians or opticians, although efforts are now underway to introduce degree-level training and standardized curricula. Given the severe shortage of ophthalmologists in many African regions, continental and regional bodies, such as the West African Health Organization, are promoting expanded optometric roles and harmonized curricula to improve access to affordable primary eye care.

Conduct of glaucoma care in practice

Case finding and diagnosis: Few studies have examined glaucoma care across Africa, with those that have been published focused mainly on Ghana and Nigeria. In these countries, where optometrists are educated to OD level and formally recognized as ocular therapeutic practitioners, scope of practice in glaucoma extends across the full continuum from case finding and diagnosis to long-term medical management and co-management with ophthalmologists.[7–10] This is most clearly documented in Ghana and Nigeria, with broader contextual data from multicountry mapping of optometric education and regulation in Sub-Saharan Africa.[7–10] Importantly, recent developments in South Africa have expanded therapeutic scope, albeit with significant implementation challenges.[10] Together, these studies show a high nominal scope of practice (WCO Level 4) but a more constrained effective scope in many settings, due to gaps in equipment, training, guideline uptake, health-system financing, and, in the case of therapeutic services, regulatory and infrastructure barriers.[7–10] Supplementary Table S1 summarizes findings from the studies included in this review.

Optometrists with an OD play a central role in glaucoma detection, with more than 90% routinely diagnosing glaucoma.[8,9] Most Ghanaian (99%) and Nigerian optometrists (94%) diagnose glaucoma.[9] Tonometry, automated perimetry, and optic nerve head assessment by direct ophthalmoscopy are each near-universally performed in those two countries.[8,9] Around 40% of Ghanaian optometrists primarily use Goldmann applanation tonometry (GAT), whereas most (68%–69%) Nigerian optometrists mainly use noncontact tonometry. Optical coherence tomography (OCT) is used by 88% of Ghanaian optometrists (available in 41% of practices) and by 71.9% in Nigeria (available in 28% of practices).[8,9] Pachymetry (28% in Ghana and 40% in Nigeria) and gonioscopy (14% in Ghana and 30% in Nigeria) are less consistently integrated.

15389235, 2026, 7, Downloaded from https://onlinelibrary.wiley.com/doi/10.1002/ovs2.70088 by NICE, National Institute for Health and Care Excellence, Wiley Online Library on [24/07/2026]. See the Terms and Conditions (https://onlinelibrary.wiley.com/terms-and-conditions) on Wiley Online Library for rules of use; OA articles are governed by the applicable Creative Commons License

Comparisons with WCO competency levels and preferred practice patterns show most optometrists meet intermediate care standards. In Ghana, 76% reach Level 3 (tonometry, ONH evaluation, visual fields, and OCT), whereas 5.5% meet the comprehensive Level 4 standard (including gonioscopy). In Nigeria, optometrists cluster at Levels 1 and 2, with 29.7% at Level 3, and 11.2% at Level 4.[9] These gaps reflect incomplete adoption of full guideline-recommended diagnostic algorithms, particularly with respect to gonioscopy and pachymetry.

Therapeutic Management: Optometrists in Ghana and Nigeria are educated and authorized to diagnose, initiate, and manage glaucoma medically.[7,8] Ghanaian optometrists often manage glaucoma independently, with approximately 65% initiating treatment without referral.[8] Nigerian optometrists more often co-manage, with about 51% initiating therapy while also referring for ophthalmologist oversight. At follow-up visits, optometrists most often repeat optic disc evaluations (80% Ghana and 78% Nigeria), tonometry (71% Ghana and 63% Nigeria), and visual field testing (51%–57%).

In South Africa, scope expansion to ocular therapeutics began in 2015 through the Post Graduate Certificate in Ocular Therapeutics. However, uptake remains low: by 2022 only 27 of more than 230 enrolled optometrists had completed certification,[10] illustrating significant implementation barriers despite regulatory support.

Guideline Adoption and Practice Standardization: Adoption of structured glaucoma guidelines across Africa remains inconsistent. The American Optometric Association (AOA) guideline is the most frequently referenced (e.g., 41% in Ghana; 30% in Nigeria), whereas 15%–20% of practitioners rely on the International Council of Ophthalmology or institutional protocols. The lack of a unified optometry-specific glaucoma guideline limits standardization and contributes to variability in clinical practice.[8,9] There is a clear need for national or regional guidelines tailored to optometric practice to promote evidence-based uniform glaucoma care in Africa. Recent initiatives, such as the glaucoma management toolkit developed for sub-Saharan Africa, seek to enhance service delivery through collaboration and context-appropriate guidance. Efforts to harmonize curricula by the West African Health Organization among member states, as well as the upgrading of optometry qualifications (e.g., transitioning BOptom and diploma holders to OD degrees at the University of Cape Coast, Ghana), also support long-term improvements in practice standards.

Structural and capacity challenges

Despite progress and a general trend toward expanding the scope of optometry to address the high burden of visual impairment and eye disease, training capacity remains strained. Capacity limits arise from limited recruitment of qualified faculty, inadequate clinical equipment, and constrained opportunities for faculty development, all of which threaten training quality. Many optometrists report needing additional training in specific glaucoma case-finding and diagnostic techniques[9] to improve early detection and minimize misdiagnosis.

Other significant barriers include the high cost of diagnostic tests and antiglaucoma medications, limited availability of essential equipment, and challenges associated with adopting new technologies. These systemic constraints collectively hinder the scaling-up of high-quality glaucoma care across the continent, for both optometry and ophthalmology.

Australia and New Zealand

Allison M. McKendrick and Philip R. K. Turnbull

Graduates of accredited optometry programs in Australia and New Zealand are eligible for registration under the Optometry Board of Australia (OBA) and the Optometrists and Dispensing Opticians Board of New Zealand (ODOBNZ). From all optometry schools in Australia and New Zealand, entry-to-practice graduates are currently able to register with prescribing authority, while practitioners who qualified before therapeutic prescribing was included in training can complete postgraduate qualifications to achieve the same authority. The Trans-Tasman Mutual Recognition Act 1997 enables Australian registered optometrists to gain registration in New Zealand, and vice versa.

In Australia, optometrists are required to follow the guidelines of the OBA for glaucoma management. The OBA publishes guidelines[11] for 'care of patients with or at high risk of developing chronic glaucoma.' However, some elements of this document are due to be updated by the Board as they heavily reference the NHMRC guidelines for glaucoma care which were published in 2010.[12] Detailed practice guidelines[13] are additionally provided by the peak body Optometry Australia (OA). A guide to recommended referral pathways for optometrists is also available from the Royal Australian and New Zealand College of Ophthalmologists.[14] Current OBA guidelines stipulate where glaucoma is diagnosed, 'the optometrist must provide the patient with a referral to an ophthalmologist or ophthalmology service within 4 months of starting treatment for chronic glaucoma.' Antiglaucoma medications available for prescription by Australia optometrists are from a set list and include Apraclonidine, Betaxolol, Bimatoprost, Brimonidine, Brinzolamide, Dorzolamide, Latanoprost, Pilocarpine, Tafluprost, Timolol, and Travoprost.[11] Referral to ophthalmology is also required if medical treatment does not stabilize the glaucoma or results in significant side-effects, or if surgical or laser intervention needs to be considered.

In New Zealand, optometrists are authorized prescribers, which means they can prescribe any medication

15389235, 2026, 7, Downloaded from https://onlinelibrary.wiley.com/doi/10.1002/ovs2.70088 by NICE, National Institute for Health and Care Excellence, Wiley Online Library on [24/07/2026]. See the Terms and Conditions (https://onlinelibrary.wiley.com/terms-and-conditions) on Wiley Online Library for rules of use; OA articles are governed by the applicable Creative Commons License

to treat conditions within their scope of practice, including oral medications. As such, optometrists can participate in glaucoma care through collaborative care arrangements with ophthalmologists,[15] and optometrists are expected to initiate acute glaucoma treatment in collaboration with ophthalmology if it helps provide timely care.[16] Fully independent management of glaucoma is not part of the standard optometric scope of practice and requires an 'Independent Glaucoma Prescriber' endorsement from the ODOBNZ discussed below.

Glaucoma specific requirements

There are currently no regulated or registerable higher-level qualifications in glaucoma in Australia for optometrists. The professional peak body, OA has recently commenced a new program for accreditation as an Advanced Practitioner, but this does not change regulatory scope. Competency standards have been developed for the 'Optometry Australia Credentialled Advanced Practitioner—Glaucoma', with credentialing requiring demonstration of having met these standards to an assessment panel. The purpose of the credential is to act as a guide for optometrists who wish to develop advanced expertize in glaucoma, in addition to setting an expectation benchmark for consumers, regulators, other clinicians, and stakeholders. The Australian College of Optometry offers a continuing education program including an 'Advanced Certificate in Glaucoma', but this qualification also does not result in any changes to the scope of practice permitted.

In New Zealand, any optometrist with prescribing rights can be involved in glaucoma care through a collaborative care arrangement with ophthalmology.[15] Independent optometric management of glaucoma requires an 'Independent Glaucoma Prescriber' endorsement from ODOBNZ.[17] This endorsement can be obtained by either completing 20 h observing glaucoma patient care in an ophthalmology setting, completing a postgraduate certificate in advanced glaucoma care, or by submission of glaucoma case studies.[17] Once approved, this endorsement authorizes the practitioner to as follows:

- Independently diagnose glaucoma.
- Formulate and commence a treatment plan for glaucoma.
- Determine the efficacy of a glaucoma treatment plan.
- Modify a treatment plan should it fail to offer sufficient control or have intolerable or medically unacceptable side effects.
- Accept referrals for the diagnosis and treatment of glaucoma.

Currently, approximately 10% of optometrists in New Zealand have an independent glaucoma prescriber endorsement.[18] Optometrists can also undergo training to register in the 'Specialist Optometrist Scope of Practice—Ophthalmic Laser Surgeries'.[19] Relevant to glaucoma, individuals registered under this scope are authorized to independently perform neodymium: yttrium-aluminum-garnet (Nd:YAG) laser peripheral iridotomy in an approved hospital setting. Note, the Trans–Tasman mutual agreement between Australia and New Zealand does not permit transfer of laser procedure scope to Australia.

Conduct of glaucoma care in practice

In Australia, optometrists can diagnose glaucoma and commence medical therapy but are required to refer to ophthalmology for opinion within 4 months. Although there are significant numbers of optometrists working in community ophthalmology practices, hospital glaucoma optometric services are very limited in Australia. The involvement of optometrists in glaucoma care varies widely according to the experience of the practitioner in managing glaucoma and the case load of glaucoma patients within the practice setting. Some practices will refer most likely diagnostic cases to ophthalmology for management after optometric evaluation (including IOP, visual fields, OCT, and gonioscopy). Others have regular co-management arrangements in place with specific ophthalmologists. These arrangements are typically ad hoc and often built on personal relationships and mutual trust in clinical skillsets and communication pathways. Several public hospitals have trialed and evaluated co-management of glaucoma with community or academic optometry clinics (e.g., references[20–22]) but there is no universal model widely adopted. There is reported success of telehealth services between optometry and ophthalmology in rural and remote areas,[23] where there is a greater need for initiation of treatment by optometry and ongoing co-management due to challenges in accessing ophthalmology services.

