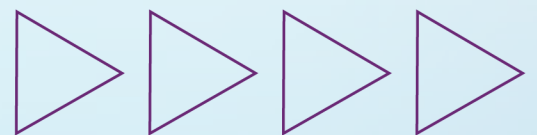


Centre for
Sustainable
Delivery



National Ophthalmic Workforce Review

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Planned Care Team

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1.0 Executive summary

The National Eyecare Workstream has undertaken a workforce review across the entirety of NHS eye care services in Scotland. This is required to support workforce and service planning, and to ensure the ongoing workforce sustainability.

In Scotland, NHS eye care services are delivered by a highly skilled workforce drawn from a range of disciplines and specialisms. Across primary and secondary care, the provision of services relies upon a team approach; having sufficient workforce with the right skills, in the right place, at the right time.

Therefore, to gain a comprehensive understanding of the workforce, in terms of current and projected capacity, a 'whole of workforce' integrated picture is required. This includes information about the current deployment of clinical roles amongst workforce. Uniting this information together provides a full picture, and will support identification of challenges, gaps and opportunities.

Data in this report has been gathered from a number of sources, but largely from direct interaction with the Health Boards and routinely collected data via Public Health Scotland. Due to the 100% response rate from Health Boards, this report provides an extensive and reliable picture of the ophthalmic workforce in Scotland.

The review identifies a number of workforce strengths; these includes:

- Consultant ophthalmologist workforce growth
- Secondary care non-medical workforce delivering clinical roles traditionally done by ophthalmologists
- Secondary care ophthalmic support workforce (AfC band 2-4) providing a wide range of clinical roles
- Primary care optometrist workforce weighted towards younger ages
- Primary care IP optometrist workforce active across all mainland Health Boards

The workforce picture also highlights some challenges; these include:

- Paediatric ophthalmology workforce vulnerability
- SAS (Associate Specialists and Specialty doctors) workforce sustainability
- Unfilled nursing posts and potential future workforce gaps
- Variation across Health Boards of non-medical workforce listing for cataract surgery
- Ensuring standardisation of training for non-medical registered workforce in extended/advanced roles
- Inequitable distribution of optometrist workforce across Health Boards
- Vulnerability of ocular prosthetics workforce

Simply increasing staff numbers is not necessarily the most effective or sustainable solution to every challenge. Section 7 explores these challenges and provides opportunities and recommendations which include thinking differently about the current deployment of roles, the delivery of training and development of current workforce.

This report provides robust evidence to support informed workforce and service planning decisions. It will be an invaluable tool for delivering a sustainable ophthalmic service in Scotland well into the future.

2.0 Introduction

The NHS Ophthalmic workforce in Scotland includes a diverse range of medical, non-medical and support roles working across both community or hospital settings. This includes:

- Ophthalmologists
- Nurses
- Orthoptists
- Optometrists
- Dispensing Opticians
- Clinical Scientists
- Ophthalmic Imaging support
- Ophthalmic support staff (AfC band 2-4)
- Low vision support workforce (including ophthalmology patient liaison staff and rehabilitation/habilitation workers)
- Ocular prosthetics

2.1 Structure of ophthalmic services in Scotland

Ophthalmic services are broadly delivered within either primary (community based) or secondary (hospital based) care.

2.1.1 Secondary care

Hospital Eye services are delivered across 15 Health Boards in Scotland. This includes 14 territorial Boards in addition to 1 Special Board (NHS Golden Jubilee) which provides a national cataract service. Cataract, glaucoma and medical retina are amongst the sub-specialities with the highest volume of patients, mainly driven by the overall aging population. Notably, cataract surgery is one of the most frequently performed surgical procedures in the UK, and accounts for 80% of surgical activity in Hospital Eye departments in Scotland (Public Health Scotland, 2022). Cataract surgery is generally performed as a day case with immediate discharge and primary care follow up, whereas glaucoma and medical retina patients often require long-term management, and so end up regularly attending ophthalmic outpatients. Initiatives such as the Community Glaucoma Service (CGS - see 2.1.2) have been developed to shift these patients into community settings to increase hospital capacity.

Although the aging population increases the prevalence of eye disease, there remains a need for effective paediatric services within the hospital. This requires a multi-disciplinary team. In Scotland, the Visual Impairment Network for Children and Young People (VINCYP) works to improve the care of children with visual impairment, and provide standards which include the paediatric team. Every department should have a member of staff who reports to VINCYP, to ensure all children with a visual impairment are identified.

2.1.2 Primary care

Optometrists deliver the majority of community based eye care services across Scotland and optometry practices are the 'first port of call' for any patient presenting with an emergency eye problem. In 2006, new General Ophthalmic Services (GOS) regulations (NHS, 2006) provided greater scope for management of patients within primary care, rather than referrals into secondary care. The new regulations have resulted in noticeably different service provision between Scotland and the rest of the UK, including universally free NHS-funded eye examinations. Additionally, more patient management has been facilitated within the community, including referral refinement and pre- and post- cataract reviews.

Beyond GOS, the national Community Glaucoma Service (CGS) was recently established (March 2023), which provides a mechanism for patients with lower risk glaucoma or ocular hypertension to be discharged from the Hospital Eye Service to accredited optometrists in the community (Scottish Government, 2022). The CGS will be rolled out on a Board -by -Board basis and will commence in NHS Greater Glasgow and Clyde. The movement of lower risk patients into the community will enable additional capacity within Hospital Eye Services to support the management and monitoring of more complex cases. This will introduce patient registration for the first time within community optometry.

Beyond national service provision, some Health Boards have developed additional enhanced local services (funded by the Board) to meet local clinical needs e.g. clinically required contact lenses, low vision services.

Where patients are unable to be managed within primary care, referral is made into secondary care via electronic referral (SCI Gateway in the majority of Health Boards).

2.2 Secondary care ophthalmic workforce

The hospital or secondary care workforce includes medical (ophthalmologists) and non-medical (including: nurses, orthoptists, optometrists, clinical scientists, ophthalmic imaging support and ophthalmic support staff) workforce.

2.2.1 Medical workforce

2.2.1.1 Ophthalmologists

Ophthalmologists work across all sub-specialities providing diagnosis, treatment, surgery and management of acute and chronic eye disease. Following medical school, training to become a consultant includes two years of foundation training, followed by Ophthalmic Specialist Training (OST). OST is a seven-year surgical training programme following the Royal College of Ophthalmologist's curriculum and approved by the General Medical Council (GMC). In Scotland, this is delivered in four geographical regions (West, North, East and South East); the West of Scotland rotation, based principally in Glasgow, is the largest.

SAS doctors, including Associate Specialists and Specialty doctors, are not in a training programme and are not consultants. This is a wide group of medical professionals, including those whom are still to set out in training and others who are experienced and may have completed the seven-year surgical training programme. The SAS doctor role can be diverse, but usually focuses on providing direct clinical care and less non-clinical work compared with a consultant.

2.2.2 Non-medical workforce

2.2.2.1 Nurses

Nurses undertake a wide variety of roles within ophthalmology, but often receive minimal ophthalmology exposure and experience during their nursing degree. To date, although there is no standardised ophthalmic nursing course/competencies, there is a range of validated ophthalmic nursing courses and modules available. Within Scotland, an 'Ophthalmic Nursing Module' has been previously available to develop nurses from Glasgow Caledonian University (GCU). This module was paused for development in 2021 and is expected to recommence in 2024.

2.2.2.2 Orthoptists

Orthoptists are registered¹ allied health professionals (AHPs) with expertise in the assessment, diagnosis and management of visual function, including binocular vision and neurological impairments.

The Health and Care Professions Council (HCPC) has approved undergraduate level pre-registration programmes at three universities across the UK. GCU is the provider in Scotland, offering a 4-year undergraduate degree. Additionally, University College London (UCL) has been approved for an accelerated 2-year Orthoptics MSc (first intake 2021).

2.2.2.3 Optometrists

Optometrists are registered² eye care professionals who undertake clinical roles across a number of sub-specialties in ophthalmology.

Historically, full registration with the General Optical Council (GOC) as an optometrist has included a two-stage qualification process; a university degree (4-year in Scotland, 3-year rest of UK) followed by a pre-registration year working in clinical practice (Scheme for Registration). There are 15 providers offering the university degree in the UK, two of which are in Scotland (GCU and University of Highlands and Islands, UHI). However, in February 2021 the GOC approved revised requirements for registration requiring all providers to integrate academic learning with patient-facing experience leading to a single registerable qualification (Masters level). It is anticipated that GCU will offer the revised course for the 2024/25 intake. This will be a 5-year programme integrating the Independent Prescribers (IP) qualification and the first students are expected to graduate in 2029.

2.2.2.4 Ophthalmic support staff

Ophthalmic support staff have a diverse range of duties within ophthalmology. Job titles generally map to the Healthcare Careers Framework (Skills for Health, 2020) which describe level of role and responsibility e.g. support worker (level 2), senior assistants/ technicians (level 3) and Assistant Practitioner (level 4). For clarity, unless stated otherwise, within this document this group will be referred to as 'ophthalmic support staff'.

¹ Registered with the Health and Care Professions Council, HCPC

² Registered with the General Optical Council, GOC

2.2.2.5 Clinical Scientists

Clinical Scientists are registered with the Health and Care Professions Council (HCPC). Those working within ophthalmology commonly provide electrophysiological investigations, advanced imaging techniques and patient management. Referrals to these services are received from Health Boards across Scotland, from both ophthalmology and neurology.

2.2.2.6 Ophthalmic imaging

Ophthalmic imaging workforce can be drawn from a number of disciplines, including Medical Illustration and Healthcare Sciences. The description of the role is dependent upon discipline, as identified below:

- Medical Illustration
 - AfC band 4 = imaging technician
 - ≥ AfC band 5 = Clinical photographer
- Ophthalmic and Vision Healthcare Sciences:
 - AfC band 4 = Ophthalmic Healthcare Associate
 - ≥ AfC band 5 = Healthcare Practitioner

2.2.2.7 Non patient-facing staff

To enable the continued delivery of services, there are a number of essential non-patient facing roles. These include: administration and clerical, estates and facilities and information management and technology.

2.2.3 Extended and advanced roles

The terms *extended* and *advanced* tend to describe roles which are beyond the core competencies and skills acquired upon registration. However, the specific definitions can be variable across non-medical groups. Greenwood (2021) has proposed terminology which can be applied to all groups, identified by three main levels of practice:

Role	Activity	Training
Expanded	very specific tasks/procedures, following defined protocol with specific education, e.g. corneal scrapes, YAG laser capsulotomy.	Local training/competencies College of Optometrists Higher Certificate OCCF 1-2 (see section 2.2.3.1)
Extended	incorporate more medical decision making and management, within a consultant led team, e.g. low risk glaucoma management	College of Optometrist Diploma OCCF 3 (see section 2.2.3.1)
Advanced	autonomous and independent patient management and decision making, e.g. high risk patient management, SLT laser.	Masters

(From Greenwood, 2021)

Within this report, all roles deemed to be outwith core competencies will be described under the heading 'extended and advanced'.

2.2.3.1 Ophthalmic Practitioner Training (OPT)

Ophthalmic Practitioner Training has been developed by the Royal College of Ophthalmologists with the specific aim of supporting ophthalmology departments to develop their workforce and increase capacity within the service. It has been developed from the Ophthalmic Common Clinical Competency Framework (OCCCF). Level 3 has been approved to form the majority of the clinical pillar within an Advanced Clinical Practice Masters. The OPT has been designed to be delivered in the workplace under the supervision of local trainers. Clinical areas include cataract, medical retina, glaucoma and acute and emergency care.

2.3 Primary care ophthalmic workforce

The primary care (community based) workforce predominantly includes optometrists, dispensing opticians and optometry support staff delivering services via community optometry practice. The roles and training routes are summarised below:

2.3.1 Optometrists

(See section 2.2.2.3) Optometrists work as NHS independent contractors and must be listed with a Health Board to enable them to deliver GOS (NHS, 2006). They primarily assess visual function, and prescribe and dispense suitable spectacles, contact lenses and other visual aids. As part of an eye examination an optometrist will identify ocular pathology and ocular manifestations of systemic disease (NHS, 2006; Opticians Act, 1989). All optometrists manage and treat patients with ocular presentations within the community (see section 2.1.2). With additional training, optometrists can also qualify as independent prescribers (IP), increasing their ability to manage more complex patients and issue NHS prescriptions.

To support delivery of the CGS (see section 2.1.2), IP optometrists can also gain the NES Glaucoma Award Training (NESGAT) qualification, which is funded by Scottish Government.

2.3.2 Dispensing Opticians

Unlike optometrists, dispensing opticians are not currently listed with a Health Board in Scotland. Dispensing opticians are registered³ eye care professionals who advise on, fit and supply spectacles to meet patient needs. Dispensing opticians also have a considerable knowledge of pathology and can support triage and case finding in practice. With additional training, dispensing opticians can also fit contact lenses.

Qualification as a dispensing optician is contingent upon completion of a GOC approved qualification in dispensing optics, in addition to completion of the GOC approved qualification (offered by either ABDO Exams or Anglia Ruskin University). There is a choice of study options available, which include fulltime training or day release/distance learning combined with suitable employment. The minimum length of training is 3 years.

GOC approved programmes are currently offered at six institutions, including one provider in Scotland: GCU.

2.3.3 Optometry support staff

Optometry support staff are valuable members of the community optometry practice team. This group includes receptionist staff, optical assistants and clinical assistants.

³ Registered with the General Optical Council, GOC

Within practice, support staff may undertake a variety of roles, including delegated clinical tasks e.g. visual fields, tonometry and imaging.

2.4 Additional ophthalmic workforce

In addition to the workforce identified above, there are a number of other workforce roles which work alongside the ophthalmic workforce to provide specialised services. These include visual impairment support and ocular prosthetics.

2.4.1 Visual impairment support workforce

This workforce often work as part of (or alongside) multi-disciplinary teams within ophthalmology and play a key role for both adults and children with visual impairment (section 2.1.1). This includes ophthalmology patient liaison staff⁴, rehabilitation (adults) and habilitation (children) workers. In the main, ophthalmology patient liaison staff are commissioned by Health and Social Care Partnerships (HSCPs) or in a limited number of cases directly funded through third sector organisations. Rehabilitation and habilitation officers are community based, either as part of a HSCP sensory team, or as a HSCP-commissioned service such as from Sight Scotland.

Ophthalmology patient liaison staff provide support, information and signposting to patients with visual impairment, whereas habilitation and rehabilitation workers provide mobility and independent living training.

Both ophthalmology patient liaison staff and habilitation workers are part of the VINCYP pathway, which has been developed to help avoid delays in provision of support to young people. VINCYP standards suggest that children and young people who require habilitation services should receive these within 1 month of referral.

2.4.2 Ocular prosthetic workforce

This workforce provides an essential service, providing and fitting custom made artificial eyes. There are two main groups:

Ocularists: highly specialised in the fitting, painting and manufacturing of custom ocular prosthetics. To date, there is no university degree or governing body within the U.K. However, Gartnavel run an in-house training programme carried out over 2 trainee years.

⁴ Ophthalmology patient liaison staff also known as: Eye Care Liaison Officers (ECLOs) (RNIB term) and Patient Support Workers (Visibility Scotland term)

Maxillofacial prosthetists: Clinical Scientists who have specialised in prosthetic reconstruction. There is currently no training for this specialty within Scotland. Training requires a degree in Dental Technology to join the Scientific Training Pathway (STP), followed by an MSc in Maxillofacial Prosthetic Rehabilitation (available in King College London).

2.5 Relevant workforce evaluations

The Royal College of Ophthalmologists workforce census (RCOphth, 2018, 2023) identified the overall lack of capacity within ophthalmology departments across the UK, including the importance of developing non-ophthalmologists to ensure future workforce supply.

The most recent community optometry workforce evaluations include the Optical Workforce Survey (College of Optometrists, 2015) and NHS Education for Scotland Workforce Review (NHS Education for Scotland 2016). Identifying the actual capacity (WTE) of the community optometry workforce has been notoriously difficult due to the delivery of services by privately employed contractors. The College of Optometrists provided WTE estimations across the UK nations, however reliability was limited due to the small sample size (4.7% of UK workforce).

