

Supplementary Materials

Supplementary Table 1. Data charting for empirical and grey literature

Domain/subdomain	Description
1. Document characteristics	
Reference type	Empirical study, review, commentary, guidelines, etc.
Title	Title of publication
Authors	Authors of publication
Publication year	Year of publication
Full citation	Citation of publication
Web link	Link to online source
2. Study characteristics	
Design	Observational study, experimental, qualitative, etc.
Setting	E.g. Hospital eye service
Location	Country of publication
Population	Study eligibility criteria
Sample size	Number of participants in study
Study objectives	What is the study research question (if relevant)?
3. Characteristics of service delivery and outcomes	
Staffing of service	E.g. Number of staff in service, profile of staff (optometrists, hospital nurse, allied health professional, etc.)
Training	E.g. Number of hours training, number of SLT procedures performed, details of supervision
Clinical effectiveness	Details of SLT efficacy (e.g. evidence of sustained stable IOP)
Safety	Aspects relating to safety of procedure (e.g. reporting of adverse events)
Cost-effectiveness	Details relating to service costings
Other outcomes	Any other study outcomes
Limitations	Limitations described by authors, and any other limitations identified.
Implications and conclusions	Implications and conclusions as described by authors.

Supplementary Table 2. Data extraction table

Author	Title	Design	Population	Objectives	Findings
Chadwick et al., 2019	Establishing an allied health professional delivered selective laser trabeculoplasty service in Scotland.	Prospective audit	208 patients (325 eyes)	To describe the process of establishing a selective laser trabeculoplasty (SLT) service delivered by experienced allied health professionals (AHP) in a Scottish NHS Hospital Eye Service, and assess the safety and efficacy in comparison with SLT performed by ophthalmologists.	The overall rate of complications was 3.9%, however these were minor and/or self-limiting (this compared to a 3.8% complication rate in the ophthalmologist delivered SLT series). The rate of intraocular pressure (IOP) spike was 0.3%, compared to 1.4% in the ophthalmologist delivered SLT series. Mean IOP at listing was 20.9 ± 5.1 mmHg, 17.3 ± 4.5 mmHg at 3 months post SLT and 17.6 ± 3.7 mmHg at 12 months—a median reduction of 16.7% at 3 months and 17.4% at 12 months. There was no statistically significant difference between the percentage reduction in IOP in the AHP and ophthalmologist delivered SLT groups at 3 or 12 months.
Stein et al., 2016	Comparison of outcomes of laser trabeculoplasty performed by optometrists vs ophthalmologists in Oklahoma	Retrospective longitudinal cohort study	891 patients (1384 eyes)	To compare outcomes of laser trabeculoplasty performed by ophthalmologists with those performed by optometrists to determine whether differences exist in the need for additional laser trabeculoplasty	There were 1150 (83.1%) eyes treated by an ophthalmologist and 234 (16.9%) eyes treated by an optometrist. Among the 1384 eyes receiving laser trabeculoplasty, 258 (18.6%) underwent more than 1 laser trabeculoplasty in the same eye. The proportion of eyes undergoing laser trabeculoplasty by an optometrist requiring 1 or more subsequent sessions (35.9%) was more than double the proportion of eyes that received this procedure by an ophthalmologist (15.1%). Medicare beneficiaries undergoing laser trabeculoplasty by optometrists had a 189% increased hazard of requiring an additional procedure in the same eye compared with those treated by ophthalmologists (hazard ratio, 2.89; 95% CI, 2.00-4.17; $P < .001$) after adjusting for potential confounders.
Fingeret, 2016	Laser Trabeculoplasty Use Patterns Among Optometrists and Ophthalmologists in Oklahoma	Invited commentary of Stein et al.	N/A	To review the outcomes of Stein et al., 2016.	At the time of the study by Stein et al. optometrists were advised to treat 180° of the trabecular meshwork and to consider treating the remaining 180° if IOP was not sufficiently stabilised. As such, repeat trabeculoplasty may indicate clinical guideline differences between professional groups and a more cautionary approach by optometrists.
Harper et al., 2016	Scope of practice of optometrists working in the UK Hospital Eye	Cross sectional survey	70 UK optometrists	To describe the results of a national scope of practice survey of UK hospital optometry.	A substantial majority of respondents ($N = 67/70$, 96%) indicated that optometrists undertook extended roles. Glaucoma is the leading extended role service provided by optometrists (92% of respondents providing extended role services). A wide variety of clinical procedures or

	Service: a national survey.				interventions are undertaken as part of these services, which for a small number of optometrists now also includes the undertaking of specific laser procedures. There is evidence for a significant degree of autonomy within these extended roles. The primary mode of training is an 'apprentice' model, incorporating sessions worked under supervision in ophthalmology clinics. Methods of accreditation for optometric participation in extended role services are varied.
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Supplementary Table 3. Quality assessment checklist