In New Zealand, optometrists can manage glaucoma in collaboration with either an ophthalmologist or an optometrist who holds an independent glaucoma practitioner endorsement. Similarly to Australia, these relationships are ad hoc and based on a personal relationship or trust between parties. Although the frequency of these relationships is unknown, analysis of optometrist prescribing data suggests it is relatively uncommon for an optometrist without an independent glaucoma prescriber endorsement to manage glaucoma in the long term. Comments from the profession suggest that a big factor for this is the lack of public funding for optometry in New Zealand[24]; if the patient is referred to the hospital, their care would be publicly funded, whereas community-based care is typically privately funded.[18] Private healthcare insurance is also less likely to fund optometry care compared to ophthalmology-based glaucoma management. However, the role of optometry

15389235, 2026, 7, Downloaded from https://onlinelibrary.wiley.com/doi/10.1002/cvo2.70088 by NICE, National Institute for Health and Care Excellence, Wiley Online Library on [24/07/2026]. See the Terms and Conditions (https://onlinelibrary.wiley.com/terms-and-conditions) on Wiley Online Library for rules of use; OA articles are governed by the applicable Creative Commons License

in glaucoma management is slowly expanding. Just over 10% of New Zealand optometrists work in ophthalmology settings,[18,24] and almost 15% of optometrists self-report running glaucoma clinics.[24] The highest volume of glaucoma prescribing comes from optometrists with an independent glaucoma prescriber endorsement, either working in glaucoma clinics in public or private hospitals or managing glaucoma referrals and on-going glaucoma care through asynchronous virtual clinics.[18] A small number of community-based optometrists also have individual arrangements with local hospitals to see publicly funded glaucoma patients in their own practice.

Canada

Sarah MacIver

Eye and vision care in Canada is delivered primarily by optometrists and ophthalmologists in collaboration with other health professionals. Optometrists play a pivotal role in providing accessible primary eye care, early diagnosis, and longitudinal management within their legislated scope.

Glaucoma has been a core component of optometric education in Canada since 1967, when the first Canadian college of optometry was integrated into a university setting.[25] Since the 1990s, students have participated in intensive ocular disease rotations in ocular disease clinics that provide direct experience managing patients with ocular diseases, including glaucoma. Historically, prior to legislation passing in Canada to allow optometrists to independently manage disease, students were required to attend sites primarily in the United States to acquire this experiential learning.[25] Once more Canadian provinces obtained scope privileges to independently manage glaucoma between 1996 and 2023, the number of clinic rotations able to provide the interns with the required patient populations in Canada increased and most training now takes place within Canada.

In the past decade (2015–2025), optometry's educational scope has advanced toward interventional and procedural competencies, including minor surgical and laser-based anterior segment treatments.[26] Since 2021, students have been required to complete hands-on training in YAG laser treatments, such as peripheral iridotomy and trabeculoplasty, using simulation models, with opportunities for clinical experience in jurisdictions where optometrists are authorized to perform these treatments. Although formal laser-specific hands-on training was introduced relatively recently, graduates are required to demonstrate a strong proficiency in slit lamp biomicroscopy and gonioscopy, the foundational skills required for laser delivery.[27] Moreover, the didactic program and ocular disease clinical rotations established in the 1990s include perioperative management of laser treatments. This evolution in optometric education in glaucoma care supports the profession in ensuring that optometrists are trained to deliver comprehensive and evidence-based glaucoma management within the changing legislative authorities, supporting the ongoing evolution of optometry's role in glaucoma care in Canada.

Glaucoma specific requirements

The Optometry Examining Board of Canada (OEBC) administers a common optometric qualifying examination on behalf of the optometry regulatory bodies in Canada. The OEBC examination framework specifically evaluates competence in ocular disease diagnosis and management, ensuring that graduates demonstrate the clinical reasoning and decision-making skills required for safe evidence-based patient care.[28] In anticipation of forthcoming scope expansion, the Alberta College of Optometrists partnered with the OEBC to develop a Laser and Minor Surgery Examination to assess competencies required for injections and selected office based minor surgical and laser procedures on the eye and adnexa.[29] This examination, piloted in 2025, is expected to become a licensing requirement for practitioners once regulatory approval is obtained in each province, with its first official administration anticipated in 2026.

Conduct of glaucoma care in practice

Although successful completion of the OEBC signals the educational and clinical preparedness of Canadian optometrists for their expanding role in glaucoma care, provincial legislation ultimately determines how these competencies are applied in practice. Despite national standardization in education and assessment, scope of practice in glaucoma management remains provincially defined, resulting in variability in therapeutic and procedural authority granted to optometrists (Table 1).[30] Supplementary Figure S1 highlights the current landscape of glaucoma care across Canada, including reimbursement differences. All provinces currently authorize the prescribing of topical glaucoma medications, though restrictions vary regarding the extent of independent glaucoma care and the formulary of drugs that optometrists can prescribe. Ontario, for example, limits optometric management to primary open angle glaucoma under specific conditions, whereas other provinces permit broader discretion without disease type limitations. At present, no province authorizes optometrists to perform laser trabeculoplasty or peripheral iridotomy, but both Alberta and Ontario have announced plans to consider scope modernization for optometry to include these laser procedures. Reimbursement models for glaucoma care also differ across Canada. Many provinces provide partial

15389235, 2026, 7, Downloaded from https://onlinelibrary.wiley.com/doi/10.1002/ovs2.70088 by NICE, National Institute for Health and Care Excellence, Wiley Online Library on [24/07/2026]. See the Terms and Conditions (https://onlinelibrary.wiley.com/terms-and-conditions) on Wiley Online Library for rules of use; OA articles are governed by the applicable Creative Commons License

TABLE 1 Per province chart outlining the scope of optometric glaucoma care in each province.

Glaucoma scope	BC	AB	SK	MB	ON	QC	NB	NS	PEI	NL
Independent management POAG[a]	Yes	Yes	Yes	Limitations	Yes	Limitations	Yes	Yes	Yes—under special authorization	Yes
Management non-POAG	Limitations	Yes	Limitations	Limitations	Limitations	Limitations	Limitations	Limitations	Limitations	Limitations
T-glaucoma	Yes	Yes	Yes	Yes	Limitations	Yes	Yes	Yes	Yes—under special authorization	Yes
O-glaucoma	Emergency use only	Yes	Yes	Emergency use only	Emergency use only	Emergency use only	Yes	No	Yes- under special authorization	Yes
Lab testing	Yes	Yes	No	Yes	No	No	No	No	No	No
Laser trabeculoplasty	No	No	No	No	No	No	No	No	No	No
LPI	No	No	No	No	No	No	No	No	No	No
Scope expansion requested[b]	Yes (orals)	Yes (LPI, LT)	No	No	Yes ([a]orals, LPI, LT, lab testing)	No	No	Yes	No	No

Abbreviations: AB, Alberta; BC, British Columbia; MB, Manitoba; NB, New Brunswick; NL, Newfoundland; NS, Nova Scotia; O, orals; ON, Ontario; EI, Prince Edward Island; QC, Quebec; SK, Saskatchewan; T, therapeutics.

[a]Yes—a yes indicates that an optometrist has the scope to independently diagnose and initiate treatment for glaucoma without the need for consultation from another medical provider. All regulations state that optometrists should refer if the patient is progressing despite appropriate treatment.

[b]Parentheses indicated the specific request that is currently submitted to the government.

coverage for glaucoma care, but no province fully covers the costs when the care is provided by optometrists. In addition, there are two provinces that receive no coverage.[30,31] This decentralized regulatory landscape has created unequal access to optometric glaucoma services despite substantial evidence of safety and efficacy of optometric glaucoma management.[32,33]

There is a need for optometry to take on a greater role in glaucoma care because of the increasing burden of disease in Canada, where glaucoma prevalence continues to rise with an aging population and up to 40% of Canadians with glaucoma may not be aware that they have the disease.[34] The mean age of glaucoma diagnosis in Canada is 52.6 years,[34] which is younger than most provincial coverage for comprehensive eye exams beginning at age 65.[31]

The sustainability of glaucoma services also depends on provider availability and system capacity. Canada faces a growing ophthalmology workforce shortage that threatens timely access to glaucoma care. In 2020, there were only 1323 ophthalmologists nationwide (3.48 per 100,000 population), with projections indicating a further decline to 3.2 by 2068 at current training rates.[35] With more than 20% of ophthalmologists aged 65 or older, this imbalance underscores the need for optometrists to assume a greater role in the early detection and longitudinal management of glaucoma as Canada's population continues to age.[36]

The increasing prevalence of disease, coupled with a workforce shortage of ophthalmologists highlights the need to have primary first line therapy of glaucoma equitably distributed across the two professions. As newer drug classes and SLT becomes increasingly recognized as preferred first line-therapy options for open angle glaucoma,[37] access to evolving treatments and procedure is not equal across the provinces. Other jurisdictions in the USA, UK, and New Zealand have integrated optometry into the delivery of SLT with no safety concerns and no differences in efficacy of the procedure.[38,39] Expanding optometric participation in glaucoma management within Canada would help address service gaps, promote earlier intervention, and align national care models with international standards of care. Understanding the interrelationship between education, licensure, and regulation provides important context for appreciating optometry's evolving role in glaucoma care across Canada. Together, standardized education and competency-based assessment ensure that Canadian optometrists are prepared to meet contemporary standards of glaucoma management while maintaining the public's trust in the profession's capacity for safe evidence-based care. Continued collaboration among educators, regulators, and policymakers can ensure that optometrists' expanding role strengthens Canada's capacity for early detection and chronic disease management.

15389235, 2026, 7, Downloaded from https://onlinelibrary.wiley.com/doi/10.1002/ovs2.70088 by NICE, National Institute for Health and Care Excellence, Wiley Online Library on [24/07/2026]. See the Terms and Conditions (https://onlinelibrary.wiley.com/terms-and-conditions) on Wiley Online Library for rules of use; OA articles are governed by the applicable Creative Commons License

Europe

Riccardo Cheloni and Brendan T. Barrett

Optometrists across Europe have varied roles depending on their country of practice, ranging from solely refraction and prescribing of optical appliances, to conducting routine eye examinations that are legally required to include a comprehensive ocular health assessment.[40,41] This report is limited to the 16 European countries identified by the Blue Book as operating at an advanced proficiency level or above (Table 2).[5] We anticipate that only optometrists or countries operating at this proficiency level or above play a significant role in the assessment and management of glaucoma. Accordingly, this report focuses on these countries, excluding the UK which is described later.

Reflecting national differences in education and regulation, the scope of practice for optometrists varies widely across Europe.[5] Table 2 summarizes these variations for elements that are directly relevant to glaucoma assessment as outlined in the Blue Book. The table shows that in some countries most noninvasive examinations fall within the optometrist's scope, whereas the use of diagnostic drugs, such as anesthetics and mydriatics, remains restricted in others.

Although the Blue Book data on competences and scope of practice give an indication of the countries where optometrists may be involved in the assessment and management of glaucoma, none of the items in the questionnaire were directly related to this condition. Moreover, inclusion within the scope of practice does not necessarily mean that such activities are routinely performed. For this reason, we aimed to gain a better understanding of the scope and variety of optometric work across Europe in glaucoma assessment and management. We approached this through a targeted questionnaire distributed by the ECOO to its members and a literature review.

Survey of ECOO members

ECOO members were invited to participate in a short survey via email. The survey was circulated electronically and included elements of training and education, role in assessment of glaucoma, role in management, level of involvement in glaucoma care (range from no involvement to independent management), and in what setting such roles are delivered. A free text question for any additional comments was also provided and details about the survey are reported in Supplementary File S1.

There was a total of 94 responses to the survey, with 57 coming from European countries practicing at the 'advanced' proficiency level that are included in this analysis. We had at least 1 response from each of these countries, except from Ireland (total of 14 out 15 countries covered). Among the 57 responders, 40 were clinicians directly involved in clinical practice; nine were academics, mostly involved in teaching-research, but aware of the standards and status of practice in the country; three had both clinical and academic roles; two were clinicians with a role in professional associations; and three had mainly roles in professional associations. The median years of optometric work were 17 (IQR: 9–21). The results of the survey are presented in Table 3.