The recent Rehabilitation Habilitation Workforce Survey (McFarlane, 2021) identified an aging workforce and lack of training. The survey provided returns from 51 Vision Rehabilitation Specialists and 13 Habilitation Specialists and it is possible that this does not reflect the entire workforce. In respect to the training, a collaborative effort by the Scottish Visual Services Steering Group (including the Scottish Sensory Hub, Visibility Scotland, Sight Scotland, RNIB Scotland, Guide Dogs and the Rehabilitation Workers Professional Network) resulted in the instigation of the reinstatement of the graduate Low Vision Rehabilitation Course at GCU (from January 2023).

There are a number of workforce evaluations currently in process, these include:

- College of Optometrists: UK eye care workforce supply and demand data modelling project.
- The British and Irish Orthoptic Society (BIOS): Orthoptic workforce survey.
- Visual Impairment Network for Children and Young People: national service mapping report.

2.6 Aim

The aim of this review is to provide a comprehensive picture of the ophthalmic workforce* delivering services across primary and secondary care in Scotland. A 'whole of workforce' integrated view will enable identification of challenges, opportunities and recommendations to support informed future workforce and service planning.

*this review is mainly focused on workforce delivering patient-facing roles

3.0 Methodology

3.1 Secondary care ophthalmic workforce

Information about the secondary care workforce was gathered from:

1. Workforce survey data (Health Boards)
 - Capturing **current** workforce information from Health Boards: ophthalmologists, nurses, orthoptists, optometrists, ophthalmic support staff (AfC ≤band 4) and ophthalmic imaging workforce.
2. Personal communication
 - Capturing **available** workforce information about clinical scientists, prosthetics and visual impairment support workforce.

Information about the potential future workforce was gathered from:

3. Undergraduate and training data:
 - Capturing demand for undergraduate *orthoptics* training and student numbers
 - Capturing *ophthalmology specialty trainee* sub-specialisms preferences.

3.1.1 Workforce survey data (collected from Health Boards)

A workforce survey⁵ was designed, reviewed and piloted with input from NHS Regional Workforce Planning, Eye Health Scotland (Clinical Leads group), Scottish Hospital Optometry Heads of Service Group, Scottish Orthoptists Heads of Service Group, Senior nursing colleagues and Medical Illustration Service Lead.

Survey content included:

- a) Current workforce structure and demographics: Whole Time Equivalent (WTE), headcount (HC), age, banding/grade, unfilled posts.
- b) Current roles and responsibilities.
- c) Retirement estimations.
- d) Qualitative feedback.

⁵ NHS Education for Scotland publish official workforce statistics which is sourced from the Scottish Workforce Information Standard System (SWISS). As acknowledged by NES (NES, 2021), sometimes detailed information on occupations is not always available in the source data e.g. identification of nurses working within ophthalmology, ophthalmic imaging workforce. Therefore, a survey approach direct to the Health Boards was utilised to collate data.

Surveys were emailed as a Microsoft Excel Spreadsheet attachment to all Hospital Eye Service managers and clinical leads across all 15 Health Boards (14 territorial Health Boards and 1 Special Health Board) in May 2022.

All data was analysed using Microsoft Excel by the Project Lead and statistical disclosure control protocol applied to maintain anonymity.

3.1.2 Personal communication

Current available data about the clinical scientists, prosthetics and visual impairment workforce was obtained via personal communication.

3.1.3 Undergraduate and training data

Training data about demand and current ophthalmology trainee sub-specialty interests was gathered via personal communication with the RCOphth and NES.

For orthoptist trainees, data about university applications, acceptances and student intakes was sourced via the Universities and Colleges Admissions Service (UCAS) and Higher Education Statistics Agency (HESA). This data was extracted and analysed by NES's Data Group.

3.2 Primary care ophthalmic workforce

Community optometrist workforce

Information about the community optometry workforce was gathered from:

1. Three-month workforce activity data
 - capturing **active** workforce providing GOS services
2. Health Board listing data
 - capturing **potential active** workforce: total number of community optometrist workforce who *could* provide GOS services

Information about the potential future workforce was gathered from:

3. Undergraduate data:
 - Capturing demand for undergraduate optometry training and student numbers

3.2.1 Three-month workforce activity data

Public Health Scotland (PHS) collates data about all eye examination claims which have been made by optometrists under GOS. Each claim is submitted by the optometrist for processing by Practitioner Services Division (PSD) and information stored in the OPTIX payment database.

Identification of all the claims made during a discrete three-month time frame provides information about the active workforce during this period. This length of time also increases the likelihood that the majority of the active workforce would be captured, negating the impact of annual and sickness leave.

PHS also collate data about all therapeutic drugs prescribed (and dispensed) by IP optometrists. Prescription information during the discrete three-month period provides a headcount for the minimum* number of active IPs (*note: this is not the absolute number, since it will not capture active IP optometrists who did not write a prescription).

3.2.1.1 Identification of three-month period

To minimise the influence of the COVID-19 pandemic, which was impacting service delivery nationally during 2021, monthly eye examination numbers were analysed pre- and post-pandemic by PHS. Eye examination numbers during 30.08.21-05.12.21 were closest to the equivalent three months pre-pandemic (26.08.19-01.12.19). Overall, eye examination activity during this period was reduced by only 4.8% compared to pre-pandemic levels. Furthermore, financial support for practices (provided by Scottish Government) and the Coronavirus Job Retention Scheme would have minimal impact during 30.08.21-05.12.21, as they ceased on 1 September and 30 September respectively (Scottish Government, 2021, HMRC, 2021).

The active workforce was identified for both three-month time periods (2019 and 2021) to allow comparison over time.

3.2.1.2 Headcount and demographics

Headcount was calculated as the total number of individual practitioners (identified by List Number) who made at least one eye examination claim during both three-month periods. Age group and gender were identified from the OPTIX database.

All data was extracted by PHS data analysts and provided at anonymised group level to negate the risk of identification of any individual practitioner.

3.2.1.3 Working days

To provide an estimation of the average number of days/week worked by community optometrists during 30.08.21-05.12.21, the following assumption and methodology was applied to the data:

- **Assumption:** One or more eye examination claims made by an individual practitioner on a single day equated to 1 day working i.e. *No half days were calculated*
- **Average (mode) working days per week calculated:** The most frequent number of days worked per week by each practitioner during the three-month period. Utilising the modal average, rather than the mean, reduces the potential impact of deviations from normal working patterns such as sickness or annual leave.

All data was extracted by PHS data analysts and provided at anonymised group level to negate the risk of identification of any individual practitioner.

3.2.1.4 Vaccination activity

During 2021, community optometrists had the opportunity to partake in the COVID-19 Vaccination Programme (Scottish Government, 2020). This was voluntary and open to all optometrists registered on a NHS Board's ophthalmic list. To understand the potential impact upon the workforce, anonymised weekly totals of vaccinators during 30.08.21-05.12.21 were identified (data courtesy of NHS National Services Scotland, NSS).

3.2.2 Health Board Listing data

Health Board listing data provides a total of community optometrists who are eligible to provide GOS services. An optometrist can be listed with multiple Health Boards, but only one will be their Host Board. The following ophthalmic listing information was obtained from each individual Health Board:

- Number of optometrists on Health Board List, identified as Host Board, up until December 2021
- Of these, number of optometrists who were IP qualified.

3.2.3 Undergraduate data

The Universities and Colleges Admissions Service (UCAS) and Higher Education Statistics Agency (HESA) collate data about university applications, acceptances and student intakes. Data from the Higher Education Statistics Agency (HESA) provides an annual record of the number of students starting courses and the expected duration of their education. Institutions submit their data during September for the previous year.

This data was extracted and analysed by NES's Data Group.

3.2.4 General Optical Council (GOC) data

The GOC collect data about registrant practice location and 'Home Nation', however neither of these are mandatory fields. For this reason, registration numbers based on this data may be an under-representation of the optometrists in Scotland and therefore only UK-level GOC data was utilised within this review.

Dispensing optician workforce

Information about the dispensing optician workforce was gathered from:

1. Workforce survey data (supported by the Association of British Dispensing Opticians; ABDO)
 - capturing workforce information about registered ABDO members

Information about the potential future workforce was gathered from:

2. Undergraduate data:
 - Capturing demand for dispensing optician training and student numbers

3.2.4 Workforce survey data

A short workforce survey was developed in collaboration with ABDO and emailed to all registered ABDO members in August 2022 (n=424). The survey was anonymous and items included: registration category, age group, main working location (Health Board), average number of days worked per week and plans to retire/leave dispensing optics.

3.2.5 Undergraduate data

As above (3.2.3), the Universities and Colleges Admissions Service (UCAS) and Higher Education Statistics Agency (HESA) collate data about university applications, acceptances and student intakes. This data was extracted and analysed by NES's Data Group.

4.0 Workforce data: Secondary care ophthalmic workforce

Workforce survey response rate was 100%. Workforce data reported by all NHS Scotland Health Boards (n=15) as of May 2022 is shown below.

		In post			Locum/bank
		WTE	HC	Total no. of HBs	WTE
Medical workforce	Consultants	143.3	152	12	11.4
	SAS	22.7	26	9	0
	Ophthalmology Specialty Trainees	70.4	71		-
	Other medical workforce (e.g. Clinical Fellows)	22.3	25	9	-
Non-medical workforce	Nurses	308.3	371	15	5
	Orthoptists	87.9	111	11	3.5
	Hospital optometrists	49.8	97	10	0.8
	Ophthalmic support staff (AfC band ≤4) (supporting nursing, orthoptics & Hospital Optometry)	129.7	161	15	4.2
	Ophthalmic imaging (dedicated support)	28.0	-	7	0
	Clinical scientists*	11	16	2	-

*Note, ophthalmic scientific workforce data courtesy of Dr Vikki McBain, OV&S representative for cPEB (NHS Grampian)

4.1 Medical workforce

4.1.1 Consultant workforce

As of May 2022, the total in-post ophthalmic consultant workforce was 143.3 WTE (152 headcount) across 12 Health Boards. NHS Orkney, Shetland and Western Isles had no in post consultants, rather consultant sessions were provided via service level agreements (SLA) with mainland Health Boards and locums.

Age

The majority of the consultant workforce were aged between 50-59 years (49.8%) and <5% were aged 60 or over.

Unfilled posts

11 out of 12 Health Boards had vacancies for consultant ophthalmologists (13.9 WTE) and 11 Health Boards were using 11.4 WTE locums/bank staff. 28.7% of vacancies were identified within paediatrics and two Health Boards reported that paediatrics was supported entirely by locum staff. A further 28.7% of vacancies were reported across medical retina, neuro-ophthalmology, uveitis and corneal/anterior segment.

Retirement

Expected retirement within the next five years is 20.9% (29.9 WTE)⁶.

Extra Programmed Activities: EPAs

A total of 22.5 EPA sessions were reported across the workforce, which can be equated to a further 2.25 WTE consultant capacity. Not all the Health Boards provided this information (75% response rate), and therefore this figure may be an underestimation.

Consultant staffing per 100,000 population

As of May 2022, consultant staffing WTE (in post + locum/bank) per 100,000 population⁷ in NHS Scotland was 2.8 WTE per 100,000. This figure rose to 2.9 WTE per 100,000 when EPAs were included.

⁶ This data was reported pre- pension reform (HM Revenue & Customs, 2023)

⁷ NHS Scotland 5,479,900 (National Records of Scotland 2022, Mid 2021 Population Estimates Scotland)

4.1.2 SAS doctor workforce

As of May 2022, the total in-post ophthalmic SAS workforce across NHS Scotland Health Boards was 22.7 WTE (26 headcount) across 9 mainland territorial Health Boards.

Age

The majority of the SAS workforce were ≥ 50 years (55.0%).

Unfilled posts

As of May 2022, only 1 Health Board had a SAS vacancy.

4.1.3 Other medical workforce

In addition to the consultants and SAS doctors, nine of the NHS Scotland Health Boards were supported by an additional 22.3 WTE medical workforce. This included Clinical Fellows (7 WTE), in addition to GP trainees, LAS, LATs and Foundation Years (all < 5 WTE).

4.1.4 Potential future consultant workforce: ophthalmology trainees

As of May 2022, the total in-post OST was 70.4 WTE (71 headcount), 25 WTE OST 1-2 and 45.4 WTE OST 3-7. 72% (n=51) of trainees were located in the West and South East regions.

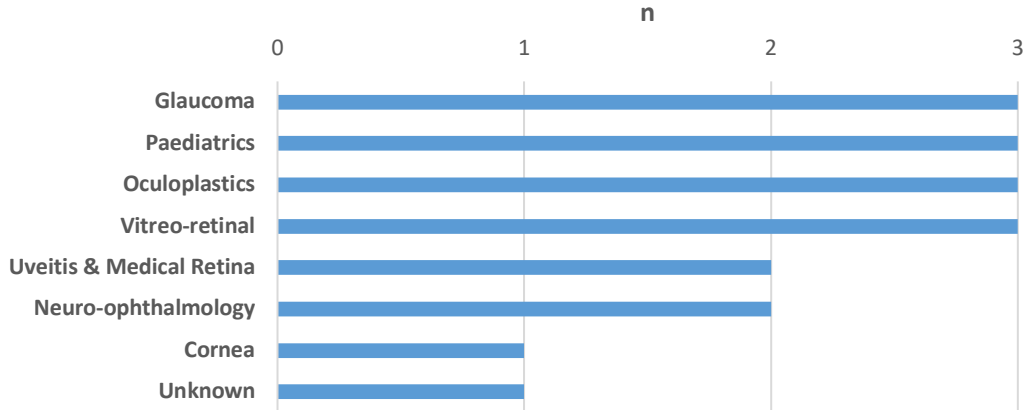
4.1.4.1. 2022 cohort

7 OST1 trainees were recruited to start in August 2022 in Scotland (data courtesy of RCOphth).

4.1.4.2 OST 6&7 sub-specialty interests

As of June 2022 there was an overall total of n=18 ophthalmology trainees in their final two years of Specialty training - OST 6&7 (Data courtesy of NES, Scotland Deanery). Sub-specialty interests are identified below (data collated from TPDs and shared with permission from NES).

Ophthalmology trainees (ST6-ST7) sub-speciality interests



4.2 Non-medical workforce

4.2.1 Nursing workforce

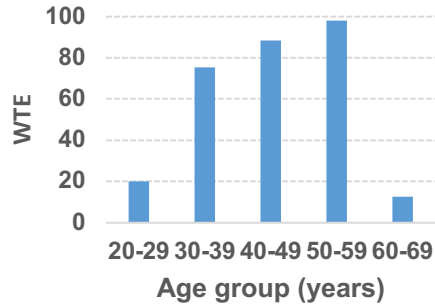
As of May 2022, the total in-post nursing workforce managed by ophthalmology with outpatient roles was 308.3 WTE (371 headcount) working across all Health Boards.

All of these nurses were managed by ophthalmology and had roles in clinics. For clarity, it should be noted that the majority of these nurses were *not* involved with ophthalmic surgery. Aside from two Health Boards, namely NHS Dumfries & Galloway and NHS Golden Jubilee, ophthalmic surgery was mainly undertaken with the assistance of general theatre nurses who work as a separately managed team. Theatre teams may be supporting a range of specialities, aside from ophthalmology. Therefore, to maintain clarity within this dataset, **separately managed theatre teams are not included within the ophthalmic data presented in this report.**

Uniquely, in NHS Dumfries and Galloway and NHS Golden Jubilee ophthalmic nurses rotate into theatre to assist with surgery.

Age

The majority of the nursing workforce were aged between 40-59 years (63.0%) and only 4.3% aged 60 or over.



Agenda for Change (AfC) banding

Approximately two thirds of nurses (63.4%) were AfC Band 5.

Unfilled posts

8 Health Boards had vacancies for registered nurses (31.4 WTE) and 2 Health Boards reported using 5 WTE locums/bank staff.

Retirement

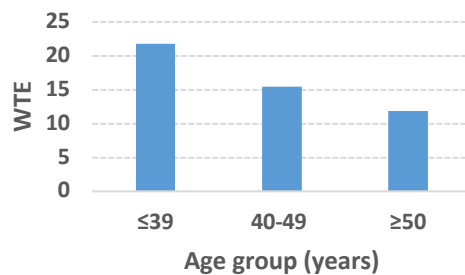
Expected retirement within the next five years is 50.9 WTE (16.5%).

