

Evidence Brief: Ophthalmology plus: diabetic retinopathy; retinal detachment; cataracts; glaucoma

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Produced by the Knowledge Management team Evidence Briefs offer an overview of the published reports, research, and evidence on a workforce-related topic.

Date of publication: October 2025

Please acknowledge this work in any resulting paper or presentation as:
Evidence Brief: Ophthalmology plus: diabetic retinopathy; retinal detachment; cataracts; glaucoma. Katie Nicholas and Katy Greenfield. (October 2025). UK: Workforce, Training and Education Knowledge Management Team

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1.Diabetic Retinopathy

Key publications – the big picture

[Diabetic retinopathy: management and monitoring](#)

NICE, 13 August 2024

This guideline covers managing and monitoring diabetic retinopathy in people under the care of hospital eye services. This includes non-proliferative and proliferative diabetic retinopathy, and diabetic macular oedema.

[Addressing the burden of diabetic retinopathy and health workforce shortages: a look at task shifting](#)

NCD Alliance, 9 November 2020

Diabetic retinopathy (DR) is a noncommunicable disease (NCD) and the leading cause of irreversible blindness among the working age population worldwide, having a severe impact on households and economies. However, DR is preventable and manageable if mechanisms for regular screening, early detection, and treatment are in place, and through optimised blood glucose and blood pressure management.

[Managing diabetes in primary care: how does the configuration of the workforce affect quality of care?](#)

King's College London, November 2013

This project continues a programme of work led by the NNRU that has sought to explore the relationship between workforce configuration in the health service and patient outcomes. In a nutshell we seek to address: what difference does it make who provides care and treatment to patients? The ramifications of different workforce models have been more thoroughly investigated in the acute sector, but there has been far less

research undertaken to determine the impact of employing different combinations of staff in primary care.

[Diabetic Retinopathy Guidelines](#)

The Royal College of Ophthalmologists, December 2012

The aim of the guidelines is to provide evidence-based, clinical guidance for the best management of different aspects of diabetic eye disease. The foundations of the guidelines are based on evidence taken from the literature and published trials of therapies as well as consensus opinion of a representative expert panel convened by the Royal College of Ophthalmologists with an interest in this condition. The scope of the guidelines is limited to management of diabetic retinopathy with special focus on sight threatening retinopathy. It offers guidance regarding service set up to facilitate delivery of optimal clinical care for patients with retinopathy. The guidelines are prepared primarily for ophthalmologists, however they are relevant to other healthcare professionals, service providers and commissioning organisations as well as patient groups. The guidelines do not cover rare, complex, complicated or unusual cases. It is recommended that readers refer to other relevant sources of information such as summaries of product characteristics (SPCs) for pharmaceutical products as well as NICE and GMC guidance. The new guidelines incorporate established and applicable information and guidance from the previous version with revision while some chapters are extensively revised and some new chapters are added. As stated in the previous version, the guidelines are advisory and are not intended as a set of rigid rules, since individual patients require tailored treatment for their particular condition. However, it is hoped that if used appropriately, the guidelines will lead to a uniformly high standard of management of patients with diabetic retinopathy.

Published Peer Reviewed Research

Equality, Diversity and Inclusion

[Diabetic retinopathy in rural communities: a review of barriers to access of care and potential solutions](#)

Annals of Medicine 57(1), 2025

INTRODUCTION: Diabetic retinopathy (DR) is a leading cause of vision loss. With an estimated 38.4 million Americans diagnosed with DM, the disease exerts a significant burden on healthcare systems, especially in rural areas where access to care is limited. DR prevalence is notably higher in rural communities due to barriers such as geographical isolation, lower socioeconomic status, and provider shortages.

[Eye care interventions that reduce access inequities for women, rural residents and older people in low-middle-income countries: a scoping review](#)

Frontiers in Public Health 13, 2025

Introduction: Women, older people and rural residents in low-middle-income settings are mainly impacted by the economic and psychosocial consequences of preventable blindness from undiagnosed and untreated cataracts diabetic retinopathy.

Learning from Covid-19

[Implementing the new normal in ophthalmology care beyond COVID-19](#) Abstract only*

European Journal of Ophthalmology 31(2), 2021

The COVID-19 pandemic has altered the clinical landscape immeasurably. The need to physical distance requires rethinking how we deliver ophthalmic care. Within healthcare, we will need to focus our resources on the five T's: Utilising technology, multidisciplinary clinical teams with wide professional talents

need to work efficiently to reduce patient contact time. With regular testing, this will allow us to reduce the risk further. We also must acknowledge the explosion of different modalities to train our future ophthalmologists and the global challenges and advantages that these bring. Finally, we must not forget the psychological impact that this pandemic will have on ophthalmologists and ancillary staff, and need to have robust mechanisms for support.

New models of care

[Evaluation of a New Model of Care for People with Complications of Diabetic Retinopathy: The EMERALD Study](#)

Ophthalmology 128(4), 2021

PURPOSE The increasing diabetes prevalence and advent of new treatments for its major visual-threatening complications (diabetic macular edema [DME] and proliferative diabetic retinopathy [PDR]), which require frequent life-long follow-up, have increased hospital demands markedly. Subsequent delays in patient's evaluation and treatment are causing sight loss. Strategies to increase capacity are needed urgently. The retinopathy (EMERALD) study tested diagnostic accuracy, acceptability, and costs of a new health care pathway for people with previously treated DME or PDR.

New ways of working

[QI short report: Virtual clinics are a safe and efficient method of expanding the hospital diabetic retinopathy service](#)

Future Healthcare Journal 11(1), 2025

Abstract: Demand for hospital diabetic retinopathy (DR) appointments is increasing and exceeding capacity, leading to long waiting lists. Delays in appropriate treatment can cause irreversible yet avoidable vision loss. We assessed if capacity of the DR service could be safely expanded by utilising virtual

clinics. Virtual clinics increased the service capacity by more than 100% and did not cause delays in delivering urgent treatments. The majority of patients reviewed had low-risk disease and follow-up could be maintained in the virtual clinic.

[Increasing Diabetic Retinopathy Screening in Resident-Run Clinic Through Partnership With Ophthalmology Clinic: A Pilot Study](#) Abstract only*

Journal for Healthcare Quality 46(6), pp. 365–369

ABSTRACT: Despite the importance of early detection of diabetic retinopathy, many diabetic patients fail to receive the recommended screening. The objective of this quality-improvement initiative was to increase diabetic retinopathy screening through a partnership between primary care and ophthalmology, where primary care clinic staff may schedule patients directly for screening appointments at point of referral. To our knowledge, this intervention is the first described to use an interspecialty partnership to increase screening.

[Patients views on a new surveillance pathway involving allied non-medical staff for people with treated diabetic macular oedema and proliferative diabetic retinopathy](#)

Eye 37(6), 2022

Abstract: Background/Objective: To explore acceptability by patients and health care professionals of a new surveillance pathway for people with previously treated and stable diabetic macular oedema (DMO) and/or proliferative diabetic retinopathy (PDR).

[Conference abstract: The use of quality improvement continuing medical education to improve the evaluation of diabetic retinopathy](#)

Diabetes 67(Supplement 1), July 2018

Rationale: Diabetic Retinopathy (DR) is a leading cause of vision loss worldwide. While regular screening can lead to earlier

interventions, reduce vision loss, and improve patient outcomes, baseline screening in patients at risk for DR has traditionally been low.