In reviewing the results, we noted that some countries provided apparently contradictory responses. For instance, respondents from Austria reported how optometrists do not routinely perform any of the investigations relevant to glaucoma assessments; yet one of the respondents reported how only graduated optometrists perform screening for glaucoma, suggesting different roles for optometrists working in the country according to education pathways. The question about setting appears to have been interpreted differently by some respondents. In particular, for Denmark, respondents reported how several components of glaucoma assessment are commonly performed, and optometrists' level of work in glaucoma is mainly to refer onward cases suspected of glaucoma. However, as the setting of practice hospital was reported; the response may reflect the experiences of a minority who are doing more advanced glaucoma management compared to optometrists who work in optician practices in this country.

Literature review

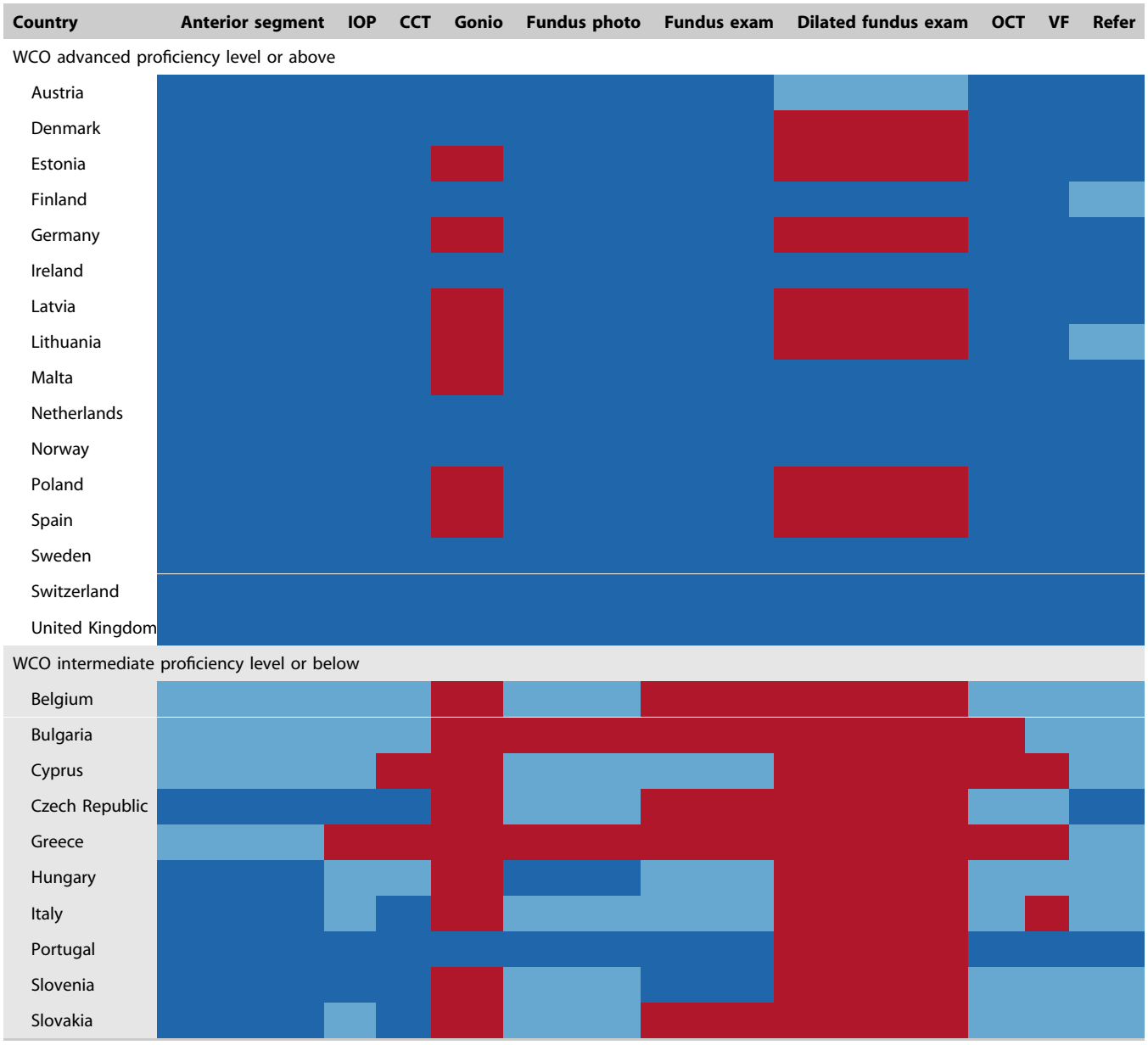
Aiming to retrieve relevant literature reporting on the role of optometrists in glaucoma care in countries where they practice at advanced proficiency level, we conducted a literature search in PubMed, last updated in December 2025. We combined keywords around topics of optometrist AND glaucoma AND European countries (i.e., list of relevant countries). We included primary research studies, assessing or reporting on the roles of optometrists in the assessment or management of people with or at risk of glaucoma. Reference lists and citations of eligible studies were also checked for additional studies. Details of the search strategy are reported in Supplementary Table S2.

From the search, 64 citations were retrieved. Titles and abstracts were screened to discard irrelevant publications (n = 39). Full texts of the remaining publications were assessed in detail (n = 25). From these, 22 studies were included as providing relevant information; three were excluded as they did not focus on assessments by optometrists. An additional four studies were identified from citation checking, making a total of 26 studies included, from seven countries.

Details of the studies included are reported in Supplementary Table S3. Most studies were conducted in The

15389235, 2026, 7, Downloaded from https://onlinelibrary.wiley.com/doi/10.1002/ovs2.70088 by NICE, National Institute for Health and Care Excellence, Wiley Online Library on [24/07/2026]. See the Terms and Conditions (https://onlinelibrary.wiley.com/terms-and-conditions) on Wiley Online Library for rules of use; OA articles are governed by the applicable Creative Commons License

TABLE 2 Elements of eye examination and optometric practice relevant to glaucoma assessment that are included in the scope of practice, are practiced, or are outside the scope of practice of optometrists from ECOO member countries.



Note: In particular we report on slit lamp exam of the anterior segment and adnexa (anterior segment), tonometry (intraocular pressure, IOP), pachymetry (central corneal thickness, CCT), gonioscopy (gonio), fundus photography, fundoscopy (fundus exam), dilated fundoscopy (dilated fundus exam), optical coherence tomography (OCT), perimetry (visual field, VF), and referring patients, if needed, with all necessary information to the provider (refer). Countries are grouped based on their WCO proficiency level. Color scheme, dark blue = within scope; light blue = practiced; red = out of scope. Adapted from ECOO Blue Book.[5]

Netherlands ($n = 7$), Denmark ($n = 5$), and Ireland ($n = 5$). The remaining were from Sweden ($n = 4$), Norway ($n = 2$), Spain ($n = 2$), and Germany ($n = 1$). No peer reviewed publications were available from the other eligible European countries.

Conduct of glaucoma care in practice

The individual country reports presented below are based on the Blue Book scope of practice (Table 2), the survey results (Table 3), and the literature review (Supplementary Table S3). In this section, for conciseness, we use the term 'glaucoma case finding'; please note that this refers to the inclusion of health checks within optometric examinations, enabling the detection of eye conditions including glaucoma. We have restricted our final report to the four countries that reported occasional shared or independent care, as well as Sweden and Ireland, which reported the greatest scope of practice with respect to permitted assessments. Remaining European countries are discussed in Supplementary File S2.

15389235, 2026, 7, Downloaded from https://onlinelibrary.wiley.com/doi/10.1002/ovs2.70088 by NICE, National Institute for Health and Care Excellence, Wiley Online Library on [24/07/2026]. See the Terms and Conditions (https://onlinelibrary.wiley.com/terms-and-conditions) on Wiley Online Library for rules of use; OA articles are governed by the applicable Creative Commons License

TABLE 3 Summary of responses to the survey from optometrists working in countries at the 'advanced' proficiency level or above (according to the WCO Competency Framework for Optometrists[4]).

		Does training cover assessment, management, and are there any specialist qualification?			What components relevant to glaucoma assessment are typically performed?								What is the level of management or involvement in glaucoma care?					
Country	*N*	Asmt	Mgmt	Quali	NCT	GAT	VH	GON	CCT	VF	ODA	OCT	None	Tech	Refer	Shared	Ind	Setting of practice
Austria	2												X	X				No; PC
Denmark	2														X			Hsp
Estonia	2												X	X	X			PC; Hsp
Finland	2		Some; yes		75–100		25–75	0–25			25–50	25–75		X	X	X		PC; Hsp
Germany	3		No; some; yes		0–25-50									X	X			PC; Hsp
Latvia	1													X	X			PC; Hsp
Lithuania	2				0–25		0–25		0–25					X	X			PC; Hsp
Malta	1														X			PC; Hsp
Netherlands	34			No (20); yes (12); Don't know (2).										X	X	X	X	PC; Hsp
Norway	2		No; some				50–75	25–50	50–75	50–75	75–100	50–75			X	X		PC; Hsp
Poland	1													X	X			PC; Hsp
Spain	3													X	X	X		PC; Hsp
Sweden	1														X			PC; Hsp
Switzerland	1														X			PC; Hsp
Key		Dark blue: Yes; Light blue: Some elements; Red: No		Dark blue: Yes; Red: No	Red: None performing it (0%); orange: A minority performing it (25%); pale blue: Around half performing it (50%); light blue: Majority performing it (75%); and dark blue: All performing it (100%)								None; Tech: Technician; Refer: Screening and refer onward; Shared: Shared care model; and Ind: Independent management					No: Not involved; PC: Primary care; and Hsp: Hospital

Note: *N* refers to number of responses. The level of involvement in glaucoma care ranged from none; Tech = Technician level: performing clinical tests for glaucoma assessment, with results interpreted by another professional (e.g., ophthalmologist); Refer = independently performing a combination of tests relevant for glaucoma assessment to screen for the presence of glaucoma and referring suspected cases onward. Shared care model = independently assessing the presence and severity of glaucoma and managing certain cases under supervision or in collaboration with ophthalmologists; and independent management = independently assessing, diagnosing, and managing glaucoma cases. Where multiple responses were available to questions where a unique answer was allowed, we reported the mode. If mode could not be determined, we reported all answers and color-coded according to the lowest score. Responses to questions where multiple answers were allowed (i.e., tick all the ones that apply), were all reported.

Abbreviations: Asmt, assessment; CCT, central corneal thickness; GAT, Goldmann applanation tonometry; GON, gonioscopy; Mgmt, management; NCT, noncontact tonometry; OCT, optical coherence tomography; ODA, optic disc assessment; Quali, specialist qualification; VF, visual field test; VH, Van Herick.

Finland

Survey respondents reported that training in Finland covers all aspects of glaucoma assessment and some elements of management. Most optometrists perform noncontact tonometry (NCT), while other assessment components are reported to be conducted less consistently. Gonioscopy and GAT are only performed by a minority. Optometrists may be involved in glaucoma care at various levels, from technician roles to case finding and referral in primary care, and in shared-care hospital settings where they collaboratively manage patients with ophthalmologists. One respondent noted that optometrists are not permitted to refer patients directly to hospitals and indicated that instead referrals must initially go through a private ophthalmologist or health center.

According to the Blue Book, all clinical assessments relevant to glaucoma are within the scope of practice. Diagnostic drugs, including topical anesthetics and mydriatics, are also within scope.