4.2.2 Hospital optometry workforce

As of May 2022, the total in-post registered hospital optometrist workforce was 49.8 WTE (97 headcount). The workforce was located in 10 of 11 mainland territorial Health Boards, in addition to 1 Special Health Board (NHS Golden Jubilee). NHS Orkney, Shetland and Western Isles had no in-post hospital optometrists, rather sessions were provided via service level agreements (SLAs) with mainland Health Boards.

Age

The majority of the hospital optometry workforce were aged between 30-49 years (60.2%).



Agenda for Change (AfC) banding

The majority of hospital optometrists (60.2%) were AfC Band 7 and approximately one quarter AfC Band 8 (23.9%).

Unfilled posts

5 Health Boards had vacancies for optometrists (5.1 WTE) and 4 Health Boards reported using 0.8 WTE locums/bank staff.

Retirement

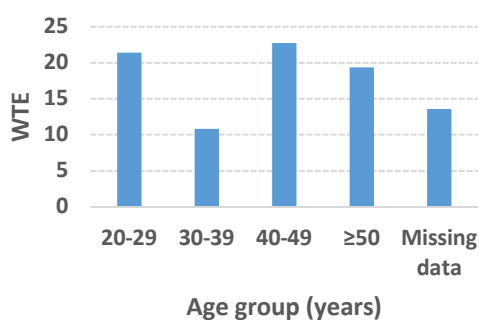
Expected retirement within the next five years is 7 WTE (14.1%).

4.2.3 Orthoptist workforce

As of May 2022, the total in-post registered orthoptist workforce working in ophthalmology departments across all 11 mainland territorial Health Boards was 87.9 WTE (111 headcount). This represents 7.5% of the total UK orthoptist registered workforce (HCPC, 2022). NHS Orkney, Shetland and Western Isles had no in post orthoptists, rather sessions were provided via SLAs with mainland Health Boards.

Age

The majority of the orthoptist workforce were aged between 40-59 years (55.9%) and 25% were in the 20-29 year age group.



Agenda for Change (AfC) banding

Approximately a half of Orthoptists (51.6%) were AfC Band 6 and 40% AfC band 7 or higher.

Unfilled posts

5 Health Boards had vacancies for orthoptists (5.4 WTE) and 3 Health Boards reported using 3.5 WTE locums/bank staff.

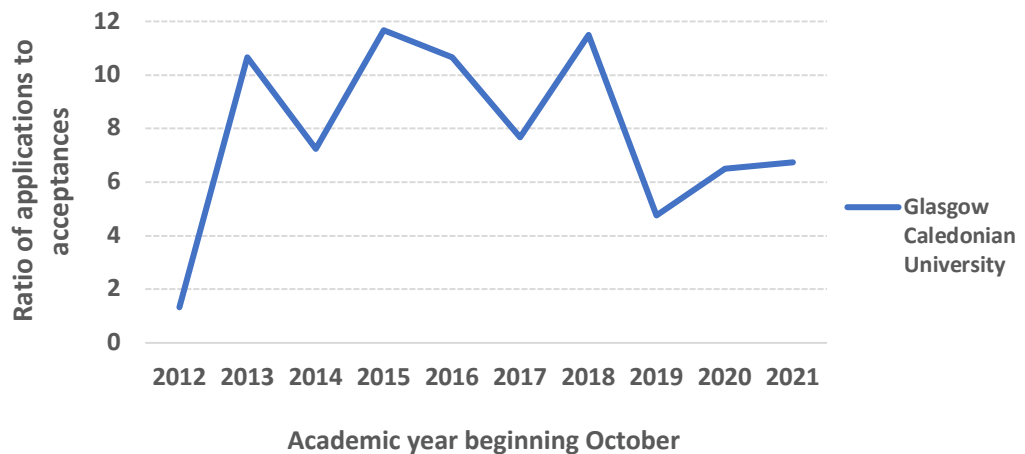
Retirement

Expected retirement within the next five years is 8 WTE (9.1%).

4.2.3.1 Potential future workforce: undergraduate orthoptists

Demand for training

The ratio of applications to accepted places provides an indication of the level of student demand for training. Application and acceptance data is collated by the Universities and Colleges Admissions Service (UCAS). From 2014 UCAS applied rounding methodology to the data (rounding to the nearest 5), marginally reducing data accuracy. The ratio of applications to accepted places at GCU is identified below. The ratio averaged 9.8 between 2013 and 2018. In 2019 it dropped to 4.8, but then steadily increased during 2020 and 2021.



Number of students entering Orthoptics undergraduate degrees in Scotland

The overall number of students entering Orthoptics BSc(Hons) at GCU since 2012 is shown below (note: the data is rounded down to the nearest 5 in line with HESA Services Standard Rounding Methodology).

Intake year	Number of students
2012	15
2013	15
2014	20
2015	15
2016	15
2017	15
2018	10
2019	20
2020	20

Demographic data: students entering Orthoptics undergraduate degree in Scotland

Demographic data for GCU students since 2012 identifies that Scotland was the dominant country of domicile for the majority of students (>90%), the majority of the intake was female (approx. 80%) and less than 20 years old (approx. 70%).

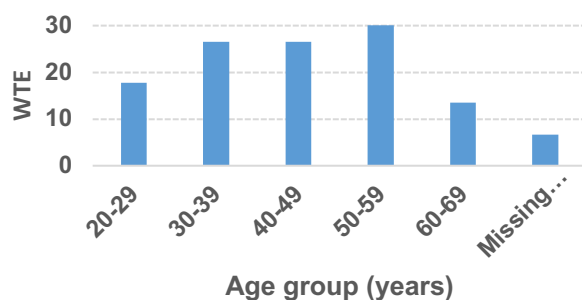
Completion data identifies that around 57% of Orthoptics BSc (Hons) students successfully complete the programme within four years, and this rises to 71% by six years.

4.2.4 Ophthalmic support workforce (AfC band 2-4)

As of May 2022, the total in-post ophthalmic support workforce across NHS Scotland was 129.7 WTE (161 headcount). The majority of this workforce (86.1%) supported nursing, whereas the remainder worked across orthoptics and hospital optometry (83%/17% split).

Age

The majority of the workforce were aged ≤49 years (56.0%) and 10.6% were aged 60 or over.



Agenda for Change (AfC) banding

The majority (90.4% WTE) were AfC banding 2-3, and the remainder were AfC band 4.

Unfilled posts

5 Health Boards had vacancies (16.0 WTE) and 1 Health Board reported using 4.2 WTE locums/bank staff.

4.2.5 Ophthalmic Imaging support workforce

Dedicated ophthalmic imaging workforce support was available in 7 Health Boards; provided by Medical Illustration (5 Health Boards), Ophthalmic Imaging service (1 Health Board) and Ophthalmic & Vision Science (1 Health Board).

The remaining 8 Health Boards (*without* dedicated ophthalmic imaging workforce support) utilised their non-medical workforce to provide imaging.

Of the 7 Health Boards who had dedicated ophthalmic imaging support, the estimated WTE dedicated to ophthalmology totalled 28 WTE, ranging from 0.2 WTE to 10 WTE per Health Board. Apart from one Health Board, namely NHS Lanarkshire, these Health Boards supplemented their ophthalmic imaging support with nursing and ophthalmic support workforce. Uniquely, NHS Lanarkshire routinely delivered the entire ophthalmic imaging service with the Medical Illustration workforce (< 5 WTE).

Age

Of the estimated 28 WTE dedicated ophthalmic imaging support, approximately one third (9.3 WTE) were age ≥ 50 years.

Agenda for Change (AfC) banding

Of the estimated 28 WTE dedicated ophthalmic imaging support approximately 43% were AfC band 4 and 57% were AfC band 5 or higher.

Retirement

Expected retirement within the next five years is 6.1 WTE (21.8%).

Unfilled posts

3 Health Boards with dedicated ophthalmic imaging workforce had vacancies (2.8 WTE), exclusively for AfC band 4 roles. No Health Boards reported using locums/bank staff.

4.2.5.1 Potential future workforce: training and qualification

Reflective of the diversity of workforce providing ophthalmic imaging, there is a variety of training routes. The following describes the training currently identified by the Health Boards:

Medical illustration

- Ophthalmic Technicians (AfC band 4) often have no prior imaging experience, and as such all training is delivered in-house and utilises the capacity of existing staff. In some departments further distance learning was offered, namely the Certificate of Higher Education in Optical Coherence Tomography (OCT) Capture delivered by University of Gloucestershire.
- Fully qualified Clinical Photographers (AfC ≥ 5) will already have undergraduate qualifications. However, feedback from one Health Board highlighted the challenge of recruiting to these roles, and identified that often employees are recruited with an ordinary Photography degree, and then further training is delivered both in-house and also via distance learning (Post Graduate Certificate in Clinical Photography).

Ophthalmic and Vision Healthcare Sciences

- The Level 5 diploma in Ophthalmic and Vision Science (AHPO) provides a pathway for Band 4 Ophthalmic Healthcare Associate to become an Ophthalmic Healthcare Practitioner.

4.2.6 Clinical scientists

The following data is courtesy of Dr Vikki McBain, OV&S representative for cPEB (NHS Grampian)

As of May 2022 there were a total of 11 WTE clinical science staff located in two Health Boards in NHS Scotland (this is *not* inclusive of Maxillofacial Prosthetists).

Age

The majority of the workforce (50%) were less than 40 years old, and 18.8% aged 56 years and older.

Agenda for Change (AfC) banding

The majority of the workforce were AfC band 7 or more (58.2%) and approximately a third AfC band 4 (32.7%).

4.2.7 Additional non-medical ophthalmic workforce

4.2.7.1 Eye clinic liaison officers (ECLOs) and patient support workers

As of March 2022, RNIB and Visibility Scotland were providing this service across Scotland as

	In post (hours)
RNIB ECLO services^{a,b}	336
A&A	
Borders	
Fife	
Forth Valley	
Grampian	
Highland	
Tayside	
Aberdeenshire	
Island Boards	
South Scotland Locum ECLO	
North Scotland Locum ECLO	
Falkirk/Aberdeen: independent providers (RNIB funded)	
Visibility Scotland^c	170
Greater Glasgow & Clyde	
Lanarkshire	
Lothian	
Dumfries and Galloway	

identified below:

^aData courtesy of Rosemary Cameron: ECLO Service Manager, South Scotland, RNIB

^bInclusive of: funded and delivered by RNIB, funded by HSCP and delivered by RNIB or funded by RNIB and delivered by partner organisation

^cData courtesy of Laura Walker: CEO Visibility Scotland

4.2.7.2 Ocular prosthetic workforce

The ocular prosthetic workforce includes both Ocularists and Maxillofacial Prosthetists as detailed below. A total of three Ocularists provide services to all of Scotland, and additionally a national Ocular Oncology service is delivered for the whole of Scotland by two of these individuals.

Overall there were six Maxillofacial prosthetists, however, artificial eyes were just one part their overall prosthetist role. Feedback from this group suggested that this is an aging group, with a number expected to retire within the next 10-15 years.

	Headcount	Regions covered
Ocularists	3	All
Maxillofacial Prosthetists	6	North and West Scotland
Total	9	

4.3 Discussion

Medical workforce discussion

- **Overall increase in the ophthalmic consultant workforce of 17.3 WTE (13.7%)/15 headcount (10.9%) since 2018** (PHS, 2018). Compared to the GMC medical register during a similar time period (2017-2021), this is larger than the overall increase of licenced doctors in Scotland (+9%) and approximately a third higher than the increase of doctors on the ophthalmology specialist register across the UK (+8%) (General Medical Council, 2022).
- **Consultant staffing per 100,000 population (2.8-2.9 WTE/100K) was higher than the UK average (2.0 WTE/100K)** reported in the RCOphth Workforce Census, 2018, and similar to the recommended value of 3-3.5 WTE/100K (RCOphth, 2018).

- **The majority of the consultant workforce were full time.** The WTE was only 6% lower than the total headcount which was similar to 2018 (8% lower) (Public Health Scotland, 2018). Therefore, it appears that there is currently no trend towards an increase in part-time working.
- **Overall (+5%) increase in the age of consultants 50+ years compared to 2018, but a decreasing number in the 60+ years age bracket** (Public Health Scotland, 2018). The low percentage in the 60+ age group could indicate that a number of consultants are choosing early retirement or that they are reducing their hours. However, recent pension reform may encourage consultants to work longer (HM Revenue & Customs, 2023).
- **Over a quarter of vacancies were for paediatric ophthalmologists.** The national shortage of paediatric ophthalmology consultants has been previously identified by the 2018 Royal College of Ophthalmologists Workforce Census (Royal College of Ophthalmologists, 2018). It is of note that three trainees identified paediatrics as their preferred sub-specialty interest. However, there is evidence to suggest that dealing with anxious parents, the need for wide ophthalmic generalist skills and difficulty performing examinations are among the reasons why trainees do not choose to specialise in paediatric ophthalmology (Ting, 2019).
- **Overall decrease (-11.9%) in SAS doctor workforce since 2018** (Public Health Scotland, 2018), which is divergent from the overall 40% increase of registered SAS doctors in the UK between 2017-2021 (General Medical Council, 2022). The overall UK increase reflects the increase in the number of International Medical Graduates (IMG). However, there are proportionally fewer in Scotland compared to the entire UK (new doctors registered in UK in 2022 were 31% IMG and in Scotland 13% IMG) (General Medical Council, 2022). Additionally, there has been a policy to increase consultant posts in all specialities, which may have contributed to this decrease of SAS doctors in ophthalmology.
- **Ophthalmologists in training:** despite the difficulties in recruiting ophthalmologists to certain sub-specialities (e.g. paediatrics), the overall demand for training places across the UK is high. Published data reports that 2022 was the most competitive year on record (Rosen, 2022).

Non-medical workforce discussion

- **A substantial proportion of the nursing and orthoptic workforce worked in a full-time capacity, whereas hospital optometrists were predominantly part-time.** The WTE was approximately a fifth lower than the headcount for nurses and orthoptists, suggesting the majority work in a full-time (or close to full-time) capacity, whereas the WTE was approximately half the headcount for optometrists. A tendency for part-time working amongst optometrists may be due to other commitments within community optometry practice, which was supported by the qualitative feedback data within this data set.
- **The nursing workforce was proportionally older than the orthoptic and hospital optometry workforce.** This difference between groups may be due to the differing specialisms upon registration. Whereas orthoptists and optometrists are healthcare professionals trained for the ophthalmic workforce, nurses receive more generic training and have the opportunity to work in a range of specialities prior to determining a chosen career path in ophthalmology. What is notable amongst nurses was the substantial drop-off after 60 years of age, combined with the number of nurses expected to retire within the next 5 years (16.5%). This could reflect the wider trend amongst healthcare workers for early retirement following the COVID-19 pandemic (BMJ, 2022).
- **130 WTE ophthalmic support workforce (AfC band 2-4) supported nursing, orthoptics and optometry within ophthalmology outpatients.** Overall, the age distribution tended towards younger age groups, differing from registered nurses.
- **The orthoptics workforce was substantially under-represented in the 30-39 age group.** Notably the Orthoptics BSc (Hons) course did not run at GCU between 2000-2011, creating a 16-year gap in orthoptists graduating in Scotland. On average, these 'missing' graduates would now mostly be in the under-represented age group.
- **An overall reduction in training demand for orthoptics over the last five years in Scotland.** However, the ratio of applications to acceptances at GCU appears to have steadily increased again during 2020 and 2021. Despite this variability in demand, the yearly intake appears relatively consistent at around 10-20 students per year. The exemption from tuition fees for students living in Scotland may help support ongoing intakes. It is notable that since 2012, Scotland has been the country of domicile for the overwhelming majority of students.