Authors	Is the question / objective sufficiently described?	Is the study design evident and appropriate?	Is the method of subject/comparison group selection or source of information/input variables described and appropriate?	Are the Subject (and comparison group, if applicable) characteristics sufficiently described?	If interventional and random allocation was possible, was it described?	If interventional and blinding of investigators was possible, was it reported?	If interventional and blinding of subjects was possible, was it reported?	Are outcome and (if applicable) exposure measure(s) well defined and robust to measurement / misclassification bias? Are means of assessment reported?	Is the sample size appropriate?	Are the analytic methods described/justified and appropriate?	Is some estimate of variance is reported for the main results?	Controlled for confounding?	Are results reported in sufficient detail?	Are conclusions supported by the results?	Overall score
Chadwick et al., 2019	Yes (2)	Yes (2)	Yes (2)	Yes (2)	Partial (1)	No (0)	N/A	Yes (2)	Yes (2)	Yes (2)	Yes (2)	No (0)	Yes (2)	Yes (2)	0.80
Stein et al., 2016	Yes (2)	Yes (2)	Yes (2)	Yes (2)	N/A	N/A	N/A	Partial (1)	Yes (2)	Partial (1)	Yes (2)	Yes (2)	Yes (2)	Yes (2)	0.90
Harper et al., 2016	Yes (2)	Yes (2)	Yes (2)	Yes (2)	N/A	N/A	N/A	Yes (2)	Yes (2)	N/A	N/A	N/A	Yes (2)	Yes (2)	1.00

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Supplemental material

BMJ Open Ophthalmol

Journal Article: BMJ Open Ophthalmol 2021; 6:e000611. doi: 10.1136/bmjophth-2020-000611

Supplementary Table 4. Training overview for UK Optometrists

In the UK undergraduate optometry training is a four year programme (five years in Scotland). The course includes a full-time three-year course (four-years in Scotland); the 4th year is a salaried supervised training with a practice or an NHS Hospital (pre-registration period). Undergraduate optometry degrees and pre-registration placements are regulated and approved by the General Optical Council (GOC).

Over the course of 3 years students study topics such as general anatomy and pathology, ocular anatomy and pathology, physical and visual optics, binocular vision, paediatric vision, visual impairment, pharmacology, optometric clinical skills, ophthalmic research, contact lenses, ophthalmic lenses and dispensing. Clinics are a substantial element of the 3 years of studies. After completion of the pre-registration year optometrists register with the GOC. On registration UK optometrists provide primary ophthalmic care in the community or secondary ophthalmic care in the Hospital Eye Service (HES). Within community practice there are a number of enhanced service schemes, where enhanced services (e.g. cataract, glaucoma/ocular hypertension, red eye and low vision) are delivered by community optometrists. Registered UK optometrists are licensed to prescribe 0.5% chloramphenicol eye drops, 1% chloramphenicol eye ointment, cyclopentolate hydrochloride, fusidic acid and tropicamide. ⁽¹⁾

Post qualification accredited training (higher qualifications) is provided by the College of Optometrists on contact lenses, glaucoma, low vision, medical retina, paediatric eye care and independent prescribing, the latter allowing optometrists to prescribe any medication (oral or topical) for ophthalmic conditions independently. Over the last decades optometrists (and other HCPs such as nurses and orthoptists) have adopted enhanced roles in the HES, primarily to meet demands. Optometrists are commonly placed in medical retina, glaucoma, cataract, adnexal and cornea clinics; in some of these clinics they may practice independently (e.g. optometrist-led glaucoma clinics). Higher qualifications are gradually more commonly required for practicing in HES consultant-led clinics; for example optometrists working in HES glaucoma clinics are required to train for the Professional Certificate in glaucoma and for the Diploma in glaucoma in order to work independently. ⁽¹⁾

In the UK, there is no national training framework for optometrists (or other HCPs) expanding their role into SLT delivery at the time of this review. The former Ophthalmic Common Clinical Competency Framework (OCCCF), now developed into an Ophthalmic Practitioner Training (OPT), trains postgraduate HCPS (orthoptists, optometrists and ophthalmic nurses) in secondary care to develop their skills in cataract, glaucoma, medical retina or emergency eye care. The OPT ensures consistency in the training of non-medical professionals in areas of the highest patient throughput, including glaucoma. Based on this training, the HES can transform their workforce and improve capacity.

Reference

The College of Optometrists. Higher qualifications in glaucoma. Available: <https://www.college-optometrists.org/cpd-and-cet/training-and-qualifications/higher-qualifications/courses-and-providers/higher-qualifications-in-glaucoma.html>. Accessed 22/10/2020