[Task sharing in the eye care workforce: Screening, detection, and management of diabetic retinopathy in Pakistan. A case study](#) Abstract only*

The International Journal of Health Planning and Management 33(3), March 2018

PURPOSE Diabetic retinopathy (DR) is a preventable cause of vision loss. Reducing vision loss due to DR and providing access to eye care services for people with diabetes have been severely constrained by a shortage in the number of ophthalmologists. This study aimed to explore the potential for task sharing in the eye care workforce for screening, detection, and management of DR.

[An Innovative Australian Outreach Model of Diabetic Retinopathy Screening in Remote Communities](#)

Journal of Diabetes Research, 2016

Background. Up to 98% of visual loss secondary to diabetic retinopathy (DR) can be prevented with early detection and treatment. Despite this, less than 50% of Australian and American diabetics receive appropriate screening. Diabetic patients living in rural and remote communities are further disadvantaged by limited access to ophthalmology services.

Patient experience

[Experience of patients with diabetic retinopathy: A qualitative study](#) Abstract only*

Journal of Advanced Nursing 79(5), 2023

Aims: To understand the status quo and needs of self-management of patients with diabetic retinopathy (DR) and to

provide a reference for formulating management programs that meet the needs of these patients.

[The experience of diabetic retinopathy patients during hospital-to-home full-cycle care: A qualitative study](#)

BMC Nursing 22(1), 2023

Background: Diabetic retinopathy (DR) is one of the major blinding eye diseases worldwide. Psychological, emotional and social problems of DR patients are prominent. The aim of this study is to explore the experiences of patients with different phases of DR from hospital to home based on the "Timing It Right" framework, and to provide a reference for formulating corresponding intervention strategies.

Primary care

[The role of general practice in the identification of age-related vision impairment and chronic eye diseases: a systematic review](#)

BJGPOpen, 2025

BACKGROUND: Age-related vision impairment (ARVI) is associated with an increased risk of dementia and depression and can affect older patients' overall health and ability to manage everyday tasks. ARVI is often asymptomatic making it difficult to detect. The WHO recommends primary care settings for identification of ARVI, underscoring the importance of general practice. AIM: This study aims to synthesize recent knowledge on identifying ARVI in general practice within countries with well-established primary healthcare systems.

[Valuable insights into general practice staff's experiences and perspectives on AI-assisted diabetic retinopathy screening-An interview study](#)

Frontiers in Medicine 12, 2025

Aim: This study explores the hands-on experiences and perspectives of general practice staff regarding the feasibility of

conducting artificial intelligence-assisted (AI-assisted) diabetic retinopathy screenings (DRS) in general practice settings.

[Revolutionizing Diabetic Retinopathy Screening: Integrating AI-Based Retinal Imaging in Primary Care](#)

Journal of CME 14(1), 2025

Abstract: Diabetic retinopathy (DR) is a public health issue affecting millions in the United States and Europe. However, despite strong recommendations for screening at regular intervals by many professional societies, including the American Diabetes Association and the American Academy of Ophthalmology, screening rates remain suboptimal, with only 50-70% of patients with diabetes adhering to recommended annual eye exams. Barriers to screening include lack of awareness, socioeconomic factors, health care system fragmentation, and workforce shortages, among others.

[Performance of a Retinal Imaging Camera With On-Device Intelligence for Primary Care: Retrospective Study](#)

JMIR Formative Research 9, 2025

Background: Access to screening continues to be a barrier for the early detection of diabetic retinopathy (DR). Primary care-based diabetic retinopathy screening could improve access, but operational challenges, such as cost and workflow management, hamper the widespread adoption of retinal camera systems in primary care clinics in the United States. Objective: This study aimed to develop and evaluate a retinal screening system suitable for integration into a primary care workflow.

[Evaluation of the initial implementation of a nationwide diabetic retinopathy screening programme in primary care: a multimethod study](#)

BMJ open 11(8), 2021

Objectives: The Australian Government funded a nationwide diabetic retinopathy screening programme to improve visual

outcomes for people with diabetes. This study examined the benefits and barriers of the programme, image interpretation pathways and assessed the characteristics of people who had their fundus photos graded by a telereading service which was available as a part of the programme.

[Feasibility of a multifaceted implementation intervention to improve attendance at diabetic retinopathy screening in primary care in Ireland: a cluster randomised pilot trial](#)

BMJ Open 11(10), 2021

OBJECTIVES: Diabetic retinopathy screening (DRS) uptake is suboptimal in many countries with limited evidence available on interventions to enhance DRS uptake in primary care. We investigated the feasibility and preliminary effects of an intervention to improve uptake of Ireland's national DRS programme, Diabetic RetinaScreen, among patients with type 1 or type 2 diabetes.

[Barriers and facilitators to diabetic retinopathy screening within Australian primary care](#)

BMC Family Practice 22(1), 2021

BACKGROUND: Despite recent incentives through Medicare (Australia's universal health insurance scheme) to increase retinal screening rates in primary care, comprehensive diabetic retinopathy (DR) screening has not been reached in Australia. The current study aimed to identify key factors affecting the delivery of diabetic retinopathy (DR) screening in Australian general practices.

[Factors determining uptake of diabetic retinopathy screening in Oxfordshire](#)

Diabetic Medicine 34(7), July 2017

Aims: To investigate variables at the demographic and primary care practice levels that influence the uptake of diabetic retinopathy screening.

[Successfully implementing a diabetic retinopathy screening service in general practice: What does the evidence tell us?](#)

Australian Family Physician 46(7), July 2017

BACKGROUND We previously showed that general-practice based screening for diabetic retinopathy significantly improves recording of screening outcomes and follow-up for Australians with type 2 diabetes. In 2016, two Medicare Benefits Schedule item numbers were launched to support screening in general practice. However, there is little evidence-based information to guide practices in successfully implementing screening models for diabetic retinopathy. The objective of this study was to develop an evidence-based framework to guide successful general-practice based screening for diabetic retinopathy.

[Accuracy of diabetic retinopathy screening by trained non-physician graders using non-mydriatic fundus camera](#)

Singapore Medical Journal 53(11), 2012

INTRODUCTION We compared the agreement of diabetic retinopathy (DR) assessment between trained non-physician graders (NPGs) and family physicians (FPs) in a primary healthcare setting.

Staff perceptions, experiences, and views

[Identifying facilitators, barriers and areas of opportunity in diabetic retinopathy screening: quality improvement through qualitative methods](#)

BMJ Open Quality 14(3), 2025

OBJECTIVE: Quality improvement efforts have aimed to improve annual diabetic retinopathy screening at our institution, but rates remain well below goal. To better understand facilitators, barriers and operational issues unique to our health system and to develop a comprehensive understanding of the care pathway, the Patient Voice toolkit was applied.

[Patient and practitioner perceptions around use of artificial intelligence within the English NHS diabetic eye screening programme](#) Abstract only*

Diabetes Research & Clinical Practice 219, pp. 111964

AIMS: Automated retinal image analysis using Artificial Intelligence (AI) can detect diabetic retinopathy as accurately as human graders, but it is not yet licensed in the NHS Diabetic Eye Screening Programme (DESP) in England. This study aims to assess perceptions of People Living with Diabetes (PLD) and Healthcare Practitioners (HCP) towards AI's introduction in DESP.

[Attitudes, access and anguish: a qualitative interview study of staff and patients' experiences of diabetic retinopathy](#)

BMJ Open. 2014

OBJECTIVE To examine the experiences of patients, health professionals and screeners; their interactions with and understandings of diabetic retinopathy screening (DRS); and how these influence uptake.