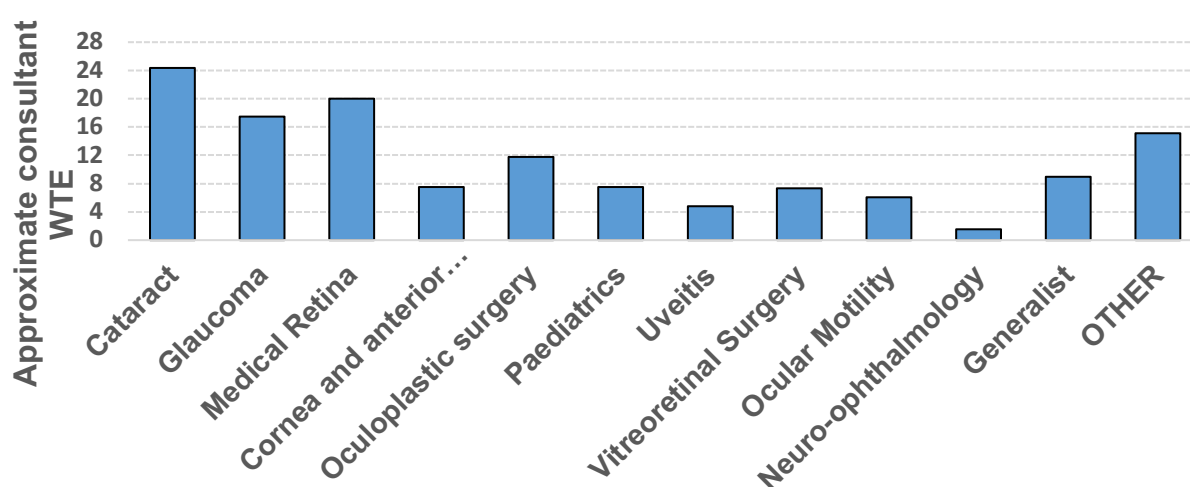
- **There is inconsistency between the Health Boards in the workforce delivering ophthalmic imaging.** Approximately half receive ophthalmic imaging support, however the WTE support varies considerably between Health Boards. Only one Health Board (NHS Lanarkshire) routinely delivers all ophthalmic imaging via Medical Illustration without utilisation of non-medical workforce colleagues.
- **There was ophthalmology patient liaison workforce representation across all Health Board areas (i.e. ECLOs and patient support workers).** Whereas, data from the Rehabilitation Habilitation Workforce Survey (McFarlane, 2021) identified challenges in recruiting rehabilitation/Habilitation workers in some areas.
- **The ocular prosthetics workforce is very small and highly specialised, making the service vulnerable if there is workforce illness/retirement.** Notably the service in the East of Scotland is delivered by one person.

5.0 Workforce roles: Secondary care ophthalmic workforce

5.1 Roles: by individual workforce group

5.1.1 Consultant workforce: sub-specialty roles

The approximate overall consultant WTE dedicated to ophthalmology sub-specialties across NHS Scotland is identified below. Cataract, glaucoma and medical retina accounted for the majority of reported consultant time (approx. 50%⁸).



5.1.2 SAS doctors: sub-specialty roles

The sub-specialty areas which SAS doctors were working in across Health Boards is identified below. Medical retina was the most prevalent area:

Sub-specialty	Number of HEALTH BOARDS
Cataract	4
Glaucoma	3
Medical Retina	9
Cornea and anterior segment	3

⁸ This figure should be treated as a lower end estimation because 1) some Health Boards do not have sub-specialty clinics, and therefore WTE capacity was included within the 'generalist' category and 2) some Health Boards reported surgical activity separately in the 'other' category

Oculoplastic surgery	0
Paediatrics	2
Uveitis	0
Vitreoretinal Surgery	0
Ocular Motility	0
Neuro-ophthalmology	0
Generalist	3
Other (includes: Diabetic clinic, ARC, virtual clinics, electro diagnostics, macula, lacrimal)	2

5.1.3 Hospital Optometrists: core roles

As identified below, refraction and paediatric refraction were the most prevalent core roles undertaken by the optometrist workforce (29% and 37% respectively). All of the core roles, apart from biometry and prosthetics, were undertaken by optometrists of all bandings (AfC bands 6-8).

Core roles	Number of HBs	% of workforce (HC)
Refraction	6	29%
Paediatric refraction	10	37%
Adult contact lenses	4	22%
Paediatric contact lenses	5	14%
Adult low vision assessment	7	24%
Child low vision assessment	7	14%
Ultrasonography	0	0%
biometry	1	<5%
Prosthetics	1	<5%
Electro-diagnostics	0	0%

5.1.4 Orthoptists: core roles

The majority of the orthoptic workforce were engaged in providing core orthoptist roles, as identified below. All of these roles were undertaken by orthoptists of all bandings (AfC bands 5-8). Almost 100% of the workforce had roles within paediatric Orthoptic clinics, and 87% were providing pre-school Orthoptic screening. The 'other' category included: training other professionals, CDC visual assessment clinics, adult orthoptic clinics, joint orthoptic/optometry clinics, triage and pre-operative squint surgery assessment.

Core roles	Number of HBs	% of workforce (HC)
Paediatric orthoptic clinics	11	97%
Pre-school Orthoptic Vision Screening	11	87%
Community orthoptic clinics	11	51%
Specialise visual aspects of managing children with special educational needs	11	46%
Other	5	35%

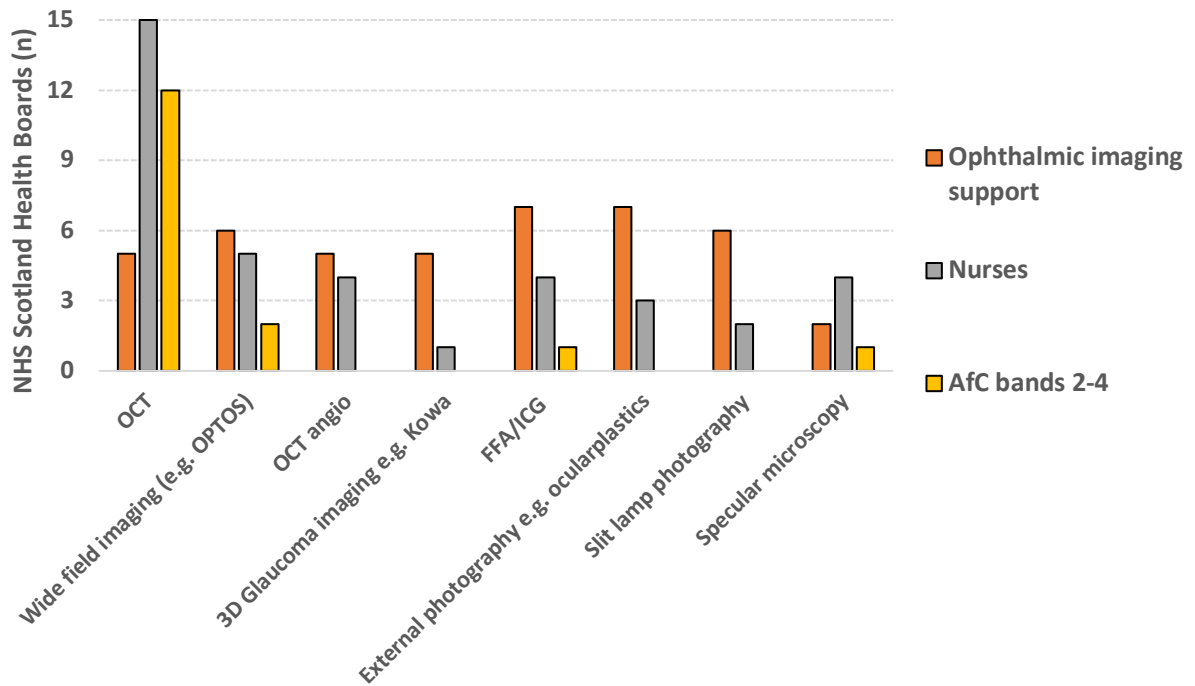
5.1.5 Ophthalmic support workforce (AfC band 2-4): roles

Roles and procedures being *routinely* performed by ophthalmic support workforce, inclusive of minimal banding, are identified below:

Role/procedure		Minimum AfC banding
Admin		2
Blood pressure/pulse		2
Visual acuities	adults	2
	paediatrics	3
Tonometry	Without anaesthesia (e.g. non-contact)	2
	With anaesthesia (e.g. Goldman)	4
Dilation		2
Phlebotomy		2
Biometry		2
Pachymetry		3
Eye movement recording	Hess and Fields of BSV	3
Imaging	OCT	2
	Fundus photography	2
	Visual fields	2
	Fundal fluorescein angiography (FFA)	3
	corneal photography	3
	specular microscopy	3
	Topography	3
	ECG	3
Assisting roles	virtual clinics	3
	corneal cross linking	3
	IVT injections	3
	orthoptic clinics/pre-school screening	3

5.1.6 Ophthalmic imaging: roles

The workforce undertaking ophthalmic imaging roles across the Health Boards is identified below. OCT imaging is the only technique which was undertaken by the registered nursing workforce across *all* the Health Boards, supported by non-registered staff in 12 Health Boards.



5.2 Roles: by sub-specialty area

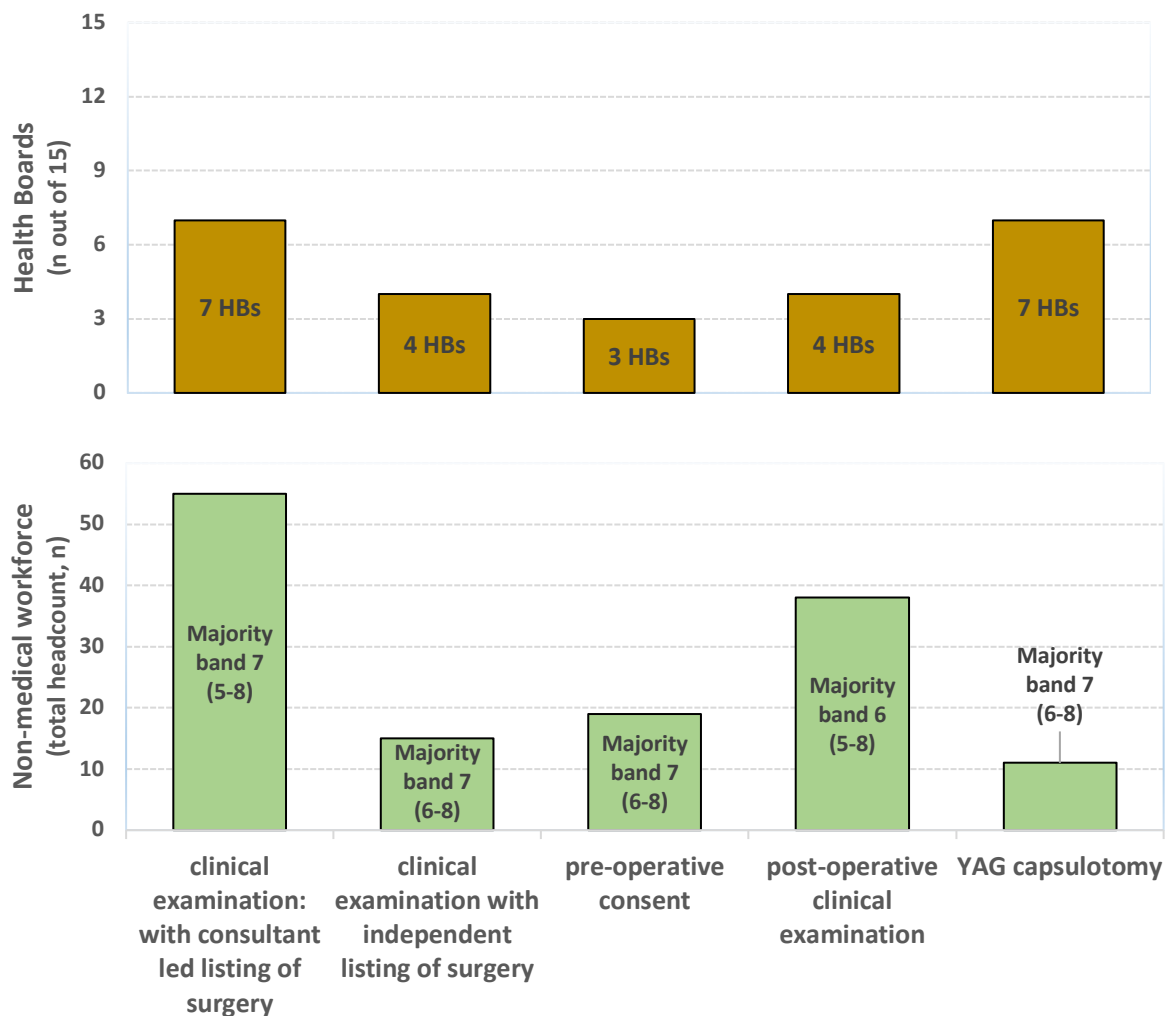
The following sections identify the deployment of the *non-medical workforce* across the Health Boards to support ophthalmology sub-specialties. **The majority of the roles identified below have traditionally *only* been performed by medical workforce.**

For nurses, all the roles described below are beyond core competencies, and as such would fall within extended/advanced roles. For optometrists and orthoptists, some aspects of these roles will be within their core competencies. However, management of more complex patients and laser/IVT roles would fall within the extended/advanced role category.

For clarity, AfC banding is not predicated only upon roles/procedures undertaken, rather it includes evaluation of multiple factors pertinent to the job including overall responsibility, knowledge, training, experience and communication skills.

5.2.1 Cataract

The number of non-medical workforce working in cataract clinical roles across Health Boards, including AfC banding (average and range) is identified below.

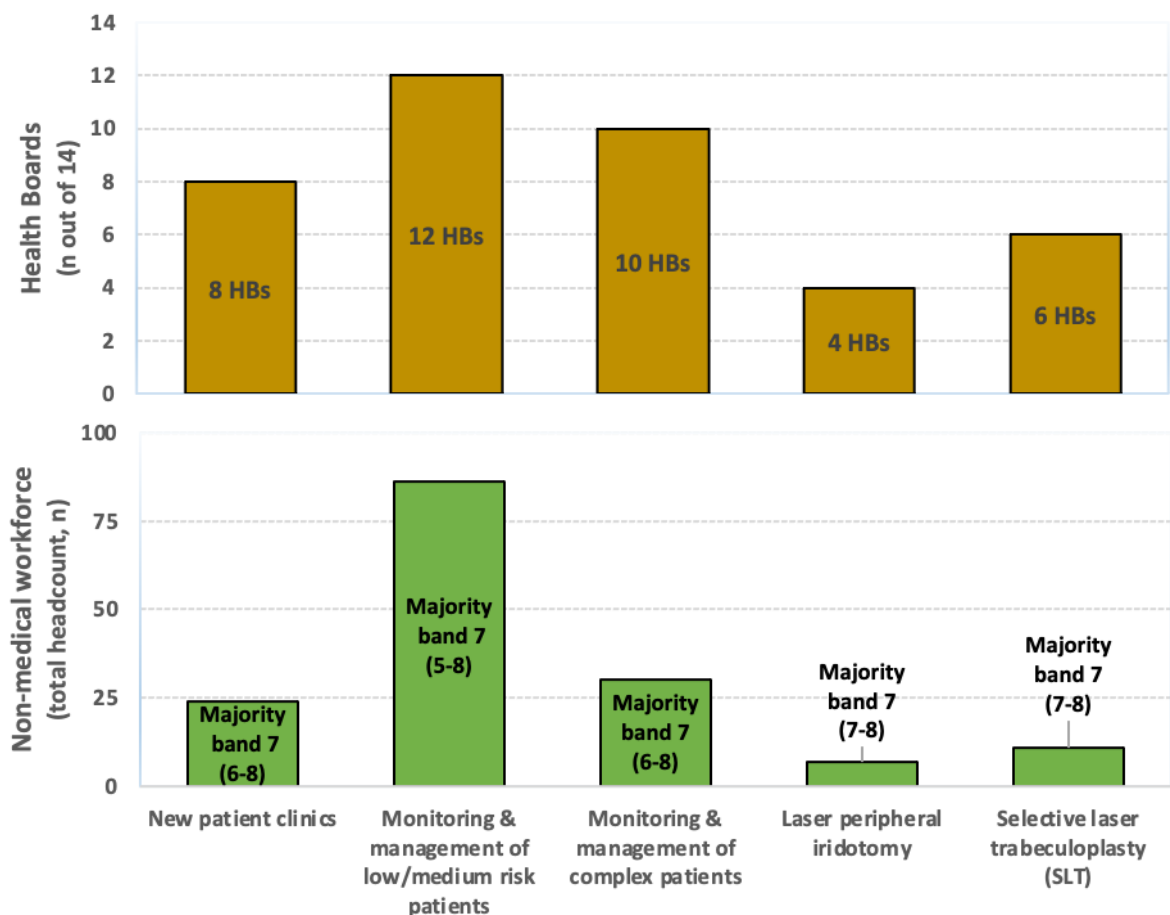


5.2.1.1 Non-medical workforce groups

Across the Health Boards nurses and hospital optometrists undertook these roles. However, clinical examination with *independent* listing for surgery and YAG capsulotomy were more commonly undertaken by optometrists.

