Chapter 1

Introduction

Optometrists\textsuperscript{1} are a group of healthcare professionals trained to detect visual health defects related to injury, disease or abnormality and some aspects of general health through detailed examination of the eye. Optometrists diagnose and treat certain conditions, prescribe and supply refractive correction, and make referrals for specialist advice for conditions or treatments outwith their scope of practice.\textsuperscript{2}

In the UK the majority of Optometrists work as primary care practitioners in community or high street practices which range in size from small single-handed establishments to large corporate bodies. These practices comprise the General Ophthalmic Service (GOS), which in Scotland has offered primary eye examinations free to patients since April 2006, funded by the Scottish Government (SG). \cite{1}

Specialist areas of optometric practice include management of low vision, dry eye and red eye, dyslexia investigation, contact lens, learning disability, pre- and post-operative ocular examinations and triaging eye conditions in the community. \cite{2}

This report collates a range of data from multiple sources on the education and labour markets for Optometrists in Scotland using longitudinal data where available to examine trends in the supply of qualified professionals and the delivery of services.

\textsuperscript{1}previously known as Ophthalmic Opticians

Chapter 2

The demand for Optometrists

2.1 Population projections

A key determinant of the future demand for services is the overall size and composition of the population. Figure 2.1 reports the latest population projections by age group for Scotland. [3] Between 2010 and 2021 Scotland's population is projected to increase by about 5.5% and the number of people aged 65 and over is projected to increase by almost 25%.

Figure 2.1: Projected size and composition of the Scottish population 2010-2021

As the prevalence and incidence of visual impairment and several visual
health disorders including glaucoma, cataract, macular degeneration and diabetic retinopathy are correlated with age, this population change is likely to increase the demand for optometric services in Scotland.

2.1.1 Government health spending

A key determinant of the demand for health care workers is the budget available to NHS Boards. [4] The SG’s planned expenditure on selected items from their health, wellbeing and cities portfolio, following a spending review in 2011, is shown in Table 2.1. The values listed for 2012-13 onwards have been adjusted to 2011-12 prices.

| Table 2.1: Detailed planned spending on selected items from SG’s health portfolio, 2011-12 prices |
|--------------------------------------------------|--------------------------------------------------|--------------------------------------------------|--------------------------------------------------|
| NHS & Special Health Boards | £m | £m | £m | £m |
| EDUCATION & TRAINING | | | | |
| Workforce | 28.30 | 30.34 | 29.54 | 28.77 |
| Nursing | 148.50 | 144.88 | 140.88 | 136.81 |
| PRIMARY & COMMUNITY CARE SERVICES | | | | |
| General Medical Services | 710.40 | 693.07 | 674.85 | 657.11 |
| Pharmaceutical Services Contractors’ Remuneration | 185.90 | 181.37 | 176.12 | 170.47 |
| General Dental Services | 398.70 | 388.98 | 378.75 | 368.79 |
| General Ophthalmic Services | 93.00 | 90.73 | 88.35 | 86.02 |

There is a planned reduction in funding for the GOS of around 2.5% per year between 2011-12 and 2014-15 in real terms.¹

¹the unadjusted amount was £93.0M each year
Chapter 3

Education

3.1 Undergraduate education

3.1.1 Structure and funding

Glasgow Caledonian University (GCU) provide the only optometry course in Scotland which leads to registration with the General Optical Council (GOC). The programme duration is four years and includes community and secondary care placements. Successful completion leads to a Bachelor of Science (BSc) in Optometry. The minimum entry requirement is five Scottish Highers or three A levels at A and B grades in specified subjects.