Supply

[Do we have enough ophthalmologists to manage vision-threatening diabetic retinopathy? A global perspective](#)

Eye 34(7), 2020

We aimed to estimate the supply of ophthalmologists in relation to the global and regional burden of vision-threatening diabetic retinopathy (VTDR). Diabetes mellitus (DM) population data from seven world regions were obtained from the International Diabetes Federation Atlas 2017. A systematic review was performed to include population-, community-based studies that reported country-specific VTDR prevalence. Random effect meta-analysis was then performed to estimate global and regional VTDR prevalence. VTDR prevalence estimates coupled

with DM population data were then used to estimate the number of VTDR cases. Global and regional number of ophthalmologists were derived from the International Council of Ophthalmology Report 2015. Fifty studies (17 from Western Pacific [WP], nine North America and Caribbean [NAC], nine Middle East and North Africa [MENA], five Europe, eight South East Asia [SEA], one South and Central America [SACA] and one from Africa) were included. Global VTDR prevalence was 7.26% (95% CI, 6.18-8.32%). Regional VTDR prevalence was 14.35% in Africa, 11.21% in MENA, 10.00% in NAC, 6.32% in Europe, 6.22% in WP, 5.83% in SACA and 2.97% in SEA. Globally, there were 7.16 ophthalmologists per 1000 VTDR patients. Europe had the highest ophthalmologist per 1000 VTDR patient ratio at 18.03 followed by SACA (17.41), while NAC, MENA and Africa had the lowest at 4.90, 4.81 and 0.91 respectively. Across regions, the ophthalmologist densities ranged from 0.91 to 18.03 per 1000 VTDR patients, with NAC, MENA and Africa having less than 5 ophthalmologists per 1000 patients. These findings will aid global and regional policy planning and healthcare resource allocation for VTDR management.

Technology

[Transforming Non-Digital, Clinical Workflows to Detect and Track Vision-Threatening Diabetic Retinopathy via a Digital Platform Integrating Artificial Intelligence: Implementation Research](#)

Ophthalmology and Therapy 14(2), 2025

INTRODUCTION: Screening diabetic retinopathy (DR) for timely management can reduce global blindness. Many existing DR screening programs worldwide are non-digital, standalone, and deployed with grading retinal photographs by trained personnel. To integrate the screening programs, with or without artificial intelligence (AI), into hospital information systems to improve their effectiveness, the non-digital workflow must be transformed

into digital. We developed a cloud-based digital platform and implemented it in an existing DR screening program.

[Evaluating the efficacy of AI systems in diabetic retinopathy detection: A comparative analysis of Mona DR and IDx-DR](#)

Abstract only*

Acta Ophthalmologica 103(4), 2025

PURPOSE: To compare two artificial intelligence (AI)-based Automated Diabetic Retinopathy Image Assessment (ARIA) softwares in terms of concordance with specialist human graders and referable diabetic retinopathy (DR) diagnostic capacity.

[Effectiveness of artificial intelligence-based diabetic retinopathy screening in primary care and endocrinology settings in Australia: a pragmatic trial](#)

British Journal of Ophthalmology, 2025

PURPOSE: To investigate the diagnostic accuracy, feasibility and end-user experiences of an artificial intelligence (AI)-based, automated diabetic retinopathy (DR) screening model in real-world, Australian primary care and endocrinology clinics.

[Generating evidence to support the role of AI in diabetic eye screening: considerations from the UK National Screening Committee](#)

The Lancet.Digital Health 7(5), 2025

Abstract: Screening for diabetic retinopathy has been shown to reduce the risk of sight loss in people with diabetes, because of early detection and treatment of sight-threatening disease. There is long-standing interest in the possibility of automating parts of this process through artificial intelligence, commonly known as automated retinal imaging analysis software (ARIAS).

[Teleophthalmology Through Online Mentorship Over a 20-Year Period: Education and Capacity Building](#)

Global Oncology 10, 2024

PURPOSE: Telemedicine is widely used for diabetic retinopathy, retinopathy of prematurity, and other ophthalmic diseases. However, there is limited research on the use of teleophthalmology in retinoblastoma. The goal of this study was to explore how Orbis Cybersight affected the capacity for treatment and management of children with retinoblastoma through online mentorship and to assess the efficacy of online mentoring through disease-specific knowledge change over time.

[Examining the Role of Telemedicine in Diabetic Retinopathy](#)

Journal of Clinical Medicine 12(10), 2023

Abstract: With the increasing prevalence of diabetic retinopathy (DR), screening is of the utmost importance to prevent vision loss for patients and reduce financial costs for the healthcare system. Unfortunately, it appears that the capacity of optometrists and ophthalmologists to adequately perform in-person screenings of DR will be insufficient within the coming years. Telemedicine offers the opportunity to expand access to screening while reducing the economic and temporal burden associated with current in-person protocols. The present literature review summarizes the latest developments in telemedicine for DR screening, considerations for stakeholders, barriers to implementation, and future directions in this area. As the role of telemedicine in DR screening continues to expand, further work will be necessary to continually optimize practices and improve long-term patient outcomes.

[Diagnostic test accuracy of artificial intelligence in screening for referable diabetic retinopathy in real-world settings: A systematic review and meta-analysis](#)

PLOS Global Public Health 3(9), 2023

Abstract: Retrospective studies on artificial intelligence (AI) in screening for diabetic retinopathy (DR) have shown promising results in addressing the mismatch between the capacity to implement DR screening and increasing DR incidence. This review sought to evaluate the diagnostic test accuracy (DTA) of AI in screening for referable diabetic retinopathy (RDR) in real-world settings.

[Tele-ophthalmology and artificial intelligence for diabetic retinopathy screening](#)

The Lancet Global Health Commission on Global Eye Health, February 2021

The International Diabetes Federation estimates that currently there are approximately 463 million people living with diabetes worldwide, requiring regular diabetic eye care, preferably by imaging the retina, in order to provide timely treatment to those with sight threatening disease.¹ Since 2000, in many parts of the world teleophthalmology using mobile fundus cameras have enabled a large proportion of those requiring retinal photography to be imaged.^{2,3} However, the human workforce skilled in analysing these images is insufficient in size, with marked distributional imbalances between populations in need and practitioners.^{2,4}

[Artificial intelligence for teleophthalmology-based diabetic retinopathy screening in a national programme: an economic analysis modelling](#)

The Lancet Digital Health 2(5), 2020

Background: Deep learning is a novel machine learning technique that has been shown to be as effective as human graders in detecting diabetic retinopathy from fundus photographs. We used a cost-minimisation analysis to evaluate the potential savings of two deep learning approaches as compared with the current human assessment: a semi-automated deep learning model as a triage filter before

secondary human assessment; and a fully automated deep learning model without human assessment.

[Blind spots in telemedicine: a qualitative study of staff workarounds to resolve gaps in diabetes management](#)

BMC Health Services Research 18(617), August 2018

BACKGROUND Novel telemedicine platforms have expanded access to critical retinal screening into primary care settings. This increased access has contributed to improved retinal screening uptake for diabetic patients, particularly those treated in Federally Qualified Health Centers ('safety net' clinics). The aim of this study was to understand how the implementation of telemedical screening for diabetic retinopathy within primary care settings is improving the delivery of critical preventative services, while also introducing changes into clinic workflows and creating additional tasks and responsibilities within resource-constrained clinics.

Training and education

[Exploring general practice staff perspectives on a teaching concept based on instruction videos for diabetic retinopathy screening - an interview study](#)

Scandinavian Journal of Primary Health Care 43(1), 2025

OBJECTIVE: The aim of this study is to explore general practice staff perspectives regarding a teaching concept based on instructional videos for conducting DR screenings. Furthermore, this study aims to investigate the competencies acquired by the staff through this teaching concept.