5.2.2 Glaucoma

The number of non-medical workforce working in glaucoma clinical roles across Health Boards, including AfC banding (average and range) is identified below.

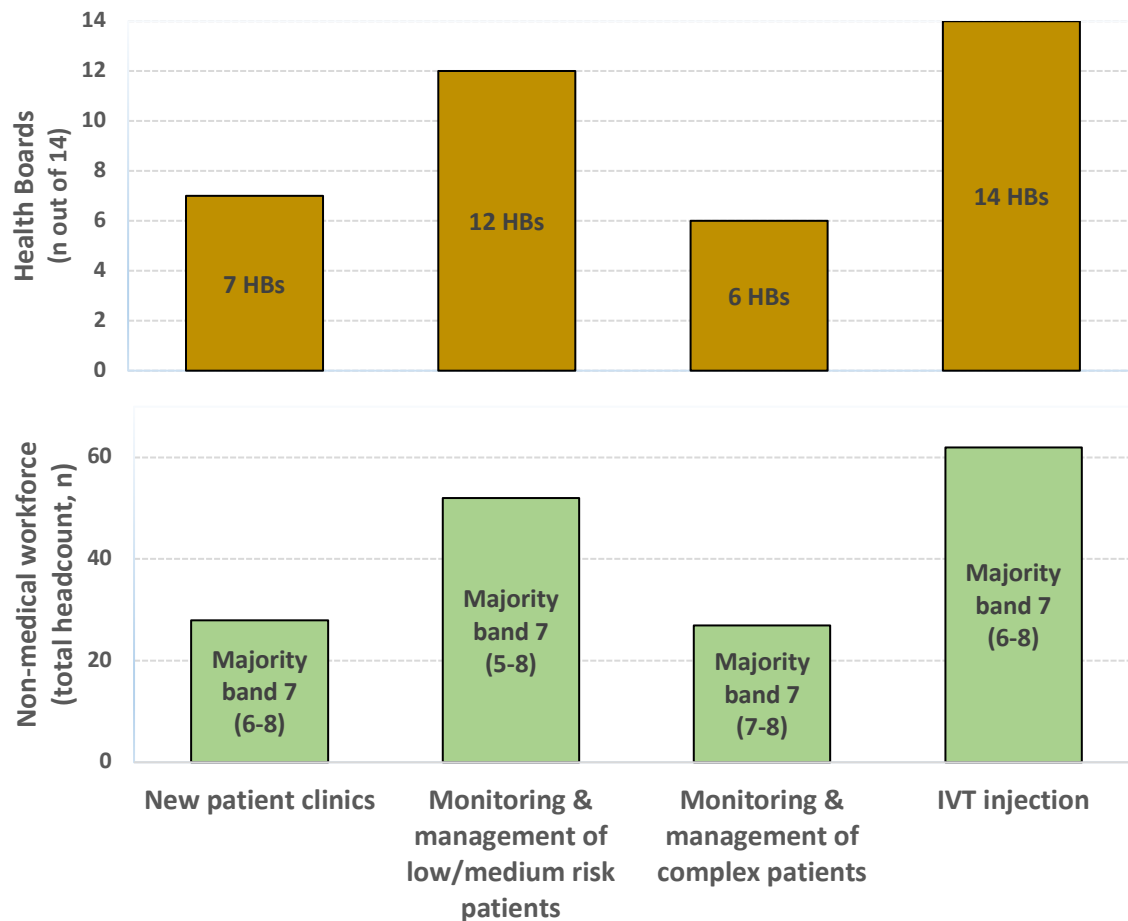


5.2.2.1 Non-medical workforce groups

Across the Health Boards nurses, hospital optometrists, orthoptists and clinical scientists undertook one or more of these roles, however, nurses and optometrists were deployed most frequently. All groups had roles monitoring and managing low/medium risk patients, whereas management of complex patients was most commonly undertaken by optometrists. Both nurses and optometrists were performing laser procedures, however, these were most commonly optometrist roles.

5.2.3 Medical Retina

The number of non-medical workforce working in medical retina clinical roles across Health Boards, including AfC banding (average and range) is identified below.

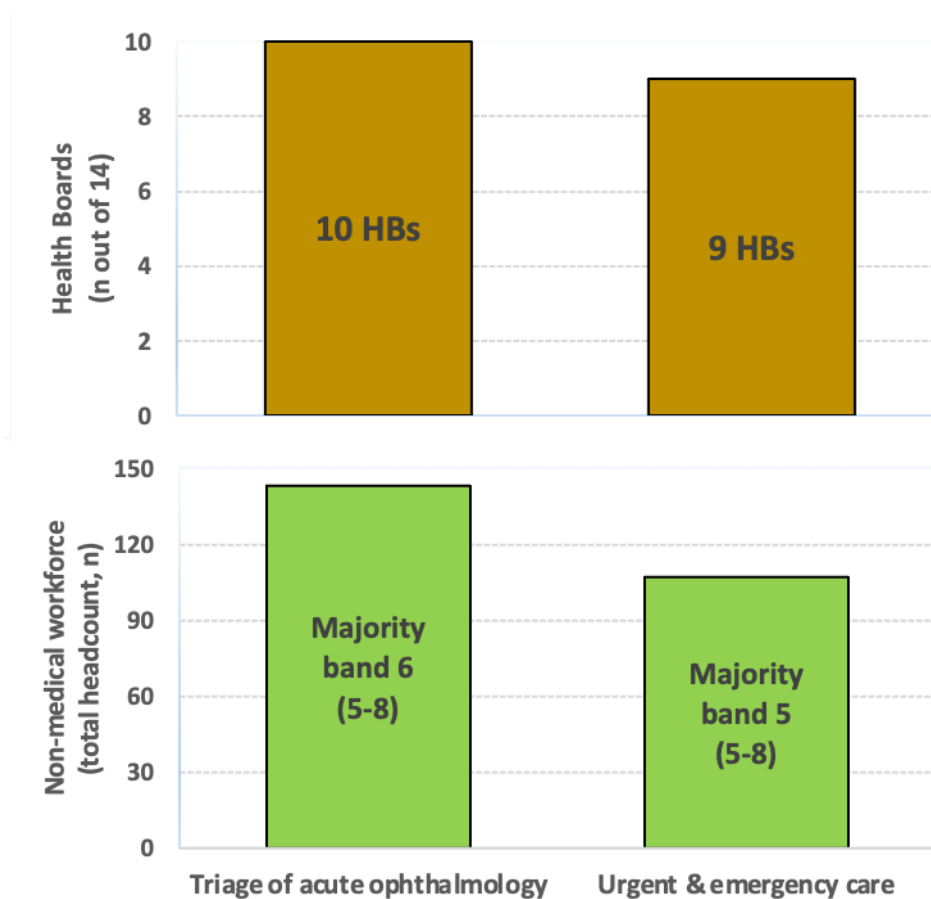


5.2.3.1 Non-medical workforce groups

Across the Health Boards nurses, hospital optometrists and orthoptists undertook one or more of these roles, however, nurses and optometrists were deployed most frequently. All groups had roles monitoring and managing low/medium risk patients, whereas management of complex patients was most commonly undertaken by optometrists. All groups were delivering IVT injections, but the majority of these were nurses.

5.2.4 Emergency care

The number of non-medical workforce working in emergency care clinical roles across Health Boards, including AfC banding (average and range) is identified below:

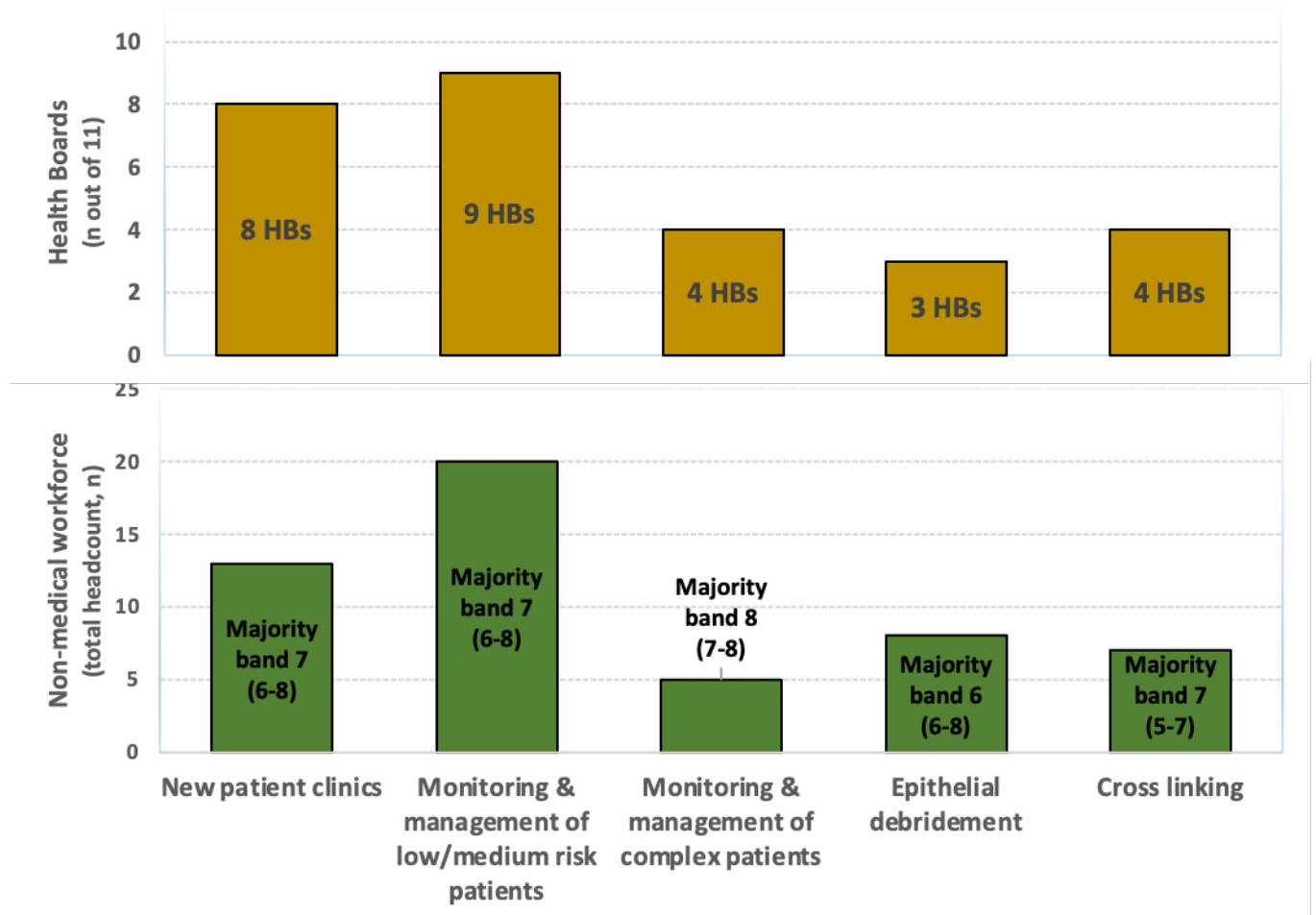


5.2.4.1 Non-medical workforce groups

Across the Health Boards nurses, hospital optometrists and orthoptists undertook both these roles.

5.2.5 Cornea

The number of non-medical workforce working in corneal clinical roles across NHS Scotland Health Boards, including AfC banding average and range:



5.2.5.1 Non-medical workforce groups

Across the Health Boards nurses and hospital optometrists undertook one or more of these roles. Monitoring and management of *complex* patients was most commonly an optometrist role, whereas cross-linking was most frequently undertaken by nurses. Feedback from two Health Boards identified the development of nurse-led cross-linking clinics.

5.2.6 Paediatrics and neuro-ophthalmology

Overall, Health Boards reported that orthoptists were predominately working within paediatrics and neuro-ophthalmology/strabismus sub-specialties, as would be expected.

5.2.6.1 Orthoptists

The number of orthoptists working in clinical roles supporting paediatrics and neuro-ophthalmology/strabismus sub-specialties, including AfC banding (average and range) is identified below.

Overall, approximately two thirds of the workforce (headcount) had roles within paediatric ophthalmology specialist clinics across 8 NHS Health Boards and almost one tenth were involved with Juvenile Idiopathic Arthritis screening (JIA). Within neurology more generally, 16% of the workforce (across 6 Health Boards) were working within orthoptic led stroke services.

	Orthoptist roles*	Number of HBs	% of workforce (HC)	Majority AfC banding (range)
Paediatrics	Paediatric ophthalmology specialist clinics	8	68%	7 (5-8)
	Specific literacy difficulty/visual stress assessment and visual management	9	30%	6 (6-8)
	Juvenile idiopathic arthritis (JIA) screening	5	9%	6 (6-7)
	Child low vision assessment	5	14%	7 (7-8)
	Multi-disciplinary functional low vision clinics	6	11%	6 (6-8)
Neuro-ophthalmology & strabismus	Neuro-ophthalmology monitoring: low/medium risk patient**	7	36%	5 (5-8)
	Neuro-ophthalmology monitoring: high risk patient**	5	27%	5 (5-8)
	Management in neuro-ophthalmology clinics	7	32%	5 (5-8)
	Prep and consent for Botulinum Toxin clinics	3	22%	6 (6-8)
	Idiopathic intracranial hypertension (IIH) clinics	2	<5%	-
	1st assistant in theatre	2	<5%	-

* For clarity, some aspects of these roles are within orthoptist core competencies, and as such this **should not** be interpreted as a list of exclusively extended/advanced clinical roles

** includes: Compressive lesion, Ocular Myasthenia and pituitary tumours monitoring

5.2.6.2 Nurses

Strabismus: 7 out of 15 Health Boards deployed nurses (<5%) within Botulinum Toxin clinics, specifically for patient preparation and consent.

5.2.6.3 Optometrists

Neuro-ophthalmology: One Health Board reported that hospital optometrists were monitoring and managing patients within neuro-ophthalmology clinics (including complex patients).

5.2.6.4 Multi-disciplinary working

Paediatrics: Across the Health Boards orthoptists and optometrists reported specific areas of multi-disciplinary working improvements. These included:

- Development of functional visual assessment VINCYP pathway
- joint orthoptic/optometry clinics
- Optometry /Rheumatology clinics for uveitis paediatric patients

5.3 Discussion

- **Cataract, medical retina and glaucoma represented the sub-specialty areas utilising the highest amount of consultant capacity**, reflective of patient demand across the UK. For example, cataract surgery is the most frequently performed surgical procedure in the UK, and accounts for 80% of surgical activity in Hospital Eye departments in Scotland (Public Health Scotland, 2022).
- **Non-medical staff were delivering clinical roles traditionally done by ophthalmologists across a range of sub-specialties, however there was variability between Health Boards.** Overall the majority of non-medical workforce delivering these roles were AfC banding 7. Where Health Boards are not deploying their staff in these roles, there is potential to increase overall capacity by making better use of available staff. The reason for this variability is unclear, however, survey feedback identified that barriers to developing extended/advanced roles included accessibility to training, post-COVID pre-school orthoptic vision screening (POVS) backlog and time commitment.