No information was available from peer-reviewed publications.

Ireland

No survey responses were obtained from this country.

15389235, 2026, 7, Downloaded from https://onlinelibrary.wiley.com/doi/10.1002/ovs2.70088 by NICE, National Institute for Health and Care Excellence, Wiley Online Library on [24/07/2026]. See the Terms and Conditions (https://onlinelibrary.wiley.com/terms-and-conditions) on Wiley Online Library for rules of use; OA articles are governed by the applicable Creative Commons License

According to the Blue Book, all clinical assessments relevant to glaucoma are within the scope of practice, and the use of diagnostic drugs, including topical anesthesia and pupil dilation, is permitted.

Five peer-reviewed studies provide information on optometrists' involvement in glaucoma care.[42–46] Notably, legislative changes in 2015 significantly widened the scope of practice, supporting extended roles where optometrists have the appropriate skills and training.[44] Overall, the evidence indicates that in primary care practice, optometrists largely use all relevant tests for glaucoma assessment, with IOP usually measured using NCT and occasionally using GAT. Management is primarily related to referral of suspected cases. One study by Barrett et al.[45] examined the clinical viability of a glaucoma referral refinement pathway involving specially trained optometrists through an apprenticeship model, although it appears that such schemes have not been implemented across the country.

Netherlands

Survey responses indicate that training covers all elements of glaucoma assessment and some aspects of management. All optometrists perform NCT, van Herick assessment, and optic disc evaluation. GAT and central corneal thickness (CCT) measurement are widely performed, whereas gonioscopy and visual field testing appear to be only conducted by a minority. Optometrists in the Netherlands participate in glaucoma care at multiple levels, ranging from technician-level, through case finding in primary care, to shared care models. Work is undertaken in both primary care and hospital settings. One respondent mentioned a recent development of national glaucoma guidelines for optometrists: 'This included a comprehensive revision of how optometrists contribute to glaucoma care and the updated guidelines give optometrists clear and practical tools to detect glaucoma at an earlier stage. This allows us to shift much of the screening (i.e., case finding) and early detection from ophthalmologists to a primary care setting, improving accessibility and efficiency in glaucoma management'.

Consistent with the above, the Blue Book indicated that all clinical assessments relevant to glaucoma are within the scope of practice. The use of diagnostic drugs, including topical anesthetics and mydriatics, is permitted.

Seven studies reported relevant information.[47–53] Several studies were conducted by groups at the Rotterdam Eye Hospital,[48,49,52] including a randomized controlled trial comparing the usual care by ophthalmologists to multidisciplinary teams that included optometrists for patients at risk of glaucoma or with stable disease.[48,49] These studies show that optometrists perform some examinations in routine practice for glaucoma detection, with reports assessing additional structural and functional tests via telemedicine for enhanced detection.[50,51] Currently, glaucoma care by optometrists appears to mostly involve referral of suspected cases, though some optometrists follow hospital-based protocols to monitor stability and follow-up intervals for patients with or at risk of glaucoma.[49]

Norway

Survey responses indicate that training covers all components of glaucoma assessment, whereas management is only partially covered. Postgraduate training specific to glaucoma is available. NCT is performed by all optometrists, and optic disc assessment by the vast majority. Other tests, including van Herick assessment, CCT measurement, visual field testing, and OCT, are performed by many, whereas GAT and gonioscopy are only conducted by a minority. Optometrists are involved in glaucoma care primarily via case finding in routine eye tests, and via shared care models, working in both primary care and hospital settings.

The Blue Book indicates that all clinical assessments relevant to glaucoma are within the scope of practice; the use of diagnostic drugs, including topical anesthetics and mydriatics, is permitted.

There were two peer-reviewed publications from Norway [54,55], which indicate that optometrists conduct some glaucoma-related tests, including tonometry and visual field case finding. Management is generally limited to referral of suspected glaucoma cases for assessment by ophthalmologists.

Spain

Survey responses indicated that training appears to cover all components of glaucoma assessment and some of management. Regarding assessment, noninvasive techniques, such as NCT and van Herick, are likely performed by all optometrists, and optic disc assessment by the majority. Procedures, such as CCT measurement, visual field testing, and OCT, are performed by a minority of optometrists. GAT and gonioscopy are not performed as topical anesthesia is required. Optometrists may be involved at different levels, including technician roles, case finding, and shared care, working in both primary care and hospital settings. One respondent commented how: 'Spanish optometrists are fully trained to develop clinical protocols for detecting pathological signs for the diagnosis of glaucoma and also to perform clinical tests that allow them to determine the stage of disease progression once diagnosed by an ophthalmologist'.

The Blue Book indicates that all noninvasive techniques are within the scope of practice in Spain. However, the use of diagnostic drugs is not permitted.

Two publications were identified from Spain.[56,57] In one study, an optometrist gathered data for a teleophthalmology model, providing preliminary diagnoses and triage classifications according to protocol.[56] The second study similarly assessed asynchronous ophthalmologist review, with optometrists contributing to data collection rather than patient management.[57] These

15389235, 2026, 7, Downloaded from https://onlinelibrary.wiley.com/doi/10.1002/ovs2.70088 by NICE, National Institute for Health and Care Excellence, Wiley Online Library on [24/07/2026]. See the Terms and Conditions (https://onlinelibrary.wiley.com/terms-and-conditions) on Wiley Online Library for rules of use; OA articles are governed by the applicable Creative Commons License

studies suggest involvement in structured schemes, but there is no information on what occurs in routine optometric practice for glaucoma.

Sweden

Survey responses indicate that training covers all components of glaucoma assessment and some aspects of management. Postgraduate training specific to glaucoma is also available. Regarding assessment, NCT is performed by all optometrists, whereas van Herick, CCT measurement, optic disc assessment, and visual field testing are performed by the large majority. GAT is reportedly performed by around 50%, but gonioscopy only by a minority. The role of optometrists is mostly in case finding during routine eye exams, working in both primary care and hospital settings. One respondent noted that, according to Swedish guidelines, individuals identified as being at risk for glaucoma may be followed by optometrists in private practice rather than hospital clinics.

Information from the Blue Book indicated that all clinical assessments relevant to glaucoma are within the scope of practice. The use of diagnostic drugs, including topical anesthetics and mydriatics, is permitted.

Four relevant studies were conducted in Sweden.[58–61] Overall, these reported involvement of optometrists in case finding in the population during routine exams, and referral onward of suspected glaucoma cases. Many of the referrals in these studies were reported to be based on IOP only.[59,61] Evidence from one study also showed that optometrists working in hospital settings perform more in-depth assessments alongside ophthalmologists according to established protocols.[59]

Summary

The Blue Book and survey results indicate that there is an enormous variation in the extent to which optometrists in Europe (outside the UK) are involved in the assessment of patients with glaucoma. The techniques most used by optometrists to try to identify glaucoma suspects are the measurement of intraocular pressure by NCT and examining the optic nerve head as part of a more general ocular health check. Imaging techniques and, in particular, visual field examination are much less commonly used.

There is not only considerable variation between countries but also within countries. The reason for within country variation in the approach to glaucoma assessment is two-fold. Firstly, it is not uncommon (e.g., in Denmark) for an additional fee to be payable for an ocular health check. Hence, a patient with glaucoma whose examination consists of a refraction only would likely go undetected. Secondly, optometrists in the same country may work in varied settings, such as high-street practice, where refraction-only examinations are the norm, or in a hospital as part of a multidisciplinary team (including an ophthalmologist) where many more ocular health checks are conducted.

In relation to management of patients with glaucoma, the evidence we have gathered suggests that this rarely goes beyond onward referral of a patient who is a glaucoma suspect. Aside from a few pilot projects described in our summary of the peer-reviewed literature, there are no cases where optometrists play a leading role in managing glaucoma patients. For example, we did not uncover evidence that optometrists are regularly or even sometimes involved in deciding if a patient's glaucoma is stable or how or whether their treatment is or is not proving effective. This is not surprising because in only some of the European countries for which we have data are optometrists permitted to use ophthalmic drugs for therapeutic purposes. Even the use of diagnostic drugs by optometrists is forbidden in many countries, though this is slowly changing in Europe. Another reason that the role of the optometrist in most countries is limited to the identification and onward referral of glaucoma suspects may be that the training needed for the assessment and, in particular the management of glaucoma patients, is only covered to a limited extent in the training course which leads to the title 'optometrist' and the lack of postgraduate courses dedicated to additional training in these areas of practice in European countries.

United Kingdom

Robert A. Harper and Patrick J. G. Gunn

The UK Optometry workforce, estimated to be more than 17,000 registrants,[62] practice both in primary care optometry and also in secondary care, that is the Hospital Eye Service (HES) or Independent Sector Provider services. In the past, secondary care services for glaucoma were provided by ophthalmologists, albeit with substantial contributions from optometrists. Now, scope of practice for optometrists in glaucoma spans from case finding and detection, usually in primary care optometry, through to provisional diagnosis and management, including the independent prescribing (IP) of medical treatments and provision of glaucoma laser interventions usually, but not exclusively, within the HES; however, primary care optometry in the United Kingdom is also evolving beyond case finding and limited shared care, with increasing numbers of optometrists practicing independent therapeutic prescribing and with a growing number being further engaged in glaucoma within primary care.

Glaucoma specific requirements

No higher qualifications, beyond entry level competency, are required by optometrists for initial glaucoma case finding from their routine eye examinations, but

15389235, 2026, 7, Downloaded from https://onlinelibrary.wiley.com/doi/10.1002/ovs2.70088 by NICE, National Institute for Health and Care Excellence, Wiley Online Library on [24/07/2026]. See the Terms and Conditions (https://onlinelibrary.wiley.com/terms-and-conditions) on Wiley Online Library for rules of use; OA articles are governed by the applicable Creative Commons License

accreditations *are* required for more formal referral filtering (such as enhanced case finding and referral refinement) and for glaucoma monitoring. The three-level College of Optometrists-accredited glaucoma higher qualifications are the most noteworthy higher qualifications: The Professional Certificate in Glaucoma; the Professional Higher Certificate in Glaucoma; and the Diploma in Glaucoma. Independent prescribing is a separate prescribing specialty, allowing optometrists with relevant glaucoma accreditation and experience to prescribe in glaucoma, although the IP accreditation itself is *not* regarded as a qualification permitting glaucoma prescribing without additional glaucoma specific experience and accreditation. Research evidence is supportive that further experience and/or accreditation beyond entry level is valuable in underpinning improved clinical performance in glaucoma assessment.[63,64] Relevant professional bodies have recommended that enhanced case finding should be delivered by those with relevant specialist qualifications (i.e., the Professional Certificate in Glaucoma or equivalent) and suitable experience.[65] The Professional Certificate is also relevant to community schemes where ocular hypertension and/or other lower risk cases are monitored in primary care. Ellek et al.[66] recently provided geographic mapping of glaucoma qualifications in the UK regions, showing that from 2021 to 2024 the number of optometrists with higher qualifications in glaucoma had increased. At that time, there were 1986 Professional Certificate holders, 223 Higher Certificate and 145 Diploma holders. There were 127 optometrists who held both the Diploma and IP qualifications. These numbers continue to rise.