[Conference Abstract: International students undertaking UK university-validated distance-learning courses in diabetic retinopathy screening \(DRS\)](#) See p. 14

European Journal of Ophthalmology, 2020

DESIGN. Web-based University-awarded distance learning courses
PURPOSE. Providing international staff with access to formalised education and validated qualifications in DR screening concepts, methods and practice to enhance patient care and ultimately reduce visual loss from complications of diabetes.

Upskilling

Knowledge of Primary Prevention of Diabetic Retinopathy among General Ophthalmologists, Mid Level Eye Care Personnel and General Physicians in Oman

Middle East African Journal of Ophthalmology 18(3), 2011

OBJECTIVE We present the outcomes of knowledge of diabetes and associated ocular complications among personnel comprising the eye care team in Oman.

eLearning

NHS population screening: education and training

NHS England, last updated July 2023

Resources to support screening professionals in their initial training and continuing professional development (CPD).

Diabetic eye screening: education and training

Public Health England, last updated May 2018

Training and continuing professional development (CPD) for people working in the diabetic eye screening (DES) programme in England.

Competency Frameworks

An integrated career and competency framework for adult diabetes nursing 5th edition

Trend Diabetes, Updated September 2022

See section 24 p. 33 “Retinopathy”

The framework can be used in a number of ways to develop and promote nurses’ knowledge and skills. For example, to provide:• Help for individual nurses to plan their professional development in diabetes care. • Guidance for employers on assessing the competence required at various levels of diabetes nursing. • A reference for planning educational programmes. • Information for commissioners to identify appropriate staff required to deliver diabetes services to meet local need.

Competencies for staff undertaking administrative roles within the NHS Diabetic Eye Screening Programme

Public Health England and NHS

Following the introduction of the level 3 Diploma for Health Screeners qualification, administrative staff are no longer required to obtain a bespoke qualification in diabetic eye screening administration. This will be reflected in the service specification and pathway standards in due course. This guidance has been produced to assist local DES services in developing a local framework for the training and development of administrative staff. It includes a list of competencies, assessment criteria, indicative content and links to appropriate documents.

2. Retinal detachment

Learning from Covid-19

Evaluation of Urgent Retinal Practice and Safety Measures for Physicians and Patients During COVID-19 Pandemic

Clinical Ophthalmology 16, 2022

Purpose: To assess the impact of the COVID-19 pandemic on urgent retina practice and factors influencing adherence of physicians and patients to safety measures.

Early impact of COVID-19 outbreak on eye care: Insights from EUROCOVCAT group

European Journal of Ophthalmology 31(1), 2021

The recent outbreak of coronavirus disease 2019 (COVID-19) has been declared a public health emergency worldwide. The scientific community has put in much effort and published studies that described COVID-19's biology, transmission, clinical diagnosis, candidate therapeutics, and vaccines. However, to date, only a few data are available on the impact of COVID-19 pandemic on ophthalmological care in different health care systems, its future consequences in terms of disability, and access to sight-saving cures for many patients. To reduce human-to-human transmission of the virus and also ensure supply of infrastructures, human resources, and disposable medical devices to many regions, it is crucial to assess risks and postpone non-essential outpatient visits and elective surgical procedures, especially in older patients and those with comorbidities. This delay or suspension in essential eye procedures may cause significant and rapid vision impairment to irreversible blindness. Determining the risk-benefit profile of treating these ocular pathologies is a public health issue of supreme priority, even though many patients benefiting from therapeutic treatments are elderly, who are more vulnerable to

COVID-19. If not reversible, this process could lead to a dramatic increase in disability and unsustainable social costs for many Governments.

New ways of working

Non-Physician delivered intravitreal injection service is feasible and safe - A systematic review

Danish Medical Journal, May 2016

Introduction: Non-physicians such as nurses are trained to give injections into the vitreous body of the eye to meet the increasing demand for intravitreal therapy with vascular endothelial growth factor inhibitors against common eye diseases, e.g. age-related macular degeneration and diabetic retinopathy. We systematically reviewed the existing literature to provide an overview of the experiences in this transformational process.

Transformational change: Nurses substituting for ophthalmologists for intravitreal injections - A quality-improvement report

Clinical Ophthalmology, April 2014

Background: The dramatic increase in need for anti-vascular endothelial growth factor (anti-VEGF) intravitreal therapy in the treatment of retinal disease and the absence of an equivalent increase in ophthalmologists to undertake such intravitreal injections created a patient-safety risk. Timing of intravitreal therapy (IVT) is critical to prevent vision loss and local clinics lacked capacity to treat patients appropriately. We aimed to improve capacity for IVT by nurse injections. Material(s) and

Primary care

Evaluating referrals of flashing lights and floaters coming into secondary care from primary care Abstract only*

Clinical and Experimental Optometry 108 (1), 2025

Abstract: Clinical Relevance: Optometrists should look to take every opportunity to expand their knowledge, understanding and skills pertaining to vitreoretinal conditions. Background(s): Despite the existence of acute eye care schemes and the up-skilling of optometrists, many units are still noticing large numbers of poor-quality referrals with high false positive rates. The authors pondered whether these schemes are effective.

Staffing

[Association of staffing with Incidence of delayed retinal break or detachment after posterior vitreous detachment in a resident urgent care clinic](#) Abstract only*

Graefe's archive for clinical and experimental ophthalmology 260(3), 2021

Purpose: To compare the incidence rate of delayed retinal break or detachment after diagnosis of acute, symptomatic posterior vitreous detachment (PVD) in a resident-run urgent care clinic (UCC) when staffed by a retina attending, non-retina ophthalmology attending, optometrist, or ophthalmology resident only.

Technology

[Remote Diagnosis of Retinal Detachment in an Emergency Department Using Nonmydriatic Hybrid Ocular Imaging](#) Abstract only*

Telemedicine Journal & E-Health 31(2), 2025

Background: Ocular emergencies are commonly evaluated in general emergency departments (ED) where ophthalmologists are rarely available. Nonmydriatic ocular imaging combining color fundus photographs and optical coherence tomography (NMFP-OCT) can help with rapid remote triage by ophthalmologists. We evaluated the rate at which retinal detachments (RDs) can be diagnosed with NMFP-OCT in the

ED.

Competency Frameworks

[Ophthalmology Common Clinical Competency Framework](#)

This Framework has been developed further into a curriculum for each of these areas, and eye health professionals, supervisors and trainers are encouraged to familiarise themselves with the areas of the curriculum most relevant to them.

3. Cataracts

Key publications – the big picture

[Out of Sight – the hidden impact of cataract outsourcing on NHS eye care departments](#)

Centre for Health and the Public Interest, 2024

This report examines the impact that the impact of the outsourcing of NHS funded cataract care to the private sector has had on NHS patients facing irreversible sight loss, staff training and the financial viability of NHS eye care departments. It is based on data from 50 NHS Trusts received through Freedom of Information requests and a survey of 198 ophthalmologists carried out in December 2023.

[Cataract Services Workforce Guidance](#)

The Royal College of Ophthalmologists, March 2021

Cataract surgery is the UK's most common elective operation. Approximately half a million operations are performed each

year and demand is set to increase 25% over the next decade, as the population ages.

Cataract services around the UK are being redesigned to increase their capacity, through streamlining pathways and integration with primary care optometry, as described in the [RCOphth / GIRFT Cataract Hubs and High Flow Cataract Lists \(2021\)](#).