- **Hospital Optometrists are almost all undertaking enhanced/advanced roles with more traditional core competency roles being less frequently delivered.** The disparity in core role delivery may reflect the utilisation of optometrists to deliver these services in the community, either under or in combination with GOS (Scottish Government, 2017). Many ‘enhanced’ community services have been developed and funded by individual Health Boards over a number of years, including Low Vision Services and clinically required contact lenses. This approach has released capacity within the hospital to provide care to other patients.
- **The pre-school Orthoptic Vision Screening (POVS) programme utilised a substantial orthoptist workforce headcount inclusive of all bandings (87%).** The POVS is a national level screening programme which is offered to all pre-school children registered with a GP in NHS Scotland, equating to approximately 60,000 appointments per year (NHS Inform, 2022). This requires significant workforce resource. The majority of Health Boards reported only orthoptists delivered screening (undertaken by all AfC bandings). However, one Health Board (NHS Lothian) incorporated support workers (AfC band ≤ 4) into the screening delivery as per POVS Scottish National Guidelines (ISD Scotland, 2021). The Service Lead identified that this approach approximately doubled the number of children who could be screened during nursery visits and released orthoptist capacity for the delivery of other (extended/advanced) roles within the hospital.
- **All Health Boards were using non-medical workforce to monitor and manage low/medium risk glaucoma, which also included complex cases in the majority (n=10) of Boards.** Management of complex cases was almost exclusively undertaken by hospital optometrists. Qualitative feedback suggested that within these clinics optometrists worked with a substantial degree of autonomy. These roles were undertaken by optometrists of all bandings (AfC bands 6-8), however, predominantly by AfC bands ≥ 7 . This finding is consistent with both the findings from the UK scope of practice of optometrists survey (Gunn, 2022) and the non-medical workforce survey (Greenwood, 2021), which identified glaucoma as the most prevalent area for hospital optometrist activity and an overall weighting of AfC banding >6 .
- **Non-medical workforce was independently listing and consenting for cataract surgery in a small number of Health Boards.** This approach aligns with the Royal College of Ophthalmologists’ guidance for High Flow cataract surgery (RCOphth, 2022). To provide increased service capacity, by freeing up ophthalmologists’ time to undertake tasks only they can do and support sustainability of the service, the guidance promotes a multi-disciplinary approach to cataract surgery. The guidance suggests that lower risk patients may be assessed, consented and listed in non-medically led clinics.

- **Approximately half of Health Boards were using non-medical staff to undertake YAG capsulotomy, mainly AfC band 7.** Other laser procedures undertaken by non-medical workforce included laser PI (4 Health Boards) and SLT (6 Health Boards).
- **All Health Boards were using non-medical workforce to deliver IVT injections, inclusive of nurses, orthoptists and optometrists.** This aligns with recommendations in the Ophthalmology GIRFT Programme National Specialty Report (GIRFT, 2019) which identified training the non-medical team to carry out injections to help increase capacity and productivity of wet AMD pathways.
- **The majority of Health Boards were utilising non-medical workforce to monitor and manage low/medium risk medical retina patients,** which also included complex cases in 50% of those Boards (n=6). This included both hospital optometrists and nurses.
- **Approximately two thirds of Health Boards were using non-medical workforce to monitor and manage low/medium risk corneal patients,** which also included complex cases in 4 Health Boards. Survey feedback identified that there are examples of both nurse-led and optometrist-led corneal clinics across the Boards, with two Health Boards reporting that clinics were developed in response to the departure of a consultant corneal specialist.
- **Health Boards were using orthoptists predominantly within paediatric and neuro-ophthalmology sub-specialties, however variability existed across Boards.**
This is perhaps unsurprising since these sub-specialties utilised a small proportion of consultant WTE (approx. 6% combined) and had vacancies. One Health Board reported that development of extended/advanced paediatric roles was in direct response to paediatric ophthalmologist recruitment difficulties.
- **Nurses and non-medical support workforce were providing a range of ophthalmic imaging techniques/procedures which varied across the Health Boards.** This potentially reflects the absence of ophthalmic imaging support in some Health Boards, in addition to the growing demand for imaging across hospital eye services. The variability in approach to workforce utilisation across the Health Boards gives opportunity to consider if there could, or should, be a national approach to the imaging service, in terms of a workforce model.
- **The ophthalmic support workforce (AfC band 2-4) were routinely providing a wide range of clinical roles.** This range reflects the flexibility of this workforce and the potential opportunities for these staff to support service delivery. The majority of this workforce support nursing. Consideration should be given to how these roles could further support orthoptics and hospital optometry, thus increasing overall capacity of the registered workforce to undertake other roles.

6.0 Workforce data: Primary care ophthalmic workforce

Community optometrist workforce

6.1 Community optometrist active workforce: 3-month activity data.

Characteristics of workforce who were active during a 3-month period in 2021 (30/08/21 – 05/12/21) are identified below. This includes a comparison to the equivalent 3-month period during 2019.

		2021	2019
		(30th Aug – 5th Dec)	(26th Aug -1st Dec)
Headcount		1403*	1425
Gender	Male	496 (35%)	521 (36.5%)
	Female	907 (65%)	904 (63.5%)
Age (years)	20-29	304* (21.7%)	347 (24.3%)
	30-39	487 (34.7%)	477 (33.4%)
	40-49	294 (21.0%)	271 (19.0%)
	50-59	188 (13.4%)	276 (19.3%)
	60+	130 (9.3%)	54 (3.8%)

* the 2021 headcount has been temporally negatively impacted by delays in registration for newly qualified optometrists (caused by trainee backlogs due to the COVID-19 pandemic), see section 6.9.

6.1.1 Headcount

A total of 1403 community optometrists were active during 2021 (30/08/21 – 05/12/21), which was 22 less than the equivalent 3-month period during 2019 (pre-COVID-19 pandemic). The delays in registration for newly qualified optometrists during this time period (caused by trainee backlogs due to the COVID-19 pandemic) may account for this reduction.

6.1.2 Gender

Approximately two thirds of the active community optometry workforce were female in 2021, which was consistent with 2019.

6.1.3 Age

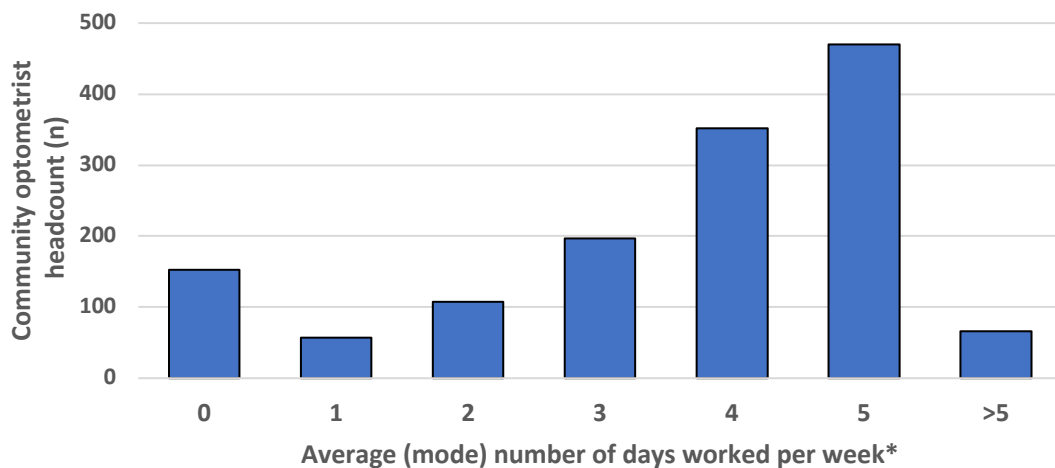
Overall, in 2021, the active workforce was weighted towards the younger age groups (56.4% in age group 20-39). However, there was both a reduction in the 20-29 years age group (-2.6%) and an increase in the 60+ age group (+5.5%) compared to 2019. Furthermore, there was a substantial headcount reduction in the 50-59 age group (n=88).

6.1.4 Independent prescribing (IP) optometrists

295 independent prescribers (21%) issued prescriptions that were dispensed during this time period, across all mainland Health Boards. Apart from one individual, all optometrists only prescribed in one Health Board, suggesting that the IP workforce was not often mobile between geographic locations.

6.1.5 Community optometrist working days

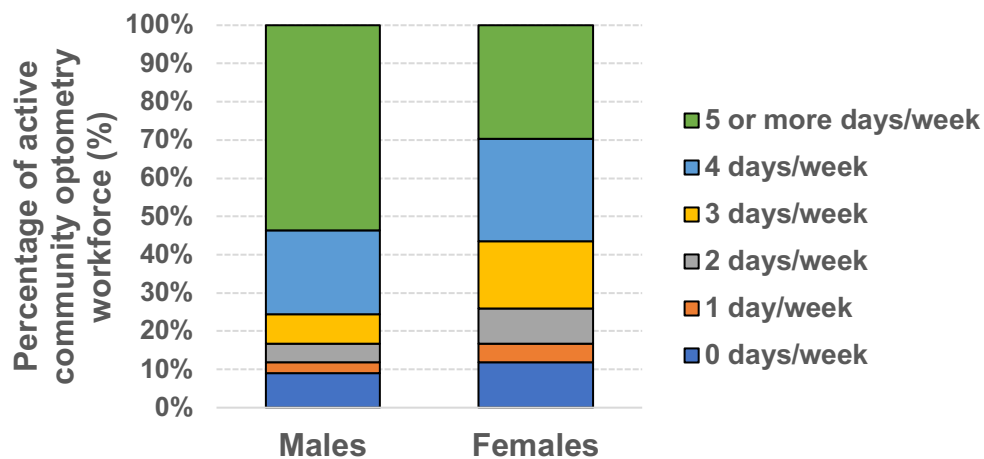
The most frequent number of days per week worked by community optometrists (modal average) is identified below. During 30/08/21 – 05/12/21, 38% of the workforce worked an average of 5 or more days per week, and 63% worked an average of 4 or more days per week. This is very similar to 26/08/19 -01/12/19, during which 43% worked an average of 5 or more days per week and 65% worked an average of 4 or more days per week.



*Note, an average of 0 days/week does not indicate that an individual optometrist did not work during the 3-month period, rather that the majority of weeks they did not work.

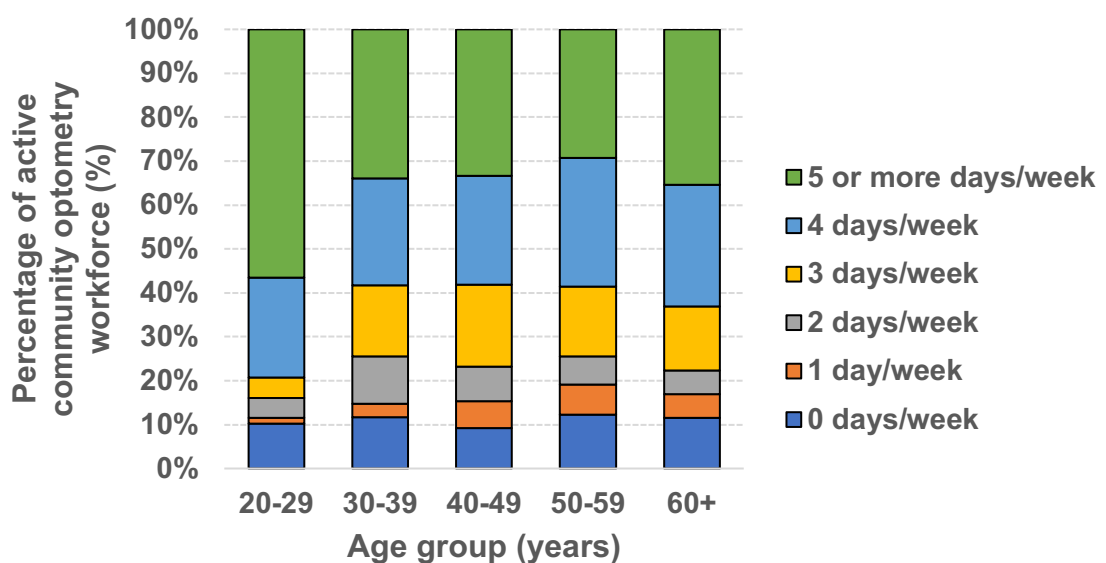
6.1.6 Community optometrist working days: comparison between male and female

A comparison between male and female of the most frequent number of days worked per week (modal average) is identified below. Overall, a larger proportion of the male workforce most frequently worked 5 or more days per week (54%), compared to the female workforce (30%).



6.1.7 Community optometrist working days: comparison between age groups:

A comparison between age groups of the most frequent number of days worked per week (modal average) is identified below. Overall, a larger proportion of the 20-29 age group most frequently worked 5 or more days per week (57%), compared to all other age groups. This was consistent with pre-pandemic data (26/08/19 -01/12/19), during which 59% of the 20-29 age group most frequently worked 5 or more days per week.



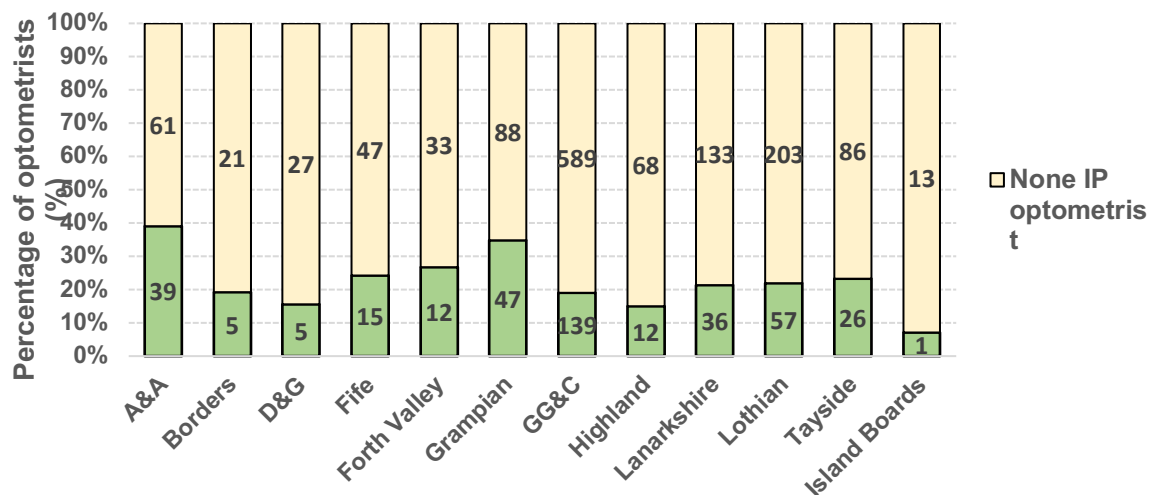
6.2 Community optometrist workforce partaking in COVID-19 vaccination programme: 3-month activity data

A total of 200 community optometrists took part in the vaccination programme during the 2021 3-month period (30/08/21 – 05/12/21). On any given week, this ranged from 54 - 128 optometrists.

6.3 Community optometrist potential workforce: number of optometrists listed with a NHSScotland Health Board as of December 2021

The overall headcount of optometrists listed with a NHSScotland Health Board represents the total number of community optometrists who can provide GOS services, hence the *potential* community optometry workforce.

As of December 2021, there were 1,763 optometrists, inclusive of 394 IP optometrists as identified below. The highest proportion of IP community optometrists were located in NHS Ayrshire and Arran and NHS Grampian, 39% and 35% respectively.



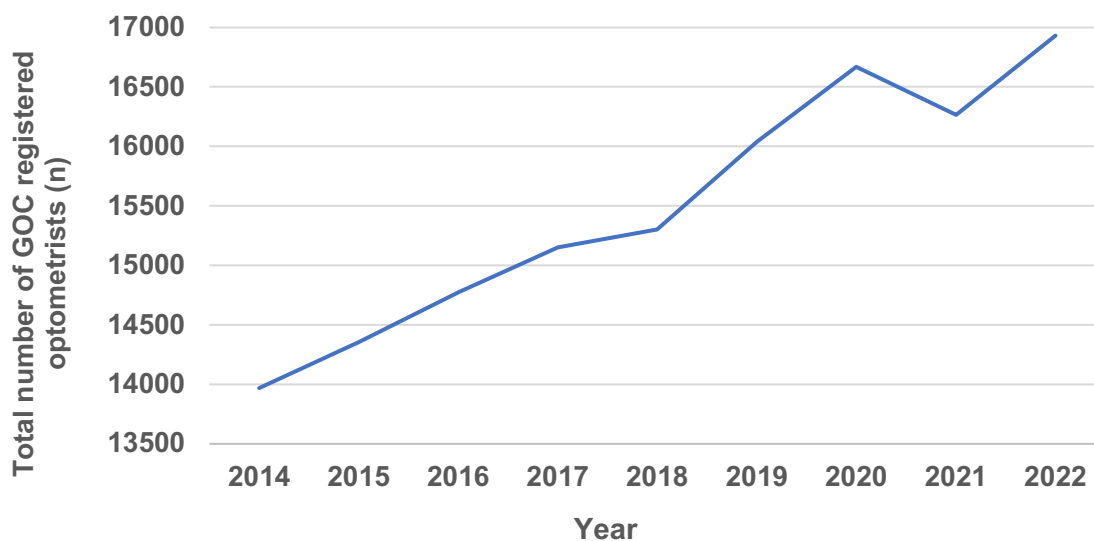
6.3.1 Ratio of optometrists per 10,000 population

Based upon the population of each Health Board in 2021 (National Records for Scotland, 2022), the ratio of listed optometrists per 10,000 population is identified below. The majority of Health Boards have a ratio close to 2, ranging from 1.5 to 2.8. However, Greater Glasgow and Clyde has a noticeably larger ratio of 6.1.