Conduct of glaucoma care in practice

All optometrists, at an 'entry level' to the profession, have responsibilities for glaucoma case finding through routine use of tonometry, slit-lamp examination, optic disc examination, and visual field assessment. Owing to historical concerns about high false positive referral rates, glaucoma referral filtering services have been in place for many years. In these services, optometrists are funded to provide more effective case finding, reducing false positive referrals to secondary care for suspected glaucoma. In England and Northern Ireland, these schemes are locally commissioned, whereas in Scotland and Wales they are organized within an enhanced NHS General Ophthalmic Service (GOS). Referral filtering in the United Kingdom has been shown to reduce the false-positive referral rate, thereby increasing capacity in secondary care.[67–70]

Optometrists also provide care to those with glaucoma, particularly in secondary care settings, though with a more recent focus on growing capacity for glaucoma follow up in primary care. The Bristol Shared Care Glaucoma Study (BSCGS) provided high quality evidence within a randomized controlled trial design that community optometrists could provide glaucoma care of comparable quality to the HES.[71] The BSCGS validated the concept of 'shared care' or co-management, finding that optometrists could reliably evaluate key glaucoma metrics, and provide comparable clinical outcomes.[72] Patients in the study were more satisfied with the care provided by community optometrists, particularly regarding waiting times versus those in the HES.[73] A more recent discrete choice experiment showed patient preference for community services remains strong.[74] Ironically, owing to initial concerns about the economics of the community model in Bristol at the time,[75] expansion of optometric care in glaucoma in the United Kingdom largely developed within the HES. However, capacity concerns never abated, and with the current NHS 10-year plan now focusing on moving 'hospital to community', there are more pressing calls for community expansion. Expanded GOS models in Scotland and Wales, plus some localities in England, see optometrists remunerated through the NHS for community-based care. Further studies since the BSCGS have shown good agreement between optometrists and ophthalmologists in assessment methods and/or diagnostic accuracy and in clinical decision-making.[76–78] These studies are supported by service evaluations examining the benefits of primary care-based services (14–17).[32,79–81]

Two national studies have examined the scope of practice of UK optometrists working in the HES. The first, a survey conducted in 2015,[82] showed that optometrists were performing a wide range of extended clinical roles, including 92% of respondents reporting involvement in glaucoma care, although with little engagement in laser interventions. The follow up survey in 2020[83] showed optometrists' scope of practice had expanded, with an increased use of IP and a notable increase in optometrists undertaking laser interventions. For example, just one unit reported optometrists providing SLT in 2015, but 14 did so in 2020. The updated NICE glaucoma guideline in 2022[84] recommended SLT as initial treatment for newly diagnosed chronic open angle glaucoma and ocular hypertension. Therefore, it is likely that the number of optometrists performing SLT has since increased. A recent study by Lee et al.[85] showed comparable outcomes up to 24 months post-treatment between optometrist- and ophthalmologist-delivered SLT, and Swystun et al.[39] recently showed that optometrist-delivered SLT is safe and effective.

Given the already advanced roles undertaken by optometrists in secondary care settings, it is arguably development of the role of optometrists in primary care that is set for expansion. In primary care, training and accreditation, governance, and commissioning arrangements are all key factors for successful expansion of services.[86] Ellek et al.[87] reported on a national clinical practice survey, flagging the potential for primary care optometrists to expand their role in glaucoma. Given

15389235, 2026, 7, Downloaded from https://onlinelibrary.wiley.com/doi/10.1002/ovs2.70088 by NICE, National Institute for Health and Care Excellence, Wiley Online Library on [24/07/2026]. See the Terms and Conditions (https://onlinelibrary.wiley.com/terms-and-conditions) on Wiley Online Library for rules of use; OA articles are governed by the applicable Creative Commons License

current engagement, plans for glaucoma-related professional development, and the widespread availability of appropriate diagnostic and monitoring tools, Ellek et al.[87] concluded that there is now the emergence of a critical mass of UK primary care optometrists who either already have the skills, or otherwise are willing to upskill in glaucoma, to offer improved capacity in glaucoma services. Optometry, and its relationship with glaucoma, has come a long way in the United Kingdom in the past 30 years, and although more work needs to be done, reviewing what has been achieved serves as a timely reminder of significant progress.

United States of America

John G. Flanagan

Scope of practice in the USA can be defined as 'the procedures, actions, and processes' that are permitted to be performed under a professional license. Scope of practice is governed on a state-by-state basis, with each state defining the law, including educational and competency requirements.[88]

Conduct of glaucoma care in practice

Optometrists in all states are permitted to independently diagnose and treat glaucoma using topical medications. The final state, Massachusetts, joined the other 49 states in this regard in 2021. A recent study analyzed fee-for-service (FFS) Medicare claims to determine, among other outcomes, the prescribers of POAG therapies.[89] This retrospective study accessed data from 2017 to 2021 and identified approximately 16 million Medicare FFS beneficiaries 65 years or older. They found an annual prevalence of POAG of approximately 6% or 950,000. Optometrists were responsible for approximately 20% of POAG-related prescriptions. Interestingly, the percentage of prescriptions increased each year with 18.5% in 2017 and 21.9% in 2021. Over the same period, ophthalmology's prescription rate decreased from 68% in 2017 to 65.8% in 2021. Other medical practitioners' prescription rate also decreased from 6.5% in 2017 to 5.3% in 2021. Thus, the reduction in medical prescribing matched exactly the increase in optometry prescribing. We could further speculate that if the same rate of increase in optometry prescribing for POAG continued over the next 5 years, they would currently be responsible for at least 25% of all prescriptions. It should be noted that Medicare FFS does not represent all POAG patient data in the United States of America but is among the largest data sets that is publicly available.

In the United States of America , the treatment of glaucoma by laser procedures performed by optometrists is poised at a tipping point. As of June 2025, there are 13 states in which optometrists are granted the authority to treat glaucoma using laser procedures. All 13 of these states include SLT, 10 states have authorized argon laser trabeculoplasty, and 10 states permit laser peripheral iridotomy (LPI–Nd:YAG laser) (Table 4).

At least a further 11 states are currently seeking glaucoma laser scope expansion, including Alabama, Florida, Kansas, Missouri, New Hampshire, New Jersey, New Mexico, Ohio, South Carolina, Tennessee, and Vermont.

Glaucoma specific requirements

Each state defines the level of training and certification required to treat patients with glaucoma, particularly with respect to existing clinicians. The majority of states do not require additional training for new graduates of accredited schools and colleges (Accreditation Counsel on Optometric Education), but many require certification for laser procedures, such as the National Board of Examiners in Optometry's Laser and Surgical Procedures Examination or state-run examinations. Several states require demonstration of laser procedures on a specified number of human patients, under the supervision of an authorized ophthalmologist or optometrist. For clinicians in practice at the time of legislative change, there is generally a requirement for a specific course prior to glaucoma certification. In addition, most states have specific, ongoing glaucoma continuing education requirements to maintain certification.

DISCUSSION

The global landscape of optometric practice in glaucoma management is characterized by a significant shift from traditional 'case-finding' roles toward comprehensive

TABLE 4 Laser procedures permitted to be performed by optometrists in USA states.

Alaska	SLT	ALT	LPI
Arkansas	SLT	ALT	
Colorado	SLT	ALT	LPI
Indiana	SLT	ALT	LPI
Kentucky	SLT	ALT	LPI
Louisiana	SLT	ALT	LPI
Oklahoma	SLT	ALT	LPI
Montana	SLT	ALT	LPI
South Dakota	SLT		
Virginia	SLT	ALT	LPI
West Virginia	SLT	LPI	
Wyoming	SLT	ALT	LPI

Note: Other USA states do not currently authorize these procedures.

Abbreviations: ALT, argon laser trabeculoplasty; LPI, laser peripheral irodotomy; SLT, selective laser trabeculoplasty.

15389235, 2026, 7, Downloaded from https://onlinelibrary.wiley.com/doi/10.1002/cvo2.70088 by NICE, National Institute for Health and Care Excellence, Wiley Online Library on [24/07/2026]. See the Terms and Conditions (https://onlinelibrary.wiley.com/terms-and-conditions) on Wiley Online Library for rules of use; OA articles are governed by the applicable Creative Commons License

diagnostic and therapeutic management. This evolution is largely driven by longstanding changes in optometric training, the increasing global prevalence of glaucoma—projected to reach 190 million people by 2060[1]—and a concurrent shortage of ophthalmologists. Although the United States of America, the United Kingdom, Canada, Australia, and New Zealand have established or rapidly expanding therapeutic scopes, particularly for optometrists holding additional qualifications, Africa and Europe exhibit stark variations between countries and a generally narrower scope of practice. The United States of America and Canada stand alone in that graduation from an accredited optometry program includes the ability to diagnose and independently manage patients with glaucoma, with the extent of practice scope controlled by state and provincial legislation.

A common theme across most regions covered is the alignment of optometric education with WCO Category 4 standards. In North America, the OD degree is the baseline for independent management. Similarly, in Ghana and Nigeria, 6-year OD programs have successfully integrated glaucoma diagnosis and medical management into primary care, with over 90% of practitioners routinely diagnosing the condition. However, a 'regulatory lag' persists in many jurisdictions; for example, in South Africa, although legislation expanded to include therapeutics in 2015, complex certification requirements have resulted in low clinical uptake.

The shift from case finding to interventional management of glaucoma is a major frontier for the profession of optometry. Although many jurisdictions do not allow optometrists to manage glaucoma independently, increasing numbers of optometrists worldwide are now doing so. In the United States of America , all 50 states permit independent topical therapy, and laser authority is becoming increasingly common. In the United Kingdom, the 2022 NICE guidelines recommending SLT as an initial treatment has accelerated the role of optometrists in providing these procedures within hospital settings. New Zealand represents a middle ground, where 'Specialist Optometrists' can perform laser procedures in hospital settings, though this authority does not yet extend to community practice or to Australia.

Barriers to effective scope

Despite educational readiness, the 'effective' scope often remains more constrained than the 'nominal' scope. In Africa, although many optometrists are legally authorized to manage glaucoma, limited access to essential equipment, such as gonioscopy lenses and OCT, combined with the high cost of medications, hinders service delivery. In other regions, such as Canada, New Zealand, and the United Kingdom, a lack of public funding or insurance coverage for optometric glaucoma care remains a significant barrier to patient access in the community.

Limitations

We do not include any information from countries with optometry in Asia, Mexico, the Greater Caribbean Region, Central, or South America. We requested participation from various potential authors from South Asia, Southeast Asia, China, Mexico, Central America, and South America, but were unsuccessful in finding willing collaborators. This may in part reflect the lack of involvement of optometry in glaucoma care, and that there are few countries in these regions that meet WCO Category 4 standards and enjoy a registrable, legislatively protected profession. Notable exceptions include Hong Kong and Mexico. There are also many countries without optometry in these regions.

Our review is also limited to *clinical* practice in glaucoma and does not cover nonclinical roles such as education and research. Notably, many optometrists are involved in glaucoma research from basic through to translational and clinical science as well as public health and service delivery/evaluation research. For several decades, optometrists from many countries have been prominent at the forefront of glaucoma research, making major contributions to advances in knowledge and understanding, as well as to development of key technologies. In research, regulatory and educational barriers are few, and qualifications (e.g., PhDs) are recognized globally and equally across all professions, thus facilitating international collaboration and co-operation.

CONCLUSIONS

The scope of optometric practice in glaucoma is undergoing a global transformation, moving toward greater professional autonomy and therapeutic involvement. As the profession continues to embrace interventional technologies and advanced therapeutics, optometrists are poised to play an indispensable role in the global effort to prevent irreversible blindness from glaucoma.

Currently, the United States of America, the United Kingdom, Canada, Australia, and New Zealand lead in legislative and clinical integration, whereas countries, such as Ghana and Nigeria, demonstrate the potential for optometry to lead primary glaucoma care in developing health systems. However, significant challenges remain, including inconsistent regulatory frameworks, a lack of standardized clinical guidelines, and financial barriers to care.