[Cataract workforce calculator tool](#)

The Royal College of Ophthalmologists, March 2021

The workforce calculator tool has been designed to predict the staffing requirements for different patient pathways to serve the local population needs. It provides detail on number of surgical lists, and the total annual and weekly ophthalmologist sessions needed, taking into account the primary eye care workforce.

Published Peer Review Research

Demographics

[Gender gap and declining surgical activity among new graduates: cataract surgery in Ontario](#)

Canadian Journal of Ophthalmology 51(3), June 2016

OBJECTIVE To investigate the proportion of ophthalmologists performing cataract surgery; the volume performed; and the influence of career stage, sex, and trends over time.

New ways of working

[Limited National Potential for Reducing Anesthesia Clinician Staffing for Cataract Surgery: A Historical Cohort Study Using a Large United States Anesthesia Registry](#)

Cureus 17(8), 2025

Background Cataract surgery, the most frequently performed

surgical procedure worldwide, is increasing, with many patients receiving intravenous sedation by anesthesia clinicians. Given anesthesia clinician shortages and ambulatory surgery facility scheduling constraints, some ophthalmologists are moving to office-based care without anesthesia services. We examined the potential impact of such a shift in care on reducing anesthesia clinician staffing.

[Outcomes of immediate sequential bilateral cataract surgeries \(ISBCS\) performed by trainees vs consultants: a two-armed cohort study](#)

Eye 39(9), 2025

PURPOSE: To compare outcomes of Immediate Sequential Bilateral Cataract Surgeries (ISBCS) performed by resident doctors versus consultant ophthalmologists at Moorfields Eye Hospital and its satellite centres.

[Optometry co-management of preoperative and postoperative cataract surgery patients](#)

Journal: Current Opinion in Ophthalmology 36(5), 2025

PURPOSE OF REVIEW: As the prevalence of cataracts continues to rise, the increasing demand for cataract surgery may surpass the availability of ophthalmologists. This review examines the role of optometry in the co-management of patients with cataracts, including preoperative and postoperative care, and discusses the implications of expanding optometric scope-of-practice laws.

[Cataract surgery redesign: meeting increasing demand, training, audit and patient-centered care](#)

Clinical Ophthalmology 15, 2021

Objective The demand for cataract surgery in Fife (a well-defined region in southeast Scotland) was steadily increasing over 15 years. Cataract surgery was therefore being outsourced to meet demand with consequences on list mix, training needs, patient

experience and staff morale. We aimed to redesign our services to meet local demand, retain a patient-centered service and continue to fulfil training needs.

Conference Abstract: A realist evaluation of collaborative care models

Investigative Ophthalmology & Visual Science 60, 2019

Purpose: Chronic eye diseases place high demand on eye care services. To improve access, some health systems use 'collaborative' care involving multidisciplinary teams of nurses, optometrists and ophthalmologists to deliver standardised care. This study aims to understand factors for successful implementation and scalability of collaborative care.

Re-configuring the Model of Eye Care in Ireland - integrating community and hospital care

International Journal of Integrated Care 17(A204), 2017

Introduction: Ireland continues to experience significant population growth with the greatest increases in the over 65 years age group. Increasing patient numbers and the growing incidence of chronic diseases are placing an enormous strain on the current model of eye care delivery. Even with the current population, waiting lists for ophthalmology outpatient appointments and inpatient procedures are among the longest and most numerous in the health service. The diagnosis and treatment of many chronic eye conditions is currently delivered in acute hospitals, whereas much of these interventions could be delivered in the primary care setting in a decentralised model. Description of policy context and objective: The National Clinical Programme (NCP) for Ophthalmology has determined that in line with Government policies such as Future Health, the majority of services should be provided within the primary care setting. As such, integration of acute and primary care services is essential in order to allow for rebalancing of access and delivery of eye care services from acute hospitals to primary care. The aim is to

provide high-quality, consistent, efficient and effective care. Targeted population: The NCP takes a whole population approach with particular emphasis on the paediatric and geriatric population.

Productivity

Time and Motion Studies to assess surgical productivity in cataract theatre lists within the National Health Service: Immediate Sequential Bilateral Cataract Surgery versus Delayed Sequential Bilateral Cataract Surgery

Eye 37(18), 2023

Background: To compare productivity of National Health Service cataract lists performing unilateral cataract (UC) surgery vs Immediate Sequential Bilateral Cataract Surgery (ISBCS).

Supply

Adequacy of the ophthalmology workforce under Ontario's Local Health Integration Networks Abstract only*

Canadian Journal of Ophthalmology 51(3), June 2016

OBJECTIVE To determine the current distribution of ophthalmologists across Ontario's Local Health Integration Networks (LHINs) and the influence on LHIN-specific cataract surgery wait times.

Technology

Efficacy of remote care in cataract surgery: systematic review

Journal of Cataract & Refractive Surgery 51(8), 2025

TOPIC: To evaluate the efficacy of currently available digital and remote care applications for postoperative cataract management compared with traditional methods for postoperative clinical measurements. CLINICAL RELEVANCE: With the increasing demand for ophthalmological services and an anticipated

shortage of professionals, innovative approaches are needed to optimize care. Cataract surgery, characterized by its high-safety profile and turnover rate, is well-suited for digital and remote care solutions, which could enhance the postoperative patient pathway, potentially leading to substantial time and cost savings.

Optimizing the Postcataract Patient Journey Using AI-Driven Teleconsultation: Prospective Case Study

JMIR Formative Research 9, 2025

Background: Given the increasing global demand for ophthalmologic care and the anticipated shortage of ophthalmology professionals, innovative solutions are essential for optimizing health care delivery. Digital health technologies offer promising opportunities to efficiently manage high patient volumes. Cataract surgery, with its established safety profile and routine postoperative care, provides an ideal setting for implementing such innovations. Structured clinical questions have proven effective in identifying patients requiring further assessment, supporting the feasibility of follow-up through telephone consultations. To further extend this approach, artificial intelligence-based follow-up systems may offer an opportunity to automate these interactions, reduce clinician workload, and streamline care pathways. Objective: The aim of the study is to assess the clinical safety and effectiveness of an artificial intelligence-based follow-up call system (Dora-NL1) in identifying patients who require further assessment after cataract surgery in the Netherlands.

Accuracy and safety of an autonomous artificial intelligence clinical assistant conducting telemedicine follow-up assessment for cataract surgery

EClinicalMedicine 73, 2024

Background: Artificial intelligence deployed to triage patients post-cataract surgery could help to identify and prioritise

individuals who need clinical input and to expand clinical capacity. This study investigated the accuracy and safety of an autonomous telemedicine call (Dora, version R1) in detecting cataract surgery patients who need further management and compared its performance against ophthalmic specialists.

Training and Education

International Council of Ophthalmology-Small Incision Cataract Surgery rubric: A roadmap to evaluate cataract surgical skill acquisition during residency training

Indian Journal of Ophthalmology 70(3), 2022

PURPOSE: The International Council of Ophthalmology-Small Incision Cataract Surgery (ICO-SICS) rubric is a tool to grade SICS steps from novice to competent. The study aimed to evaluate the progress of residents' surgical skills by using the ICO-SICS rubric and the perceptions of residents and faculties about its use.

Case Studies

Transforming eye care delivery in Devon

Royal College of Ophthalmologists, May 2025

The One Devon Elective Pilot, which ran from January 2023 to March 2024, aimed to cut waiting lists by performing same-day cataract surgeries, streamlining processes, making better use of theatre space and improving teamwork.