Health Board	Ratio of optometrists per 10K population
Ayrshire and Arran	2.7
Borders	2.2
Dumfries and Galloway	2.2
Fife	1.7
Forth Valley	1.5
Grampian	2.3
Greater Glasgow and Clyde	6.1
Highland	2.5
Lanarkshire	2.5
Lothian	2.8
Tayside	2.7
Island Boards	1.9

6.4 GOC registered optometrists (UK total)

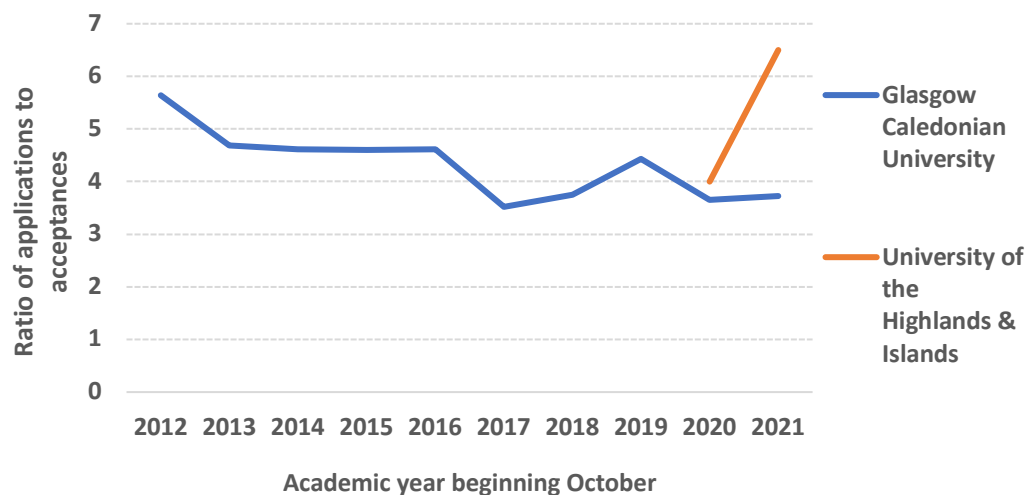
The total number of UK registered optometrists is identified below (GOC, 2016–2022). On average there has been a 2.5% per year increase since 2014. The decrease in 2021 is most likely due to the trainee backlog in registration due to the COVID-19 pandemic.



6.5 Potential future workforce: undergraduate optometrists

6.5.1 Demand for training

The ratio of applications to accepted places provides an indication of the level of student demand for training. Application and acceptance data is collated by the Universities and Colleges Admissions Service (UCAS). From 2014 UCAS applied rounding methodology to the data (rounding to the nearest 5), marginally reducing data accuracy. The ratio of applications to accepted places for GCU and UHI is identified below.



6.5.2 Number of students entering Optometry undergraduate degrees in Scotland

The overall number of students entering Optometry BSc(Hons) at GCU and UHI since 2012 is shown below (note: the data is rounded down to the nearest 5 in line with HESA Services Standard Rounding Methodology). For clarity, these numbers reflect students who were seen in the first year of the programme i.e. do not include students repeating the year.

Intake year	Number of students	
	GCU	UHI
2012	55	-
2013	65	-
2014	60	-
2015	70	-
2016	60	-
2017	65	-
2018	70	-
2019	65	-
2020	80	10

Data source: Higher Education Statistics Agency (HESA)

6.5.2.1 Demographic data: students entering Optometry undergraduate degrees in Scotland

Demographic data for GCU students since 2012 identifies that Scotland was the dominant country of domicile for the majority of students (>90%), the majority of the intake was female (approx. 75%) and less than 20 years old (approx. 80%). The demographic data for UHI is not disclosed due to the small numbers of students.

Completion data identifies that on average, 86% of students complete the programme within four years, and this rises to 93% by six years.

Dispensing optician workforce

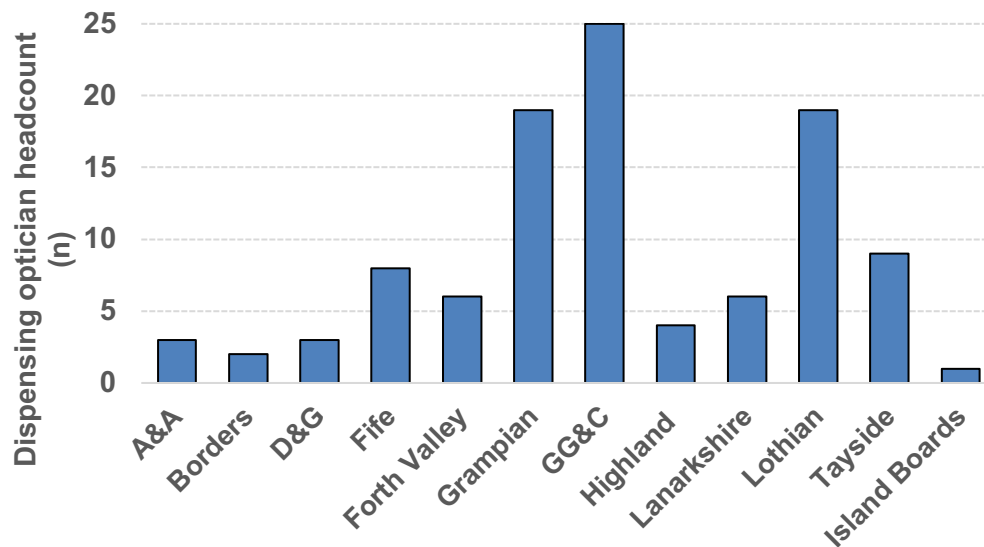
6.6 Dispensing optician workforce: survey of ABDO members in Scotland

Response rate to the survey was 25% (n=107), representing a quarter of the total ABDO membership of registered dispensing opticians in Scotland.

This included: dispensing opticians (84%), dispensing optician with contact lens specialty (14%) and dispensing optician and pre-reg optometrists (2%). Approximately half the respondents (53%) were 49 years old or younger.

6.6.1 Dispensing optician main working location

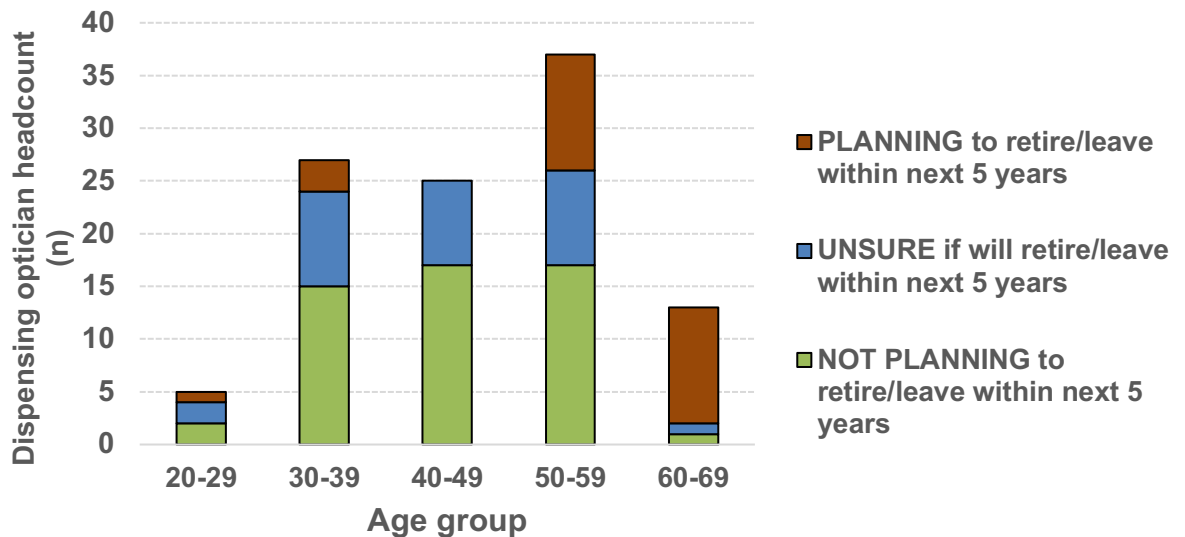
59% of respondents mainly worked in NHS Greater Glasgow & Clyde, NHS Lothian and NHS Grampian, which are amongst the largest Health Boards in terms of population. The main working location of respondents is identified below.



6.6.2 Retirement and leaving profession

20% (n=21) of respondents identified that they planned to retire within the next five years, and a further 9% (n=10) were unsure. Aside from retirement, a further 6% (n=6) identified that they plan to leave dispensing optics within the next 3 years and 17% (n=18) were unsure. Reasons cited for leaving dispensing optics included workload, stress and remuneration.

The proportion of workforce, by age group, who are planning to retire or leave the profession within the next 5 years is identified below.



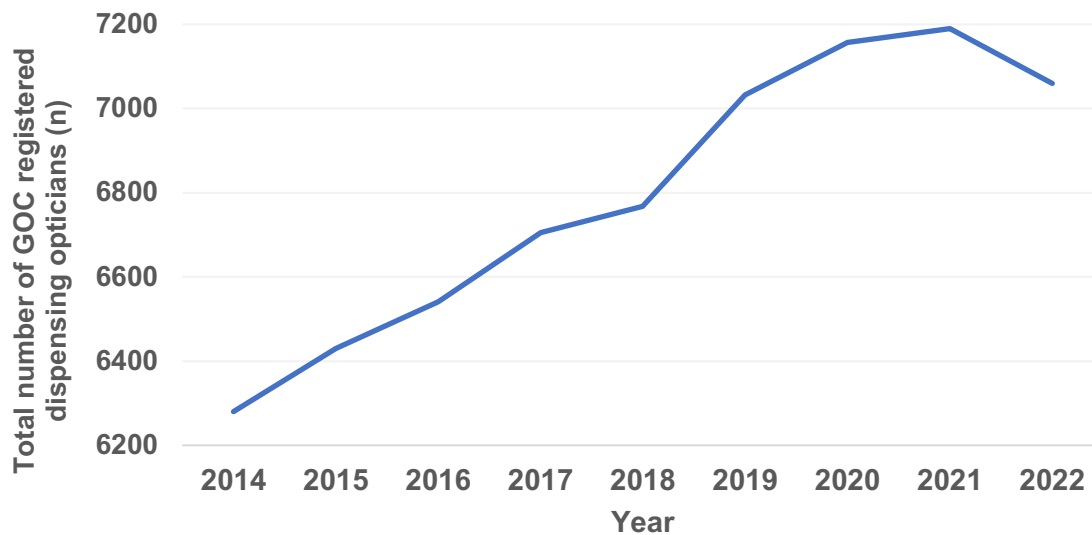
6.6.3 Dispensing optician working days in community optometry practice

The majority of respondents (57%) identified that they work full time (5 or more days/week) in community optometry practice. There was a preference for full time working in the younger age brackets, with the exception of the 60-69 age group, as identified below.

Age group	Percentage of workforce working full time (5 or more days/week)
20-29	80%
30-39	70%
40-49	56%
50-59	43%
60-69	62%

6.7 GOC registered dispensing opticians (UK total)

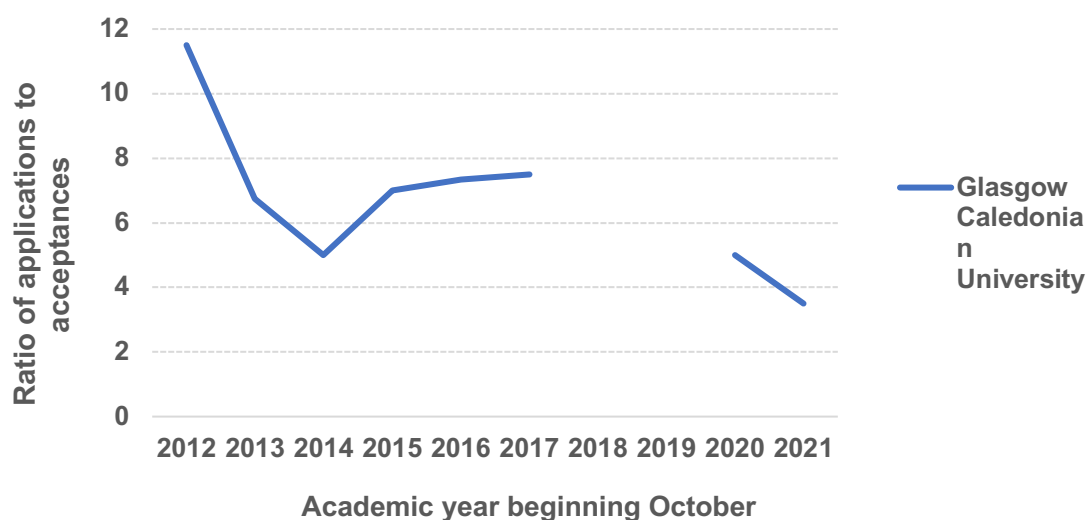
The total number of UK GOC registered dispensing opticians is identified below (GOC, 2016–2022). On average there has been a 2% per year increase since 2014 until 2021.



6.8 Potential future workforce: dispensing opticians

6.8.1 Demand for training

The ratio of applications to accepted places provides an indication of the level of student demand for training. Application and acceptance data is collated by the Universities and Colleges Admissions Service (UCAS). From 2014 UCAS applied rounding methodology to the data (rounding to the nearest 5), marginally reducing data accuracy. The ratio of applications to accepted places for GCU is identified below. Intake into BSC Ophthalmic Dispensing Management was suspended 2018 and 2019, hence a break in the data.



6.8.2 Number of students entering Dispensing Optics at GCU

The overall number of students entering Ophthalmic dispensing at GCU since 2012 is shown below. There was no data available for 2018 and 2019 (note: the data is rounded down to the nearest 5 in line with HESA Services Standard Rounding Methodology).

Intake year	GCU
2012	10
2013	20
2014	20
2015	15
2016	15
2017	10
2018	-
2019	-
2020	10

Data source: Higher Education Statistics Agency (HESA)

6.8.2.1 Demographic data: students entering Dispensing Optics at GCU

Demographic data for GCU students since 2012 identifies that Scotland was the dominant country of domicile for the majority of students (>90%), the majority of the intake was female (approx. 60%) and less than 20 years old (approx. 90%).

Completion data identifies that on average, 56% of students complete the programme within four years, and this rises to 63% by five years.

Community optometry workforce discussion

Active community optometry workforce (30/08/21 – 05/12/21):

- **Overall headcount of active community optometrists was 1403**, which represented an overall reduction of n=22 compared to 2019. The 2021 headcount has been temporally negatively impacted by delays in registration for newly qualified optometrists (caused by trainee backlogs due to the COVID-19 pandemic). This is supported by data which identifies the number and month when optometrists were issued a competency certificate (required to list with a Health Board) (data courtesy of NES Optometry). Pre-pandemic (2019) the largest percentage of certificates were issued in August (44%), which coincides with the end of the pre-registration year for most individuals. However, many of those who were expected to qualify in August 2021 appear not to have registered until February 2022.
- **Approximately 1 in 5 optometrists (minimum) were independent prescribers and issued prescriptions**, which was consistent with the overall percentage of IP optometrists listed with a Health Board (22%).
- **Approximately two thirds of the workforce were female**, which appears to be a consistent trend with previous reports (College of Optometrists, 2015; NHS Education for Scotland, 2016). Suggestions for the gender imbalance within optometry have included; the perceived flexibility for part-time working/work life balance, female academic advantage, gender stereotypes and parental influence (College of Optometrists, 2020).
- **The workforce was biased towards the younger age groups**, with three quarters of workforce less than 50 years old. This is most likely reflective of the year-on-year increase of the UK registered workforce which has been supported by an increasing number of GOC approved training providers.
- **Approximately two fifths (38%) of the workforce most frequently worked five or more days per week and 63% most frequently worked four or more days per week**. This was very similar to pre-pandemic data (2019). Five days per week does not automatically equate to full-time working, because the methodology did not allow for identification of workforce who worked compressed hours/practices with extended opening hours. Nevertheless, it does indicate that a substantial proportion of the workforce potentially worked part-time in the community. A number of these individuals may also have been working in a hospital optometry role, however the data did not allow for identification of individuals.