Continued growth of optometric involvement in glaucoma promises to benefit patients through improved access to high quality clinical care. In many jurisdictions, future efforts may focus on aligning legal and regulatory scopes with the high level of clinical education provided to maximize utilization of the existing workforce. To improve access further, more work is needed to address reimbursement gaps and equipment shortages, such that

15389235, 2026, 7, Downloaded from https://onlinelibrary.wiley.com/doi/10.1002/ovs2.70088 by NICE, National Institute for Health and Care Excellence, Wiley Online Library on [24/07/2026]. See the Terms and Conditions (https://onlinelibrary.wiley.com/terms-and-conditions) on Wiley Online Library for rules of use; OA articles are governed by the applicable Creative Commons License

expanded scope and greater clinical skill can be brought to bear on patient care. Further, the development of clinical guidelines that promote uniform evidence-based care would be beneficial in some regions where these do not currently exist.

AUTHOR CONTRIBUTIONS

Jonathan Denniss: Conceptualization; writing—original draft; writing—review and editing; project administration. **Brendan T. Barrett**: Writing—original draft; writing—review and editing; methodology; investigation. **Riccardo Cheloni**: Writing—original draft; writing—review and editing; methodology; investigation. **Patrick J. G. Gunn**: Writing—original draft; writing—review and editing. **Robert A. Harper**: Writing—original draft; writing—review and editing. **Sarah MacIver**: Writing—original draft; writing—review and editing. **Allison M. McKendrick**: Writing—original draft; writing—review and editing. **Stephen Ocansey**: Writing—original draft; writing—review and editing. **Phillip R. K. Turnbull**: Writing—original draft; writing—review and editing. **John G. Flanagan**: Conceptualization; writing—original draft; writing—review and editing; project administration.

ACKNOWLEDGMENTS

None.

CONFLICT OF INTEREST STATEMENT

The authors declare no conflicts of interest.

ORCID

Jonathan Denniss https://orcid.org/0000-0003-2760-9054

REFERENCES

1. Wang Z, Xue CC, Li Y, Wu Y, Pan Z, Li F, et al. Global glaucoma prevalence: burden and projection to 2060. *Am J Ophthalmol*. 2026;283:324–35. https://doi.org/10.1016/j.ajo.2025.12.013
2. Berkowitz ST, Finn AP, Parikh R, Kuriyan AE, Patel S. Ophthalmology workforce projections in the United States, 2020 to 2035. *Ophthalmology*. 2024;131:133–9. https://doi.org/10.1016/j.ophtha.2023.09.018
3. Royal College of Ophthalmologists. Facing workforce shortages and backlogs in the aftermath of COVID-19: the 2022 census of the ophthalmology consultant, trainee and SAS workforce. https://www.rcophth.ac.uk/wp-content/uploads/2023/03/2022-Ophthalmology-census-Facing-workforce-shortages-and-backlogs-in-the-aftermath-of-COVID-19.pdf (2023). Accessed Feb 2026.
4. World Council of Optometry. WCO competency framework for optometry. https://worldcouncilofoptometry.info/wp-content/uploads/2024/02/WCO_Competency-Framework-for-Optometry.pdf (2024). Accessed Feb 2026.
5. ECOO. Blue book. https://ecoo.info/wp-content/uploads/2025/10/BlueBook_2025_web.pdf (2025). Accessed Feb 2026.
6. International Agency for the Prevention of Blindness. Situation analysis of optometry in Africa. https://www.iapb.org/learn/resources/situation-analysis-of-optometry-in-africa/ (2016). Accessed Feb 2026.
7. Osuagwu UL, Rasengane T, Ovenseri-Ogbomo GO, Nsubuga N, Govender P, Metsing TI, et al. Mapping the landscape of optometric education in Sub-Saharan Africa. *Clin Exp Optom*. 2025;108:282–92. https://doi.org/10.1080/08164622.2024.2446473
8. Amoah-Smith O, Eghaghara J, Ryan B, Robinson DG. Glaucoma case finding and management among optometrists in Ghana and Nigeria. *Optom Vis Sci*. 2025;102:529–35. https://doi.org/10.1097/opx.0000000000002283
9. Ocansey S, Ekure E, Osuagwu UL, Ekpenyong BN, Ovenseri-Ogbomo G, Kyeremeh S, et al. Profiling and factors associated with glaucoma diagnostic practice in Sub-Saharan Africa: a cross-sectional study of Nigerian and Ghanaian optometrists. *BMC Ophthalmol*. 2023;23:351. https://doi.org/10.1186/s12886-023-03083-0
10. Hansraj R, Dlamini N, Khan S, Mtolo PC, Ntuli NG, Prithipal C, et al. Ocular therapeutics and the profession of optometry in South Africa. *Afr J Prim Health Care Fam Med*. 2024;16:a4140. https://doi.org/10.4102/phcfm.v16i1.4140
11. Optometry Board of Australia. Optometry guidelines for use of scheduled medicines. https://www.optometryboard.gov.au/policies-codes-guidelines.aspx (2021). Accessed Feb 2026.
12. National Health and Medical Research Council of Australia (NHMRC). *Guidelines for the screening, prognosis, diagnosis, management and prevention of glaucoma*. Canberra: National Health & Medical Research Council; 2010. https://www.optometry.org.au/wp-content/uploads/Professional_support/Guidelines/NHMRC_glaucoma_120404.pdf. Accessed Feb 2026.
13. Optometry Australia. Clinical practice guide for the diagnosis and management of open angle glaucoma. https://www.optometry.org.au/wp-content/uploads/Professional_support/Guidelines/Glaucoma-Clinical-Practice-Guide_Dec-2020_design_v6.pdf (2020). Accessed Feb 2026.
14. Royal Australian and New Zealand College of Ophthalmologists (RANZCO). RANZCO referral pathway for glaucoma management. https://ranzco.edu/wp-content/uploads/2019/06/RANZCO-Referral-pathway-for-Glaucoma-management-1.pdf (2019). Accessed Feb 2026.
15. Optometrists and Dispensing Opticians Board of NZ (ODOBNZ). Statement on collaborative care. https://odob.in1touch.org/document/6712/Statement%20on%20collaborative%20care.pdf (2024). Accessed Feb 2026.
16. Optometrists and Dispensing Opticians Board of NZ (ODOBNZ). Oral medication guidelines – acute angle closure. https://odob.health.nz/document/6733/8A_Therapeutic%20standards_OralMedicineGuidelines1_Acute%20Angle%20Closure%20(v2)%20(Feb%202022).pdf (2022). Accessed Feb 2026.
17. Optometrists and Dispensing Opticians Board of NZ (ODOBNZ). Independent glaucoma prescribing guidelines for New Zealand optometrists. https://odob.health.nz/document/6713/6_Glaucoma_Guidelines%20August%202021.pdf (2024). Accessed Feb 2026.
18. Turnbull PK, Park I, Johnson R. The expanding scope of the Aotearoa New Zealand optometric workforce. *Clin Exp Optom*. 2025;108:1078–80. https://doi.org/10.1080/08164622.2025.2460609
19. Optometrists and Dispensing Opticians Board of NZ (ODOBNZ). Ophthalmic laser surgeries guidelines for New Zealand optometrists. https://odob.health.nz/document/7302/Guidelines%20for%20NZ%20Optometrists%20-%20Opthalmic%20laser%20surgery%20(v1.0).pdf (2026). Accessed Feb 2026.
20. Ford BK, Angell B, Liew G, White AJR, Keay LJ. Improving patient access and reducing costs for glaucoma with integrated hospital and community care: a case study from Australia. *Int J Integrated Care*. 2019;19:5. https://doi.org/10.5334/ijic.4642
21. Huang J, Hennessy MP, Kalloniatis M, Zangerl B. Implementing collaborative care for glaucoma patients and suspects in Australia. *Clin Exp Ophthalmol*. 2018;46:826–8. https://doi.org/10.1111/ceo.13187
22. O'Connor PM, Harper CA, Brunton CL, Clews SJ, Haymes SA, Keeffe JE. Shared care for chronic eye diseases: perspectives of ophthalmologists, optometrists and patients. *Med J Aust*. 2012;196:646–50. https://doi.org/10.5694/mja11.10856

15389235, 2026, 7, Downloaded from https://onlinelibrary.wiley.com/doi/10.1002/ovs2.70088 by NICE, National Institute for Health and Care Excellence, Wiley Online Library on [24/07/2026]. See the Terms and Conditions (https://onlinelibrary.wiley.com/terms-and-conditions) on Wiley Online Library for rules of use; OA articles are governed by the applicable Creative Commons License