Diverting assessment of routine patients to an upskilled nursing workforce

Australian Commission on Safety and Quality in Health Care, 2021

The outpatient Eye Clinic at Westmead Hospital services the Greater Western Sydney region, home to most of Australia's

recently arrived refugees and immigrants and a fifth of all First Nations Australians. Unemployment is higher than average and incomes are lower than average. At the start of 2020, patients referred to the clinic for cataract care were waiting up to 18 months for specialist assessment. Clinical Nurse Consultant (CNC), Ophthalmology, Tracey Wilson, Nurse Unit Manager (NUM), Lai Bergan, and Head of Ophthalmology, A/Prof. Andrew White, were eager to identify areas where the nursing team could make a contribution, streamlining the processes between referral and surgery, and increasing the clinic's overall capacity. The One-Stop Cataract Assessment (OSCA) Clinic pilot began in 2020.

Courses

Ophthalmic Practitioner Training (OPT) Cataract module

NHS England Workforce, Training and Education Kent, Surrey and Sussex

With an ageing population and rising expectations, the demand for cataract services has never been greater! Yet, this demand continues to rise. This has not been matched by a rise in resources however, with fewer surgeons in the UK compared to other European countries. There is therefore, a huge opportunity to re-design and streamline services to improve efficiency and reconfigure the patient pathway.

Competency Frameworks

Ophthalmology Common Clinical Competency Framework

This Framework has been developed further into a curriculum for each of these areas, and eye health professionals, supervisors and trainers are encouraged to familiarise themselves with the areas of the curriculum most relevant to them.

4. Glaucoma

Published Peer Reviewed Research

Competencies

Conference abstract: Improving digital competency of ophthalmic clinicians and allied health professionals

Ophthalmologica 244, 2021

Purpose According to the Royal College of Ophthalmologists' Workforce Census conducted in 2018, the UK has seen a large increase in demand for ophthalmic services in the last 10 years, owing to the ageing population and advent of novel therapies. With 9 million outpatient appointments annually and a forecasted rise of 40%, the current workforce is ill-equipped to meet the growing demand. The implications of this imbalance is highlighted by 22 patients facing severe visual loss every month waiting to access ophthalmic services. The NHS long term plan seeks to mitigate the disparity between demand and supply through digital transformation. Increasing utility of ophthalmic allied health professionals undertaking extended roles is also forming part of the response. To harmonise these strands, it is pivotal to improve the digital literacy of the NHS workforce. The aim of our study was to design and implement a comprehensive digital health education programme to improve telemedicine competency in clinicians and allied health professionals.

Equality, Diversity, and Inclusion

Improving Racial Diversity in the Ophthalmology Workforce: A Call to Action for Leaders in Ophthalmology

American Journal of Ophthalmology 223, 2021

Racial injustice and disparities have been at the forefront of discussions in the United States during recent months. The tragic incidents of police brutality and the ravishing effects of COVID-19 on underrepresented minorities (URMs)—Black/African American, Hispanic/Latinx, and Native American—have highlighted the consequences of systemic racism that have been embedded in our country's history.¹ URMs are hospitalized owing to COVID-19 at 4 to 5 times the rate of White people.² Social determinants of health, such as employment, insurance, income, environmental exposures, and healthcare access, are underlying contributors, among others, to this health disparity.¹ Yet, numerous studies have demonstrated that racial and ethnic disparities in both health and healthcare persist after controlling for these social factors—a concerning finding that demonstrates the consequences of systemic racism and implicit bias.

Leadership

Leadership development facilitated by the "sandwich" and related glaucoma fellowship programs Full text available with NHS OpenAthens account*

Leadership in Health Services 34(3), 2021

PURPOSE: The purpose of this paper is to evaluate leadership training in the Sandwich Glaucoma Fellowship (SGF), a program in which fellows learn skills in a developed world institution and their home country to become leaders in glaucoma care.

Learning from Covid-19

How glaucoma care changed for the better after the pandemic

Current Opinion in Ophthalmology 33(2), 2022

Purpose of review. The current article reviews enhancements to the delivery of glaucoma care that developed in response to the coronavirus disease 19 (COVID-19) pandemic and are likely to

persist beyond its resolution. Recent findings Literature from the review period (2020-2021) includes reports highlighting contributions of the ophthalmology community to global health during the pandemic. Glaucoma practices worldwide have instituted more robust infection control measures to mitigate severe acute respiratory syndrome coronavirus 2 transmission in the outpatient setting, and many of these modifications will endure in the post-COVID era. Operational adjustments have led to the provision of more efficient glaucoma care. A hybrid care model involving technician-based diagnostic testing and subsequent virtual consultation with a glaucoma specialist has evolved as a useful adjunct to traditional face-to-face encounters with patients. Summary Glaucoma specialists, patients, and staff have adapted to a 'new normal' of glaucoma care delivery during the COVID-19 pandemic. Although innovation has propelled several improvements to glaucoma care during this global health crisis, significant barriers to more widespread implementation of teleglaucoma still exist. Whether, and in what capacity, the pandemic has permanently altered glaucoma practice patterns remains to be seen.

Glaucoma care during the coronavirus disease 2019 pandemic

Abstract only*

Current Opinion in Ophthalmology 32(2), 2021

PURPOSE OF REVIEW The current article reviews the impact of the coronavirus disease 2019 (COVID-19) pandemic on the delivery of ophthalmic, and specifically, glaucoma care. RECENT FINDINGS Literature from the review period includes case series demonstrating the presence of severe acute respiratory syndrome coronavirus 2 RNA in the conjunctival secretions of patients with laboratory-confirmed COVID-19. The global ophthalmology community published reports outlining the enhanced infection control measures undertaken by different institutions around the world to mitigate transmission of the novel coronavirus. Telemedicine has been increasingly implemented in

glaucoma practices to reduce in-office patient volume. New data regarding the efficacy and feasibility of tools for home monitoring of intraocular pressure, virtual visual field testing, and remote disc photography are reviewed. SUMMARY COVID-19 has posed a global public health threat due to the severity of its contagion and associated morbidity and mortality. Glaucoma specialists have responded to the pandemic with innovative modifications to reduce viral transmission and optimize patient and staff safety in the office and operating room. The role of teleglaucoma has expanded and will continue to evolve as remote diagnostic devices undergo further refinement and validation.

Drive-through Intraocular Pressure Checks during the COVID-19 Pandemic Abstract only*

Journal of Glaucoma 30(3), 2021

Precis: A drive-through clinic was created to obtain intraocular pressure measurements before a virtual visit with their provider, in order to provide care for patients in the Kellogg Glaucoma Clinic while minimizing risk of COVID-19 transmission.

Purpose(s): The aim of this study was to establish a drive-through clinic model to provide glaucoma care for patients while minimizing the risk of COVID-19 transmission.

New ways of working

Hospital to community in Wales: What is the value of optometrists playing a greater role in managing neovascular AMD and glaucoma in primary care?

Ophthalmic & Physiological Optics 45(1), 2025

PURPOSE: To evaluate the value of enhanced optometric services for managing neovascular age-related macular degeneration (nAMD) and glaucoma in primary care optometry services, instead of hospital eye services (HES).

Outcomes of transition clinic in childhood glaucoma Abstract only*

Journal of Aapos 29(4), 2025

Pediatric glaucoma is a sight-threatening condition that requires a seamless transition from pediatric to adult healthcare. We retrospectively evaluated outcomes at the Birmingham Children Hospital transition clinic, including patient attrition and risk factors for post-transition surgeries. Our study cohort included 46 eyes of 28 patients (19 males) who attended the clinic from 2017 to 2023 and received follow-up care at Birmingham and Midland Eye Centre. Our analysis revealed that intraocular pressure at transition clinic is a significant ($P = 0.044$) predictor of the need for additional glaucoma surgery after transition. Patient retention was 92%, with only 2 patients lost to follow-up.