- **Workforce aged 20-29 were most likely to frequently work 5 or more days per week and those aged 50-59 were the least likely to work 5 or more days per week.** This supports findings from the GOC 2021 registrant survey which identified that optometrists aged 55+ were most likely to reduce their hours (GOC, 2021b).
- **Males were most likely to frequently work 5 or more days per week compared to females.** This would suggest that females have a propensity towards part-time work, which is consistent with previous reports (College of Optometrists, 2015).
- **Sizable participation in the COVID-19 vaccination programme indicates flexibility within the workforce.** The data does not provide detail of the number of sessions undertaken by optometrists and as such it is difficult to quantify the workforce activity utilised during this time. However, it is striking that 200 community optometrists were able to partake in this extra activity considering that GOS activity mirrored pre-pandemic levels and Coronavirus Job Retention Scheme ceased at the end of September.

Health Board Listing data

- **Listed headcount substantially larger than number of community optometrists who were active during 30/08/21 – 05/12/21 (discrepancy of n=360).** It should be expected that there will be less active optometrists than those listed. For example, reasons for inactivity could include maternity/paternity leave, career breaks and individuals choosing to locum very occasionally. It is also possible that a proportion of individuals may have retired or left the profession in the months preceding the three-month period, and not yet been removed from the Health Board list. It should also be noted that optometrists can remain on a Health Board list and stay inactive for 12 months (Part 2 of the list) or 6 months (Part 1 of the list).
- **The number of IP optometrists listed with a Health Board in Scotland has more than doubled since 2017** (Scottish Government, 2017). Scotland has proportionally the most IP optometrists across the UK, accounting for approximately 33% of all IP optometrists registered with the GOC (GOC, 2022b). This reflects a substantial commitment, expertise and adaptability within the workforce to pursue higher levels of patient management within practice. However, there is inequality of workforce across the Health Boards. The highest proportion of IP optometrists are listed in NHS Ayrshire & Arran and NHS Grampian. Interestingly, both of these Health Boards have focused on the development of enhanced optometrist-led services within the community, with close working between ophthalmologists and optometrists.

- **The ratio of optometrists listed with NHS GGC was between 2-4 times greater compared to other Health Boards.** This reflects substantial inequity across the Health Boards. It is not possible to identify the reasons for the popularity of GGC, but it is notable that this is the location of the main training provider (GCU).

Undergraduate data

- **There has been a relatively consistent demand for Optometry BSc(Hons) places over the last ten years in Scotland.** This is despite an increase of approximately 50% of GOC approved course providers since 2016. This consistency of demand may be partly the result of free tuition available to students ordinarily resident in Scotland, which would encourage students to remain in the country. Indeed, the demographic data for GCU consistently identifies that Scotland is the country of domicile for the majority of students.

Dispensing optician workforce: survey of ABDO members in Scotland

- **Approximately a quarter of respondents plan on retiring or leaving dispensing optics within the next five years.** Of these, the majority were in the older age groups, and 42% in the 50-59 age bracket. As noted above (section 4.3), there is evidence across healthcare of people choosing early retirement post-pandemic.
- **The majority of respondents worked full time.** Similar to optometrists, the trend for full time working appears weighted towards younger age groups. However, it is not possible to ascertain the influence of gender upon working days as this was not captured in the survey.
- **Limitations:** This survey only captured 25% of the ABDO membership, and therefore it is not appropriate to apply these findings to the overall workforce. However, it does indicate that further evaluation regarding dispensing opticians is required, since the findings will impact future workforce and service planning.

Potential future workforce: dispensing opticians

- **Overall trend of reducing demand for training in Scotland.** The ratio of applications to acceptances at GCU appears to have steadily declined during 2020 and 2021 (section 4.8.1). It is not possible to ascertain the reason for this decline, however, it is possible that this drop in demand could be a result of a cessation of face-to-face careers events in schools and colleges across Scotland during the COVID-19 pandemic. If this is the case, it would be predicted that the demand in 2023 will increase. In line with the decreased demand, the number of students commencing the course has remained low since 2017.

7.0 Conclusions: Strengths, challenges, opportunities and recommendations

7.1 Strengths

The following workforce strengths have emerged from this review:

Strength: Consultant ophthalmologist workforce growth

- The consultant workforce has increased by 13.7% WTE since 2018 and the majority work full time.
- Overall demand for OST training places across the UK is high (2022 was the most competitive year on record (Rosen, 2022)).

Strength: Non-medical workforce (secondary care) delivering clinical roles traditionally done by ophthalmologists

- A highly skilled non-medical workforce were delivering clinical roles traditionally done by ophthalmologists across a range of sub-specialties. This included:
 - Monitoring and management of glaucoma, medical retina and corneal patients (including complex cases)
 - Independent listing for cataract surgery
 - Delivery of laser procedures, including YAG capsulotomy, laser PI and SLT
 - IVT injections (inclusive of nurses, orthoptists and optometrists)

Strength: Ophthalmic support workforce (AfC band 2-4) providing a wide range of supporting clinical roles

- An overall young (56% ≤49 years) workforce who were routinely providing a wide range of clinical roles helping increase capacity of the registered workforce to undertake other roles. Clinical roles included:
 - Visual acuities
 - Tonometry
 - Biometry
 - Visual fields

Strength: Primary care optometrist workforce weighted towards younger ages

- The majority of active optometrists (30/08/21 – 05/12/21) were less than 40 years old, and compared to the older age groups, those aged 20-29 years were **most likely** to frequently work 5 or more days per week.

Strength: Primary care IP optometrist workforce active across all mainland Health Boards

- Scotland has proportionally the most IP optometrists across the UK, accounting for approximately 33% of all IP optometrists registered with the GOC.

7.2 Challenges, opportunities and recommendations

In addition to the identified strengths, there are a number of challenges. These challenges are listed below with associated opportunities and recommendations which emerge directly from the data which has been gathered in this report.

Challenge: Paediatric ophthalmology workforce vulnerability

- Paediatric consultant vacancies (28% of all vacancies)
- Two Health Boards relied solely upon paediatric locum consultants
- Over two thirds of orthoptists supporting Paediatric Ophthalmology specialist clinics, however, alongside this, almost all orthoptists are also delivering core orthoptic roles (87-97%).
- The Rehabilitation Habilitation Workforce Survey (2022) identified an aging habilitation workforce and potential impact to services (part of the paediatric multidisciplinary team).

Opportunities

- **Proactively engage trainees early in OST training**
 - Early exposure to paediatric ophthalmology may help encourage trainees to pursue this sub-specialty.
- **Make best use of available workforce**
 - The non-medical workforce is well placed to deliver roles within paediatric ophthalmology; existing examples across Health Boards of orthoptists, optometrists and nurses in advanced/extended roles to support service delivery e.g. JIA screening. This requires sufficient consultant presence to oversee the service.
 - There is opportunity to release capacity for orthoptists working at higher bandings to deliver more extended/advanced paediatric roles by incorporating ophthalmic support workers (AfC band 3/4) into POVS screening delivery (ISD,2021). Currently the majority of Health Boards deliver POVS with only registered orthoptic workforce. However, POVS Scottish National Guidelines identifies screening can be undertaken by trained support workers.
- **Continued working to support Habilitation workforce training development**
 - The Low Vision Rehabilitation Course at GCU has just been reinstated. This is for training in Rehabilitation. There is now opportunity to extend this course to include Habilitation modules.

Recommendations

- Training programme directors (TPDs) to promote paediatric ophthalmology as an early training opportunity to provide trainees with exposure, leadership and role modelling. Where exposure is difficult due to lack of consultant presence, imaginative thinking is required to prioritise training opportunities.
- Health Boards to identify opportunities to develop AfC band 3/4 ophthalmic support workforce to deliver POVS alongside a registered orthoptist, and release higher AfC bands for extended/advanced paediatric roles.
- Health Boards to ensure they have sufficient consultant capacity to oversee paediatric service development and plan to recruit where gaps exist.
- Health Boards to identify areas for nurses and hospital optometrists to be trained in extended/advanced roles.
- Development of Habilitation modules to integrate with the Low Vision Rehabilitation Course at GCU.

Challenge: SAS workforce sustainability

- The SAS workforce is diminishing in headcount across ophthalmology, and 55% are over 50 years.
- Declining SAS grade is explicable due to more opportunities for SAS doctors to develop further, the small number of IMG doctors in Scotland and the improved opportunities to train on a LTFT basis.
- This workforce is supporting a range of sub-specialities across Health Boards, but medical retina is supported in every Board* (*with SAS workforce).

Opportunities

- The declining SAS workforce needs to be noted by Health Boards and proactive decisions regarding the most appropriate replacements should be considered.

Recommendations

- **If SAS workforce continues to decline, succession planning is required by Health Boards to identify most appropriate replacements for current SAS posts.** This will be individual to each SAS doctor as they do not hold specific roles, skills or experience e.g. the replacement might be a non-medical advanced practitioner.

Challenge: Unfilled nursing posts and potential future workforce gaps

- Overall older workforce group with 16.5% estimated to retire within the next 5 years.
- Two thirds of Health Boards reported vacancies (31.4 WTE).

Opportunities

- **Increase the number of younger nurses working in ophthalmology (currently only 6.5% of nurses aged 20-29 years)**
 - The current age profile reflects an opportunity to attract more graduate nurses into ophthalmology by enabling and highlighting this as a credible career pathway through opportunities to train and develop. This requires buy in from employers and needs to be highlighted to nurses as an attractive option.
 - Increasing the younger age group will help increase resilience of the workforce and help ensure specialist knowledge and skills remain in the workforce for longer.
 - It is unclear why the younger age group is under-represented. In part, it may be because they have minimal exposure to ophthalmology in their training, and therefore are not aware of the opportunities of the role.
- **Make best use of available workforce**
 - Mitigating the impact of current vacancies and gaps, in part, can be supported by ensuring best use of the available workforce.

Recommendations

- **Health Boards to provide time and opportunities to train and develop nurses to meet service needs.** This includes engagement with the national Ophthalmic Practitioner Training (OPT) programme and requires a unified approach across the whole ophthalmology team to support training opportunities.
- **Health Boards to explore opportunities to develop rotational nursing posts between outpatient and theatre (currently utilised in only two Health Boards) to increase resilience of service delivery.**
- **To make best use of available workforce, Health Boards should:**
 - identify areas where current nursing capacity can be increased by deploying roles to *current* ophthalmic support workforce.
 - review current AfC band 2-4 job descriptions within departments and identify opportunities for role development e.g. development of Assistant Practitioner roles.
 - identify opportunities to increase the overall number of ophthalmic support workforce roles within departments to support nursing.

Challenge: Variation across Health Boards of non-medical workforce listing for cataract surgery

- For example, in 4 Health Boards (HBs) non-medical staff were independently listing for cataract surgery
- Cataract is demanding the highest amount of consultant capacity across the sub-specialties, and considering the significant demand for surgery, it is imperative that this capacity is used as effectively as possible.

Opportunities

- Where HBs are not deploying (or training) the non-medical workforce to list cataract patients, there is a potential release consultant capacity.

Recommendations

- **Development of a national training and competency document for non-medical workforce to list cataract patients** rather than each Health Board working separately.
- **Health Boards to identify** non-medical workforce who can be trained to assess and list patients.

Challenge: Ensuring standardisation of training for developing the non-medical workforce in extended/advanced roles

- There is evidence of the non-medical workforce undertaking extended/advanced roles across Health Boards within secondary care, however, training is ad hoc and not transferrable between Health Boards.
- Feedback from non-medical disciplines suggests a desire to develop staff in these roles, but access to training can be challenging

Opportunities

- Provision of training opportunities for non-medical workforce which is transferrable across Boards. The OPT is a national programme which has already been developed to support upskilling and transformation of the non-medical workforce.

Recommendations

- **Health Boards to identify areas of service need and provide opportunities for the non-medical workforce to upskill utilising the national Ophthalmic Practitioner Training (OPT) programme.** This requires a unified approach across the whole ophthalmology team to support training opportunities.

Challenge: Inequitable distribution of optometrist workforce across Health Boards

- Threefold more optometrists per head of population in NHS GGC compared to the rest of Scotland (possibly due to the location of the main training provider, GCU).
- Fivefold difference in the proportion of IP optometrists across Health Boards.
- Implications for service development; specifically, for services designed to enable hospitals to discharge patients with low risk pathology back into the community for management, such as the newly established Community Glaucoma Service (CGS).
- Implications for Health Board recruitment of hospital optometrists.

Opportunities

- Provide opportunities for trainee optometrists to experience optometry practice in a variety of geographical locations, this should include hospital optometry.
- Encourage the current workforce to undertake the independent prescribing qualification, with specific focus on under-represented areas.

Recommendations

- **Explore the feasibility of incorporating a range of different geographical trainee placements into the new Masters Optometry undergraduate degree.**
 - A new five year Masters Optometry undergraduate degree qualification will begin in Scotland in 2024 at GCU and in 2025 at UHI. The Masters degree course will integrate the independent prescribing qualification (the only UK nation in which this will happen) and include a final year of placements managed and supported by NES. It is recommended that these placements are planned to provide trainee optometrists with experiences in a range of locations, inclusive of remote and rural locations – including hospital experience where possible.
- **Health Boards with proportionally lower number of IP community optometrists to proactively encourage community optometrists to undertake Independent Prescribing training**
 - Optometrists in Scotland have the opportunity to apply for funding from NES to undertake the university-based part of the IP qualification (currently this is only provided by GCU in Scotland). NES also offer support in the arrangement of clinical placements at designated Teach and Treat Clinics. It is recommended that Health Boards proactively promote this opportunity to community optometrists.

Challenge: Dispensing optician workforce data

- Current survey response rate 25%, as such it is not valid to apply workforce information to the rest of the workforce.
- Low number of students training at GCU & low demand for training.

Opportunities

Introduction of Listing for DOs would facilitate overall workforce planning and succession planning.

Recommendations

Further workforce data required to understand the current workforce with a view to national Listing of DOs.

Challenge: Vulnerability of ocular prosthetics workforce

- The ocular prosthetics service is delivered by a small highly specialised workforce in Scotland.
- There is currently no training for Maxillofacial Prosthetics in Scotland (over half the current workforce) and feedback suggests that this is an ageing workforce.

Opportunities

There is an opportunity for succession planning to ensure this remains a sustainable service.

Recommendations

A national approach to succession planning is recommended.

8.0 Glossary

ABDO	Association of British Dispensing Opticians
AfC	Agenda for change
AHP	Allied health professional
AHPO	The Association of Health Professions in Ophthalmology
BIOS	British and Irish Orthoptic Society
CGS	Community Glaucoma Service
ECLO	Eye Clinic Liaison Officer
FFA	Fundal fluorescein angiography
GCU	Glasgow Caledonian University
GGC	Greater Glasgow and Clyde
GMC	General Medical Council
GOC	General Optical Council
GOS	General Ophthalmic Services
HC	Head count
HCPC	Health and Care Professions Council
HSCP	Health and Social Care Partnership
ICG	Indocyanine Green Angiography
IIH	Idiopathic intracranial hypertension
IMG	International medical graduate
IP	Independent Prescribing
JIA	Juvenile Idiopathic Arthritis
HCPC	Health and Care Professions Council
HESA	Higher Education Statistics Agency
LTFT	Less than full time training
NES	NHS Education for Scotland
NSS	National Services Scotland
OCCCF	Ophthalmic Common Clinical Competency Framework
OCT	Optical coherence tomography
OPT	Ophthalmic Practitioner Training
OST	Ophthalmic Specialist Training/Trainee
PHS	Public Health Scotland
POVS	Pre-school orthoptic vision screening
PSD	Practitioner Services Division
RCOphth	Royal College of Ophthalmologists
SAS	Staff and Associate Specialist
TPD	Training Programme Director
UCAS	Universities and Colleges Admissions Service
UHI	University of Highlands and Islands
VINCYP	Visual Impairment Network for Children and Young People
WTE	Whole time equivalent

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