23. Chen J, Bentley SA, McKendrick AM, Thompson SC, Turner AW, Alam K. Rural eye care access, workforce challenges and opportunities: perspectives of the eye health workforce in Western Australia. *Aust J Rural Health*. 2025;33:e70004. https://doi.org/10.1111/ajr.70004
24. Optometrists and Dispensing Opticians Board of NZ (ODOBNZ). The optometrist and dispensing optician workforce in Aotearoa New Zealand. https://odob.health.nz/document/8129/ODOB%20Workforce%20in%20ANZ%202024%20%28Final%20Online%29.pdf (2023). Accessed Feb 2026.
25. Swedberg-Kohli S. *Luctor et Emergo: the story of the Canadian Association of Optometrists and Optometry in Canada*. Ottawa: Canadian Association of Optometrists; 2011.
26. Lighthizer N, Patel K, Cockrell D, Leung S, Harle DE, Varia J, et al. Establishment and review of educational programs to train optometrists in laser procedures and injections. *Clin Exp Optom*. 2025;108:248–57. https://doi.org/10.1080/08164622.2024.2380075
27. Alon S. Selective laser trabeculoplasty: a clinical review. *J Curr Glaucoma Pract*. 2013;7:58–65. https://doi.org/10.5005/jp-journals-10008-1139
28. Optometry Examining Board of Canada. Entry-to-practice exam blueprint. https://oebc.ca/resources/exam-blueprint/ (2025). Accessed 24 Oct 2025.
29. Optometry Examining Board of Canada. Ensuring excellence in optometry: OEBC's commitment to Canadian standards and public trust. https://oebc.ca/2025/06/04/ensuring-excellence-in-optometry-oebcs-commitment-to-canadian-standards-and-public-trust/ (2025). Accessed Feb 2026.
30. Canadian Association of Optometrists. Scope of practice by province – Canadian Association of Optometrists. https://opto.ca/sites/default/files/2025-06/CAO_Optometry_Scope_Table_2025.pdf (2025). Accessed Feb 2026.
31. Canadian Association of Optometrists. Simplified exam coverage grid. https://opto.ca/document/simplified-exam-coverage-grid (2025). Accessed Feb 2026.
32. Gunn PJG, Read S, Dickinson C, Fenerty CH, Harper RA. Providing capacity in glaucoma care using trained and accredited optometrists: a qualitative evaluation. *Eye*. 2024;38:994–1004. https://doi.org/10.1038/s41433-023-02820-5
33. Mercer R, Alaghband P. The value of virtual glaucoma clinics: a review. *Eye*. 2024;38:1840–4. https://doi.org/10.1038/s41433-024-03056-7
34. Jin YP, Trope GE, Buys YM. Prevalence of glaucoma in Canada: results from the 2016–2019 Canadian Health Measures Survey. *Can J Ophthalmol*. 2025;60:141–9. https://doi.org/10.1016/j.jcjo.2024.08.016
35. Buys YM, Bellan L. Updated inventory and projections for Canada's ophthalmology workforce. *Can J Ophthalmol*. 2023;58:523–31. https://doi.org/10.1016/j.jcjo.2022.06.008
36. Tanya SM, Pathak R, Remtulla R, Jaffer A, Kulbay M, Volniansky A, et al. Canadian ophthalmology workforce trends from 1971 to 2022: longitudinal analysis of age, sex, and distribution compared to other surgical specialties. *Can J Ophthalmol*. 2026;61(2):280–92. https://doi.org/10.1016/j.jcjo.2025.09.013
37. Gazzard G, Konstantakopoulou E, Garway-Heath D, Adeleke M, Vickerstaff V, Ambler G, et al. Laser in glaucoma and ocular hypertension (LiGHT) trial: six-year results of primary selective laser trabeculoplasty versus eye drops for the treatment of glaucoma and ocular hypertension. *Ophthalmology*. 2022;130:139–51. https://doi.org/10.1016/j.ophtha.2022.09.009
38. Jones L, Konstantakopoulou E, Gazzard G. Selective laser trabeculoplasty (SLT) performed by optometrists for patients with glaucoma and ocular hypertension: a scoping review. *BMJ Open Ophthalmol*. 2021;6:e000611. https://doi.org/10.1136/bmjophth-2020-000611
39. Swystun AG, Langton E, Kelly S, Venugopal D, Burton D, van der Hoek J, et al. The safety and effectiveness of optometrist-delivered selective laser trabeculoplasty. *Eye*. 2025;39:2284–8. https://doi.org/10.1038/s41433-025-03857-4
40. Naroo SA, Grit F. Optometry and optics in Europe. *Contact Lens Anterior Eye*. 2009;32:101–2. https://doi.org/10.1016/j.clae.2009.04.002
41. Cheloni R, Swystun AG, Frisani M, Davey CJ. Referral in a routine Italian optometric examination: towards an evidence-based model. *Scand J Optom Vis Sci*. 2021;14:1–11. https://doi.org/10.5384/sjovs.v14i1.129
42. Kamel K, Dervan E, Falzon K, O'Brien C. Difference in intraocular pressure measurements between non-contact tonometry and Goldmann applanation tonometry and the role of central corneal thickness in affecting glaucoma referrals. *Ir J Med Sci*. 2019;188:321–5. https://doi.org/10.1007/s11845-018-1795-0
43. Barrett C, Loughman J. Expanding the traditional role of optometry: current practice patterns and attitudes to enhanced glaucoma services in Ireland. *J Optom*. 2018;11:252–61. https://doi.org/10.1016/j.optom.2018.02.004
44. Barrett C, O'brien C, Butler JS, Loughman J. Barriers to glaucoma case finding as perceived by optometrists in Ireland. *Clin Exp Optom*. 2018;101:90–9. https://doi.org/10.1111/cxo.12573
45. Barrett C, O'Brien C, Loughman J. Glaucoma referral refinement in Ireland: managing the sensitivity-specificity paradox in optometric practice. *Ophthalmic Physiol Opt*. 2018;38:400–10. https://doi.org/10.1111/opo.12446
46. Clendenin C, Coffey M, Marsh M, West S. Eye care utilisation patterns in a rural county in Ireland: implications for service delivery. *Br J Ophthalmol*. 1997;81:972–5. https://doi.org/10.1136/bjo.81.11.972
47. Holtzer-Goor KM, Plochg T, Lemij HG, van Sprundel E, Koopmanschap MA, Klazinga NS. Why a successful task substitution in glaucoma care could not be transferred from a hospital setting to a primary care setting: a qualitative study. *Implement Sci*. 2013;8:14. https://doi.org/10.1186/1748-5908-8-14
48. Holtzer-Goor KM, van Sprundel E, Lemij HG, Plochg T, Klazinga NS, Koopmanschap MA. Cost-effectiveness of monitoring glaucoma patients in shared care: an economic evaluation alongside a randomized controlled trial. *BMC Health Serv Res*. 2010;10:312. https://doi.org/10.1186/1472-6963-10-312
49. Holtzer-Goor KM, van Vliet EJ, van Sprundel E, Plochg T, Koopmanschap MA, Klazinga NS, et al. Shared care in monitoring stable glaucoma patients: a randomized controlled trial. *J Glaucoma*. 2016;25:e392–400. https://doi.org/10.1097/ijg.0000000000000335
50. de Vries MM, Stoutenbeek R, Müskens RPHM, Jansonius NM. Glaucoma screening during regular optician visits: the feasibility and specificity of screening in real life. *Acta Ophthalmol*. 2012;90:115–21. https://doi.org/10.1111/j.1755-3768.2011.02355.x
51. De Bont A, Bal R. Telemedicine in interdisciplinary work practices: on an IT system that met the criteria for success set out by its sponsors, yet failed to become part of every-day clinical routines. *BMC Med Inf Decis Making*. 2008;8:47. https://doi.org/10.1186/1472-6947-8-47
52. de Mul M, de Bont AA, Reus NJ, Lemij HG, Berg M. Improving the quality of eye care with tele-ophthalmology: shared-care glaucoma screening. *J Telemed Telecare*. 2004;10:331–6. https://doi.org/10.1258/1357633042602107
53. Stoutenbeek R, Jansonius NM. Glaucoma screening during regular optician visits: can the population at risk of developing glaucoma be reached? *Br J Ophthalmol*. 2006;90:1242–4. https://doi.org/10.1136/bjo.2006.095505
54. Lundmark PO, Luraas K. Survey of referrals and medical reports in optometric practices in Norway: midterm findings from a 3-year prospective Internet-based study. *Clin Optom*. 2017;9:97–103. https://doi.org/10.2147/opto.s136510
55. Sundling V, Gulbrandsen P, Bragadottir R, Bakketeig LS, Jervell J, Straand J. Optometric practice in Norway: a cross-sectional nationwide study. *Acta Ophthalmol Scand*. 2007;85:671–6. https://doi.org/10.1111/j.1600-0420.2007.00929.x

15389235, 2026, 7, Downloaded from https://onlinelibrary.wiley.com/doi/10.1002/ovs2.70088 by NICE, National Institute for Health and Care Excellence, Wiley Online Library on [24/07/2026]. See the Terms and Conditions (https://onlinelibrary.wiley.com/terms-and-conditions) on Wiley Online Library for rules of use; OA articles are governed by the applicable Creative Commons License

56. Carrasco Solís R, Rodríguez Griñolo MR, Ponte Zúñiga B, Mataix Albert B, Lledó de Villar ML, González Troncoso MJ, et al. Effective validation of primary care patient triage classification via tele-ophthalmology with optometrist support. *Inquiry-The J Health Care Organ Provis Financing*. 2025;62:00469580251367231. https://doi.org/10.1177/00469580251367231
57. Palacios MJS, Vernet MV, Bové MM, Playà AS, Batlle LP, Parra JCO, et al. Oftalmopatía en la diabetes mellitus: detección desde la Atención Primaria de salud. *Aten Primaria*. 2011;43:41–8. https://doi.org/10.1016/j.aprim.2010.01.005
58. Landgren K, Peters D. A prospective study on effectiveness of elevated intraocular pressure as a criterion for glaucoma referrals by optometric practitioners in Sweden. *Acta Ophthalmol*. 2021;99:e1098–105. https://doi.org/10.1111/aos.14764
59. Landgren K, Peters D. Optometrists' assessment of pseudoexfoliation and its impact on glaucoma referrals. *Clin Ophthalmol*. 2025:1111–8.
60. Stålhammar G, Damato BE, Fili M. Adenoma of the nonpigmented ciliary epithelium presenting as glaucoma. *Am J Ophthalmol Case Rep*. 2023;32:101871. https://doi.org/10.1016/j.ajoc.2023.101871
61. Nilsson AG, Peters D. Effectiveness of elevated intraocular pressure as a criterion for glaucoma referral after 6 years of follow-up. *Clin Ophthalmol*. 2021;15:3041–9. https://doi.org/10.2147/opth.s318068
62. General Optical Council. GOC annual report 23/24. https://optical.org/static/cb5fdcd4-2b59-468c-85f41767185cdc49/goc-annual-report-final-27th-nov.pdf (2024). Accessed Feb 2026.
63. Hadwin SE, Redmond T, Garway-Heath DF, Lemij HG, Reus NJ, Ward G, et al. Assessment of optic disc photographs for glaucoma by UK optometrists: the Moorfields Optic Disc Assessment Study (MODAS). *Ophthalmic Physiol Opt*. 2013;33:618–24. https://doi.org/10.1111/opo.12066
64. Karas M, Bartlett S, Whitaker A, Sheen N, North R, Ryan B. An analysis of glaucoma repeat measures assessment results: are core competencies enough? *Ophthalmic Physiol Opt*. 2022;42:1147–58. https://doi.org/10.1111/opo.13032
65. Royal College of Ophthalmologists. Commissioning guide: glaucoma. https://www.rcophth.ac.uk/wp-content/uploads/2020/08/Glaucoma-Commissioning-Guide-Long-June-2016-Final.pdf (2016). Accessed Feb 2026.
66. Ellek N, Gunn PJG, Bowen M, Harper RA. Mapping glaucoma higher qualifications within UK optometry. *Ophthalmic Physiol Opt*. 2025;45:1221–7. https://doi.org/10.1111/opo.13502
67. Gunn PJG, Marks JR, Konstantakopoulou E, Edgar DF, Lawrenson JG, Roberts SA, et al. Clinical effectiveness of the Manchester glaucoma enhanced referral scheme. *Br J Ophthalmol*. 2018;103:1066–71. https://doi.org/10.1136/bjophthalmol-2018-312385
68. Ratnarajan G, Newsom W, Vernon SA, Fenerty C, Henson D, Spencer F, et al. The effectiveness of schemes that refine referrals between primary and secondary care—the UK experience with glaucoma referrals: the Health Innovation & Education Cluster (HIEC) Glaucoma Pathways Project. *BMJ Open*. 2013;3:e002715. https://doi.org/10.1136/bmjopen-2013-002715
69. Bourne RRA, French KA, Chang L, Borman AD, Hingorani M, Newsom WD. Can a community optometrist-based referral refinement scheme reduce false-positive glaucoma hospital referrals without compromising quality of care? The community and hospital allied network glaucoma evaluation scheme (CHANGES). *Eye*. 2010;24:881–7. https://doi.org/10.1038/eye.2009.190
70. Devarajan N, Williams GS, Hopes M, O'Sullivan D, Jones D. The Carmarthenshire Glaucoma Referral Refinement Scheme, a safe and efficient screening service. *Eye*. 2011;25:43–9. https://doi.org/10.1038/eye.2010.136
71. Spry PG, Spencer IC, Sparrow JM, Peters TJ, Brookes ST, Gray S, et al. The Bristol Shared Care Glaucoma Study: reliability of community optometric and hospital eye service test measures. *Br J Ophthalmol*. 1999;83:707–12. https://doi.org/10.1136/bjo.83.6.707
72. Gray SF, Spry PG, Brookes ST, Peters TJ, Spencer IC, Baker IA, et al. The Bristol shared care glaucoma study: outcome at follow up at 2 years. *Br J Ophthalmol*. 2000;84:456–63. https://doi.org/10.1136/bjo.84.5.456
73. Gray SF, Spencer IC, Spry PG, Brookes ST, Baker IA, Peters TJ, et al. The Bristol Shared Care Glaucoma Study—validity of measurements and patient satisfaction. *J Publ Health Med*. 1997;19:431–6. https://doi.org/10.1093/oxfordjournals.pubmed.a024673
74. Wu H, Hernández R, Crabb DP, Gazzard G, Harper RA, King A, et al. Patient preferences for ocular hypertension monitoring: a discrete choice experiment. *BMJ Open Ophthalmol*. 2024;9:e001639. https://doi.org/10.1136/bmjophth-2024-001639
75. Coast J, Spencer IC, Smith L, Spry PGD. Comparing costs of monitoring glaucoma patients: hospital ophthalmologists versus community optometrists. *J Health Serv Res Pol*. 1997;2:19–25. https://doi.org/10.1177/135581969700200106
76. Marks JR, Harding AK, Harper RA, Williams E, Haque S, Spencer AF, et al. Agreement between specially trained and accredited optometrists and glaucoma specialist consultant ophthalmologists in their management of glaucoma patients. *Eye*. 2012;26:853–61. https://doi.org/10.1038/eye.2012.58
77. Banes MJ, Culham LE, Bunce C, Xing W, Viswanathan A, Garway-Heath D. Agreement between optometrists and ophthalmologists on clinical management decisions for patients with glaucoma. *Br J Ophthalmol*. 2006;90:579–85. https://doi.org/10.1136/bjo.2005.082388
78. Ho S, Vernon SA. Decision making in chronic glaucoma—optometrists vs ophthalmologists in a shared care service. *Ophthalmic Physiol Opt*. 2011;31:168–73. https://doi.org/10.1111/j.1475-1313.2010.00813.x
79. Baker H, Harper RA, Edgar DF, Lawrenson JG. Multi-stakeholder perspectives of locally commissioned enhanced optometric services. *BMJ Open*. 2016;6:e011934. https://doi.org/10.1136/bmjopen-2016-011934
80. Dinsdale M, Fenerty CH, Craven W, Ireland R, Gunn PJG, Hilton R, et al. Primary Eyecare Glaucoma Service (PEGS): a mixed methods service evaluation. *Eye*. 2024;38:3481–7. https://doi.org/10.1038/s41433-024-03335-3
81. Charlesworth E, Jolly JK, Farrell S, Bourne R, Pardhan S. Patient-reported outcome and experience measures (POEM) of a community-based glaucoma clinic in Cambridge, UK: an observational study. *BMJ Open*. 2024;14:e077906. https://doi.org/10.1136/bmjopen-2023-077906
82. Harper R, Creer R, Jackson J, Ehrlich D, Tompkin A, Bowen M, et al. Scope of practice of optometrists working in the UK Hospital Eye Service: a national survey. *Ophthalmic Physiol Opt*. 2016;36:197–206. https://doi.org/10.1111/opo.12262
83. Gunn PJG, Creer RC, Bowen M, Tromans C, Jackson AJ, Tompkin AP, et al. Scope of practice of optometrists working in the UK Hospital Eye Service: second national survey. *Ophthalmic Physiol Opt*. 2022;42:428–39. https://doi.org/10.1111/opo.12952
84. National Institute for Health and Care Excellence. Glaucoma: diagnosis and management. https://www.nice.org.uk/guidance/ng81/resources/glaucoma-diagnosis-and-management-pdf-1837689655237 (2022). Accessed Feb 2026.
85. Lee CN, Delaney A, Richardson JAL, Freeman G, Gunn PJG, Harthan S, et al. Comparative outcomes of selective laser trabeculoplasty delivered by optometrists compared with ophthalmologists: a UK-based multicentre observational study. *BMJ Open Ophthalmol*. 2024;9:e001870. https://doi.org/10.1136/bmjophth-2024-001870
86. Harper RA, Gunn PJG, Spry PGD, Fenerty CH, Lawrenson JG. Care pathways for glaucoma detection and monitoring in the UK. *Eye*. 2020;34:89–102. https://doi.org/10.1038/s41433-019-0667-9
87. Ellek N, Gunn PJ, Lewandowski T, Bowen M, Harper RA. National UK optometry clinical practice survey: implications for developing