Providing capacity in glaucoma care using trained and accredited optometrists: A qualitative evaluation

Eye 38, 2023

Introduction: The role of optometrists in glaucoma within primary and secondary care has been well described. Whilst many studies examined safety and clinical effectiveness, there is a paucity of qualitative research evaluating enablers and barriers for optometrists delivering glaucoma care. The aims of this study are to investigate qualitatively, and from a multi-stakeholder perspective whether optometric glaucoma care is accepted as an effective alternative to traditional models and what contextual factors impact upon their success.

Transforming glaucoma care pathways: current glaucoma accreditation in UK optometry

Eye 36(4), 2022

The Royal College of Ophthalmologists' Way Forward project predicted the number of people in the UK with glaucoma would increase by 22% from 2015 to 2025 and by 44% from 2015 to

2035, while conceding this growth might underestimate demand [1]. The coronavirus pandemic has since thrown into stark relief the mismatch between capacity and demand, and the already long-established need for alternative pathways [2]. There is clearly a pressing need for out-patient transformation. One such option, given the potential workforce, is development of pathways involving primary care optometry beyond referral filtering. At the same time, ophthalmic services guidance from the Royal College of Ophthalmologists is set to provide the link between risk stratification in glaucoma and non-medical health care professional (HCP) accreditation levels required to undertake relevant roles in glaucoma pathways, including roles for optometrists.

Ophthalmic nurse practitioner assessment of glaucoma: evaluating agreement within an initiative to enhance capacity in glaucoma clinics

Eye 35(12), 2021

AIMS: A local service evaluation was conducted in order to compare clinical assessment measures and management decisions between an ophthalmic nurse practitioner and a reference standard glaucoma consultant, for patients referred into secondary care with suspected Chronic Open Angle Glaucoma or Ocular Hypertension.

Virtual Clinics

Italian glaucoma virtual clinics: Developing a consensus for remote patient management Abstract only*

Acta Ophthalmologica 103(5), 2025

PURPOSE: To establish expert consensus on guidelines for implementing glaucoma virtual clinics in Italy, focusing on patient suitability, essential clinical assessments and staffing requirements.

Health economics of virtual versus face-to-face glaucoma clinics: a time-driven activity-based costing study

BMJ Open Ophthalmology 9(1), 2024

BACKGROUND/AIMS: Staffing represents the most significant cost to the National Health Service, and ophthalmology is its largest outpatient specialty. Value-based healthcare (VBH) focuses on care processes. Innovative models include a shift towards 'virtual' glaucoma services. We used VBH costing methodology to quantify personnel costs of virtual and face-to-face (F2F) glaucoma clinics.

The current use of glaucoma virtual clinics in Europe

Eye 37(7), 2023

Abstract: Objectives: To assess and describe current utilisation, characteristics and perspectives on virtual glaucoma clinics (VGCs) amongst European glaucoma specialists.

Expansion of patient eligibility for virtual glaucoma clinics: a long-term strategy to increase the capacity of high-quality glaucoma care

British Journal of Ophthalmology 107(1), 2021

Abstract: Aims The virtual glaucoma clinic (VGC) is a well-established diagnostic pathway for delivery of glaucoma care. Current UK national guidance recommends VGCs for patients with ocular hypertension, glaucoma suspects or early glaucoma. This study evaluates whether expanded eligibility criteria, including other glaucoma phenotypes and disease stages, can deliver safe and effective care with a positive patient experience.

Shared care and virtual clinics for glaucoma in a hospital setting

Journal of Clinical Medicine 10(20), 2021

Glaucoma patients require lifelong management, and the prevalence of glaucoma is expected to increase, resulting in capacity problems in many hospital eye departments. New models of care delivery are needed to offer requisite capacity.

This review evaluates two alternative schemes for glaucoma care within a hospital, i.e., shared care (SC) and virtual clinics (VCs), whereby non-medical staff are entrusted with more responsibilities, and compares these schemes with the "traditional" ophthalmologist-led outpatient service (standard care). A literature search was conducted in three large bibliographic databases (PubMed, Embase, and Trip), and the abstracts from the prior five annual meetings of the Association for Research in Vision and Ophthalmology were consulted. Twenty-nine were included in the review (14 on SC and 15 on VCs). Patients with low risk of vision loss were considered suitable for these approaches. Among the non-medical staff, optometrists were the most frequently involved. The quality of both schemes was good and improved with the non-medical staff being trained in glaucoma care. No evidence was found on patients feeling disadvantaged by the lack of a doctor visit. Both schemes increased the hospital's efficiency. Both SC and VCs are promising approaches to tackle the upcoming capacity problems of hospital-based glaucoma care. Copyright © 2021 by the authors. Licensee MDPI, Basel, Switzerland.

Virtual clinics for glaucoma care - Patients' and clinicians' experiences and perceptions: a qualitative evaluation

Eye 36, 2021

BACKGROUND The role of glaucoma virtual clinics has developed to help meet demand for capacity within busy glaucoma services. There is limited research of patient and clinician experiences and perceptions of these clinics and the aim of this study is to provide further information to help improve patient experience and guide service delivery.

Acceptability and use of glaucoma virtual clinics in the UK: a national survey of clinical leads

BMJ Open Ophthalmology 3(1), 2018

Objective The purpose of this paper is to describe the findings of a national survey that aimed to estimate the proportion of Hospital Eye Service (HES) units using glaucoma virtual clinics, to determine how these services differ and to gauge clinicians' views and opinions on the safety and acceptability of this model of care compared with usual care.

A technician-delivered 'virtual clinic' for triaging low-risk glaucoma referrals

Eye 31, 2017

Purpose The purpose of this study is to describe the outcomes of a technician-delivered glaucoma referral triaging service with 'virtual review' of resultant data by a consultant ophthalmologist.

Self-management

Self-management challenges and support needs among patients with primary glaucoma: a qualitative study

BMC Nursing, 2023

Background: Self-management plays an important role in the disease management of glaucoma patients. The effectiveness of the program can be improved by assessing the patient's perspective and needs to tailor self-management support. Most studies have focused on assessing one of these self-management behaviours, such as medication adherence, and there is a lack of systematic assessment of the support needs and challenges of self-management for patients with glaucoma. Therefore, in this study, we conducted an in-depth investigation into the self-management challenges and support needs of patients with primary glaucoma, providing a basis for nursing staff to implement self-management support.

Services

[Post COVID glaucoma service redesign utilising electronic patient triage and community optometry clinics \(Fife, Scotland 2020-2022\)](#)

BMC Ophthalmology 25(1), 2025

BACKGROUND: COVID-19 caused a huge backlog of patients in glaucoma clinics. This study describes redesign of an entire glaucoma service with electronic patient triage to three levels and utilisation of the Scottish optometry infrastructure of upskilled optometrists.

[Burden of Glaucoma in the United Kingdom: A Multicenter Analysis of United Kingdom Glaucoma Services](#)

Ophthalmology. Glaucoma 6(1), 2023

Abstract: OBJECTIVE: To determine the spectrum of glaucoma-associated health care resource utilization among outpatients attending National Health Service (NHS) hospital glaucoma clinics and the costs of managing glaucoma in this setting.