Where eligibility criteria are met, Scottish domiciled and European Economic Area (EEA) students are funded by the public sector through the Scottish Funding Council (SFC) who use data returns from universities each year to set benchmarked prices for different subject groups. In academic year 2013-14 the gross subject price for subject price group 3, which includes Health and Community Studies, was £8,447. This included the tuition fee of £1,820 for undergraduate courses which is paid by Students Awards Agency for Scotland (SAAS) and the remainder which is paid by SFC. Non-EEA students, or overseas students receive no support from the public sector in Scotland. The annual overseas tuition fee for the undergraduate course at GCU was £11,000 in academic year 2013-14.¹

Following graduation a pre-registration year is required to qualify as an Optometrist. Under the governance of the College of Optometrists (COptom), the candidate must successfully complete one year of supervised clinical practice and professional examinations.

¹gcu.ac.uk/study/internationalstudents/courses/optometry-8856.php?loc=notuk
3.1.2 Applications to undergraduate education

The Universities and Colleges Admissions Service (UCAS) collects data on application and acceptance into universities. These data comprise the number of applications through the main application scheme and number of accepted places via all application routes. This is a measure of students’ demand for places.

The ratio of applications to accepted places on the BSc optometry course at GCU is shown in Figure 3.1.

**Figure 3.1:** Ratio of applications to accepted places BSc optometry 2003-2012

The ratio has decreased from ten applications per place in 2004 and 2005, to around five between 2008 and 2012.

The total number of applications increased from 503 in 2003 to a peak of 588 in 2004. It has subsequently decreased steadily to 310 in 2012.

3.1.3 Students in undergraduate education

The Higher Education Statistics Agency (HESA) collects an annual record for each student in education and training at UK universities. Institutions submit data to HESA in September each year for the previous academic year, comprising one record for every student registered in each course.

The number of first year and completing BSc optometry students at GCU in each academic year from 2005-06 to 2011-12 is shown in Table 3.1.
Table 3.1: Number of students entering and completing BSc optometry in Scotland from 2005-06 to 2011-12

<table>
<thead>
<tr>
<th></th>
<th>2005-06</th>
<th>06-07</th>
<th>07-08</th>
<th>08-09</th>
<th>09-10</th>
<th>10-11</th>
<th>11-12</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st year</td>
<td>59</td>
<td>62</td>
<td>63</td>
<td>77</td>
<td>72</td>
<td>57</td>
<td>62</td>
</tr>
<tr>
<td>completed</td>
<td>78</td>
<td>55</td>
<td>61</td>
<td>56</td>
<td>56</td>
<td>68</td>
<td>74</td>
</tr>
</tbody>
</table>

Figure 3.2 shows the completion rate for all students who started the optometry course in 2005-06 onwards. This indicates that around 4% of students appear to complete successfully around three years and a further 77% complete at four years. By six years since their course started, 88% of students had successfully completed with a BSc in optometry.²

3.1.4 Student demographics

The mean age of first year students on BSc optometry courses at GCU varied between 18 and 20 over the six years since 2005-06. By comparison the

²This analysis excludes students recorded as successful completions with another qualification including a diploma or a certificate of higher education, credit, or degree without honours. A small number of records with anomalous dates in their HESA records were amended after consultation with SFC and GCU.
mean age of both Bachelor of Dental Surgery (BDS) and Master of Pharmacy (MPharm) students was around 19.³

During this same period most first year optometry students were female; the proportion each year has varied between 76 and 66%. Over this time, 60-65% of both BDS and MPharm students were female.

Fewer than 3% of first year optometry students reported having a disability each year since 2005-06. Among those who did, the most common categories were learning disabilities (e.g. dyslexia) or unseen physical conditions (e.g. diabetes or epilepsy). This compares to around 5% of BDS and 3% of MPharm students who reported having a disability.

Around a quarter of optometry students overall were from Black and Minority Ethnic (BME) groups, comprising 21% to 29% of first year students in each year. This compares to around 18% of BDS and 15% of MPharm students.

In the last three years, data on whether students reported having dependants at the time of their application to university was available. Of optometry students who provided information in each year, between 2% and 6% had children or other dependants.