15389235, 2026, 7, Downloaded from https://onlinelibrary.wiley.com/doi/10.1002/ovs2.70088 by NICE, National Institute for Health and Care Excellence, Wiley Online Library on [24/07/2026]. See the Terms and Conditions (https://onlinelibrary.wiley.com/terms-and-conditions) on Wiley Online Library for rules of use; OA articles are governed by the applicable Creative Commons License

glaucoma services in primary care. *Eye*. 2026;40(3):324–33. https://doi.org/10.1038/s41433-025-04137-x
88. American Medical Association. What is scope of practice? www.ama-assn.org/practice-management/scope-practice/what-scope-practice (2022). Accessed Feb 2026.
89. Myers JS, Donckels E, Davis T, Robinson S, Pulungan Z, Brevetti T, et al. Prevalence, incidence, and treatment characteristics of primary open-angle glaucoma among medicare fee-for-service beneficiaries. *Clin Ophthalmol*. 2025;19:3019–31. https://doi.org/10.2147/opth.s536664

AUTHOR BIOGRAPHIES



Dr Jonathan Denniss is an Associate Professor in Optometry at the University of Bradford, Bradford, United Kingdom. He earned his Master of Optometry and PhD degrees from the University of Manchester (UK). He has conducted glaucoma research at several institutions in the United Kingdom and Australia, particularly around the diagnosis and monitoring the disease. Jonathan leads a program at the University of Bradford leading to the College of Optometrists' Professional Higher Certificate in Glaucoma and is an Education Visitor for the General Optical Council.



Professor Brendan T. Barrett is an Irish-trained optometrist and Professor at the University of Bradford, United Kingdom. He is familiar with education and training programs for optometrists throughout the world, but particularly in Europe. As well as being an Education Visitor for the United Kingdom regulator of the optical professions (the General Optical Council) and a member of the World Council of Optometry's Education Committee, he is a co-chair of the European Council of Optometry and Optics (ECOO) Accreditation Agency which accredits optometry programs against the requirements of the European Diploma in Optometry.



Dr Riccardo Cheloni is an optometrist and researcher at the University of Bradford and Moorfields Eye Hospital, United Kingdom. Originally trained as an optometrist and orthoptist in Italy, he earned his PhD in glaucoma diagnosis at the University of Bradford in 2021. Riccardo has since held research positions at the UCL Institute of Ophthalmology, the University of Bristol, and City, University of London, where he focused on improving the diagnosis and characterization of various eye diseases. Currently, he is the research co-lead for a project developing new OCT technology for early glaucoma detection and supports departmental research at Moorfields.



Dr Patrick J. G. Gunn is a Consultant Optometrist and Head of Optometry at Manchester Royal Eye Hospital, Honorary Lecturer in Optometry at the University of Manchester, United Kingdom, and co-lead of both establishments' joint Professional Certificate in Glaucoma. He holds the College of Optometrists' Diplomas in glaucoma and independent prescribing and is an examiner for the College of Optometrists. Alongside clinical practice specializing in glaucoma and delivering laser procedures, Paddy is active in glaucoma related research as well as the advancing role of optometrists.



Professor Robert A. Harper is a Consultant Optometrist at Manchester Royal Eye Hospital, an Honorary Professor of Optometry in the School of Health Sciences at the University of Manchester and a Visiting Professor at City St Georges, London, United Kingdom. His role encompasses clinical work, teaching, research, and wider professional matters, with interests including glaucoma. He has authored over 100 papers in the peer reviewed literature. In 2015, he was awarded Life Fellowship of the College of Optometrists for his contribution to the optometric profession.



Dr Sarah MacIver is an Associate Clinical Professor, director of continuing professional development and head of the ocular disease and imaging service at the University of Waterloo, School of Optometry and Vision Science, Ontario, Canada. She completed her residency in ocular disease from the SUNY State College of Optometry. She is an optometrist with a special interest in the treatment and management of chronic ocular disease, specifically glaucoma, retina, and dry eye. She has been invited to speak at various continuing education events internationally, including interprofessional conferences and public education events, to disseminate knowledge about eye health and vision care. She is a fellow of the American Academy of Optometry, program chair of the Glaucoma Section the American Academy of Optometry, and a member of the Optometric Glaucoma Society.



Professor Allison M. McKendrick is the University of Western Australia, Crawley, Western Australia, Australia, and Lions Eye Institute Chair of Optometry Research. She is an Australian AHPRA registered optometrist with many years' experience of optometry education and clinical research. She is a former Head of Department

15389235, 2026, 7, Downloaded from https://onlinelibrary.wiley.com/doi/10.1002/ovs2.70088 by NICE, National Institute for Health and Care Excellence, Wiley Online Library on [24/07/2026]. See the Terms and Conditions (https://onlinelibrary.wiley.com/terms-and-conditions) on Wiley Online Library for rules of use; OA articles are governed by the applicable Creative Commons License

of Optometry and Vision Sciences at the University of Melbourne. Her research interests include glaucoma, neurological disorders of vision, and age-related eye and vision disorders.



Professor Stephen Ocansey is a Professor, Founding Dean of the School of Optometry and Vision Sciences at the University of Cape Coast (UCC), Ghana, Africa, and a Fulbright Scholar, where his research focuses on ocular diseases, glaucoma, myopia, and public health eye care. He holds a Doctor of Optometry and BSc in Ophthalmic Science from UCC, an MPhil in Populations and Health, and a PhD in Vision Science from Anglia Ruskin University, Cambridge, United Kingdom. A Fellow of the American Academy of Optometry and a Founding Member of its African Chapter, Prof. Ocansey has led and contributed to studies on glaucoma diagnostic practices in sub-Saharan Africa, including profiling glaucoma care among optometrists in Ghana and Nigeria, assessing quality of life in glaucoma patients, and establishing normative retinal nerve fiber layer and optic nerve head data for African populations. He served on the West African Health Organization Technical Committee for the harmonization of optometry training curricula across the ECOWAS sub-region and is actively involved in shaping glaucoma policy and practice standards across the continent.



Dr Philip R. K. Turnbull is an Associate Professor in the School of Optometry and Vision Science at the University of Auckland, Aotearoa New Zealand. His research explores the intersection of technology and vision science, and he is actively engaged in health policy and equity, contributing to commissioned reports and advocating for systemic improvements in eye healthcare delivery in Aotearoa New Zealand.



Professor John G. Flanagan is Professor and Dean Emeritus at the Herbert Wertheim School of Optometry and Vision Science, UC Berkeley, Berkley, California, USA. He graduated from Aston University, where he also earned his PhD. Previously, he was a Professor at the University of Waterloo and the University of Toronto, Senior Scientist at Toronto's UHN, and University of Manchester. He has held continuous federal research funding for over 39 years and enjoyed additional foundation support. His research interests include basic mechanisms of human glaucoma and neurodegeneration, ocular imaging, clinical psychophysics, and vascular reactivity. He has supervised 47 graduate students and authored over 190 peer-reviewed publications, 3 books, and multiple book chapters. He helped found the Optometric Glaucoma Society (president 2007/12) and was president of ASCO in 2020/2021. Honors include the Glenn A. Fry Award and Hall of Fame from the AAO; the Mel Silverman Mentorship Award, UToronto, and Outstanding Performance Awards from the UWaterloo. He holds honorary degrees from Aston and SUNY. In 2025, he was awarded a Berkeley Citation for 'contributions beyond the call of duty and whose achievements exceed the standards of excellence'.

SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

How to cite this article: Denniss J, Barrett BT, Cheloni R, Gunn PJG, Harper RA, MacIver S, et al. Global scope of glaucoma clinical practice for optometrists. *Optom Vis Sci*. 2026;e70088. https://doi.org/10.1002/ovs2.70088

15389235, 2026, 7, Downloaded from https://onlinelibrary.wiley.com/doi/10.1002/ovs2.70088 by NICE, National Institute for Health and Care Excellence, Wiley Online Library on [24/07/2026]. See the Terms and Conditions (https://onlinelibrary.wiley.com/terms-and-conditions) on Wiley Online Library for rules of use; OA articles are governed by the applicable Creative Commons License