Surgery

[Ophthalmic surgery in New Zealand: analysis of 410,099 surgical procedures and nationwide surgical intervention rates from 2009 to 2018](#)

Eye 37(8), 2022

Background: Surgical intervention rates (SIR) provide a proxy measure of disease burden, surgical capacity, and the relative risk-benefit ratio of surgery. The current study assessed decade trends in ophthalmic surgery and calculated SIRs for all major classes of commonly performed ophthalmic procedures in New Zealand.

Training and Education

[Mapping glaucoma higher qualifications within UK optometry](#)

Ophthalmic & Physiological Optics 45(5), 2025

PURPOSE: The chronic capacity crisis in secondary care glaucoma services has resulted in calls to expand contributions by primary care optometrists. This study aims to map the current geographic spread of optometrists with post-graduate higher qualifications in glaucoma and independent prescribing (IP) within the UK, providing insight into the potential for expansion of capacity in glaucoma care.

[Providing capacity in glaucoma care using trained and accredited optometrists: A qualitative evaluation](#)

Eye 38(5), 2024

INTRODUCTION: The role of optometrists in glaucoma within primary and secondary care has been well described. Whilst many studies examined safety and clinical effectiveness, there is a paucity of qualitative research evaluating enablers and barriers for optometrists delivering glaucoma care. The aims of this study are to investigate qualitatively, and from a multi-stakeholder perspective whether optometric glaucoma care is accepted as an effective alternative to traditional models and what contextual factors impact upon their success.

[Expanding the traditional role of optometry: Current practice patterns and attitudes to enhanced glaucoma services in Ireland](#)

Journal of Optometry 11(4), 2018

Purpose: To investigate current diagnostic equipment availability and usage for glaucoma case-finding within community optometric practice, and to explore optometrists' attitudes towards an enhanced scope of clinical practice. Methods: An anonymous survey was developed, validated, and distributed to all optometrists in Ireland.

[Barriers to glaucoma case finding as perceived by optometrists in Ireland](#)

Clinical and Experimental Optometry 101(1), 2017

BACKGROUND This research was designed to provide an in-depth exploration of the perceptions of optometrists relating to the challenges of glaucoma case finding in the Irish health-care system.

[Validity and reliability of eye healthcare professionals in the assessment of glaucoma - a systematic review](#) Abstract only*

International Journal of Clinical Practice 69(6), 2015

OBJECTIVE(S) To explore the validity and reliability of eye healthcare professionals with different levels of training in diagnosing and/or identifying glaucomatous progression.

CLINICAL RELEVANCE Substantial pressure is being placed on our current eye healthcare workforce by chronic diseases such as glaucoma. Shared care schemes and role expansion of professionals other than ophthalmologists are being proposed to alleviate this pressure. A sound evidence base is imperative to determine whether other allied health professionals are skilled and clinically competent, when it comes to taking on these new roles in glaucoma management.

Technology

[Feasibility of in-home monitoring for people with glaucoma: the I-TRAC mixed-methods study](#)

Health Technology Assessment 28(44), 2024

Background: Glaucoma is a chronic disease of the optic nerve and a leading cause of severe visual loss in the UK. Once patients have been diagnosed, they need regular monitoring at hospital eye services. Recent advances in technology mean patients with glaucoma can now monitor their disease at home. This could be more convenient for patients and potentially reduce costs and increase capacity for the NHS. However, it is

uncertain whether self-monitoring would be acceptable or possible for patients with glaucoma. Objectives: The objectives were to: identify which patients are most appropriate for home monitoring; understand views of key stakeholders (patients, clinicians, researchers) on whether home glaucoma monitoring is feasible and acceptable; develop a conceptual framework for the economic evaluation of home glaucoma monitoring; and explore the need for and provide evidence on the design of a future study to evaluate the clinical and cost-effectiveness of digital technologies for home monitoring of glaucoma.

[Which glaucoma patients should be monitored at home and exploration of clinician perceptions on home monitoring? a survey of glaucoma specialists in the UK](#)

BMJ Open 14(11), 2024

OBJECTIVES: To identify suitable patients for glaucoma home monitoring and explore clinicians' perceptions of the possible benefits and risks of home monitoring within the National Health Service.

[Diagnosing glaucoma in primary eye care and the role of Artificial Intelligence applications for reducing the prevalence of undetected glaucoma in Australia](#)

Eye 38(11), 2024

Glaucoma is the commonest cause of irreversible blindness worldwide, with over 70% of people affected remaining undiagnosed. Early detection is crucial for halting progressive visual impairment in glaucoma patients, as there is no cure available. This narrative review aims to: identify reasons for the significant under-diagnosis of glaucoma globally, particularly in Australia, elucidate the role of primary healthcare in glaucoma diagnosis using Australian healthcare as an example, and discuss how recent advances in artificial intelligence (AI) can be implemented to improve diagnostic outcomes.

Courses

Ophthalmic Practitioner Training (OPT) Glaucoma module

NHS England Workforce, Training and Education Kent, Surrey and Sussex

Glaucoma is the biggest cause of irreversible blindness worldwide. Its prevalence increases with increasing age. With gradually ageing populations, the burden of this disease increases year on year. Glaucoma has historically been managed by ophthalmologists in hospital eye services. However, the rapidly increasing workload has meant changes in service delivery. These days more and more patients are managed by optometrists and specialist nurses under the guidance of consultant ophthalmologists.

Competency Frameworks

Ophthalmology Common Clinical Competency Framework

This Framework has been developed further into a curriculum for each of these areas, and eye health professionals, supervisors and trainers are encouraged to familiarise themselves with the areas of the curriculum most relevant to them.

Primary Care Framework for first contact care

College of Optometrists, June 2016 (revision February 2018)

This document has been developed using the best evidence available (NICE guidance, NICE Quality Standards, NHS Evidence, ophthalmic research literature, case studies and service audit) and relates solely to the commissioning of NHS Primary EyeCare Services in England beyond the NHS sight testing service. Most primary eye care is already delivered in optical practices. However, in many areas, there is no effective primary and community services to free up Hospital Eye Service

(HES) capacity. To tackle this problem, inline with recommendations of The Five Year Forward View(5YFV)¹, the Clinical Council for Eye Health Commissioning (CCEHC) has already developed a framework for Community Ophthalmology². Appropriate risk stratification of patients, more consistent pathways of care and use of the framework models will together lead to better value eye health care, better patient experience and better outcomes. As a result, HES clinics can focus on those patients who really need consultant expertise. This framework outlines the broad components of the Primary Eye Care Service in England. This is needed to support the clinical decision-making of primary eye care practitioners up to the point of referral. This document is not relevant to Scotland or Wales, where Primary Eye Care is contracted as a national service. What can be managed within the Primary Eye Care Service depends on skills and equipment, and on the risk of deterioration of the patient's condition but will typically include the ability to:

- manage a wide range of low-risk primary eye conditions
- address the needs of a patient presenting with an acute eye condition (first contact)
- conduct re-checks to confirm abnormal test results (detected by a NHS eye test/ eye examination) as outlined in NICE Glaucoma guidance (NG81)³ and Standard (QS7)^{4,5}
- further refine the decision to refer e.g. where risks and benefits are discussed with the patient prior to referral for cataract surgery (NICE Cataract guidance^{1.2}(NG77))

The Star for workforce redesign

More resources and tools are available in [the Star](#)

Statistics

You can find relevant statistics on the [Health and Care Statistics Landscape](#) under “**Health and Care**”

National Data Programme

Workforce, Training and Education staff can look at the [National Data Warehouse \(NDL\)](#) SharePoint site to find out more about datasets and Tableau products.