The country of domicile of first year optometry students is shown in Figure 3.3. Countries were categorised as Scotland, rest of the UK, EEA countries and the rest of the world. The majority each year, 75% to 90%, were from Scotland. By comparison about 70% of BDS and 74% of MPharm students overall were domiciled in Scotland.

The Scottish Index of Multiple Deprivation (SIMD) combines a set of indicators across domains including income, employment, health, education, skills and training, housing, geographic access and crime and is available for students who were domiciled in Scotland on application to their course. SIMD Q1 represents students from the most deprived 20% of datazones. The proportion of first year Scottish-domiciled optometry students who lived in areas associated with deprivation quintiles one to five on application to their course is shown in Figure 3.4. Between 40% and 60% of first year students each year were from the two least deprived categories and between 11% and 29% from the two most deprived categories. By comparison between two thirds and three quarters of BDS and MPharm students were from the two least deprived categories.

### 3.1.5 UNISTATS

A range of information related to the student experience is published by UNISTATS as the Key Information Set.⁴ It includes data from HESA, the Data Service, Higher Education Institutions (HEIs) and the national Student Survey. Current figures show that 30% of GCU BSc optometry graduates are in employment six months after finishing the course and the remaining 70% are both studying and

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³It was 25 for the graduate entry BDS programme at Aberdeen Dental School
⁴unistats.direct.gov.uk/
Figure 3.3: Domicile of first year BSc optometry students 2005-06 to 2011-12

![Domicile of first year BSc optometry students 2005-06 to 2011-12](source)

Figure 3.4: Deprivation category of Scottish domiciled first year BSc optometry students 2005-06 to 2011-12

![Deprivation category of Scottish domiciled first year BSc optometry students 2005-06 to 2011-12](source)
working. The reported data does not distinguish individuals who are in their pre-registration year from other training or employment. Of those who reported they were in employment, 95% were in a professional or managerial job and the average salary was £12,000.

3.2 Postgraduate training

The GOC requires Optometrists to undertake education and training after qualification to demonstrate their commitment to continuing professional development and ability to maintain standards of competence. The content, type and regularity of such training has to meet a range of specific criteria.\(^5\) Opportunities to undertake Continuing Education and Training (CET) for accredited points and Continuing Professional Development (CPD) are offered by various organisations for Optometrists in Scotland including COptom, NHS Education for Scotland (NES) and GCU.\(^6\)

Higher qualifications can be undertaken by Optometrists in areas such as glaucoma and low vision, but these are not available within Scotland.

Four Teach and Treat clinics have been set up by NES in different regions of Scotland. They each provide acute eye care services for patients, delivered by Optometrists under the supervision of an ophthalmologist. Sessions can be used for CPD, or as the clinical component of qualifications such as independent prescribing. By March 2013 approximately 160 Optometrists were attending, or registered to attend, one of the Scottish clinics.

3.2.1 Independent prescribing

Optometrists can undertake additional training which entitles them to extend their scope of practice and operate as a Supplementary or Independent Prescriber.\(^7\) In Scotland this is available at GCU as a Diploma in Therapeutic Prescribing.\(^8\) In 2012, approximately 200 Optometrists were in the process of training and the course had been successfully completed by 55.

As mentioned in the previous section, there are four Teach and Treat clinics in Scotland at which Optometrists can undertake the required 24 half-day supervised sessions to complete this qualification.

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\(^5\)www.optical.org/en/Education/CET/index.cfm
\(^7\)www.nes.scot.nhs.uk/education-and-training/by-discipline/optometry/courses-and-e-learning.aspx
\(^8\)www.college-optometrists.org/en/CPD/Therapeutics/index.cfm
\(^9\)www.gcu.ac.uk/hs/studyoptions/postgraduate/postgraduatetours/courses/therapeutic-prescribing-for-optometrists-9178.php?loc=uk
Chapter 4

Labour market

4.1 Registration

Optometry in the UK is regulated by the GOC. The GOC is responsible for setting educational and professional standards, approving qualifications, maintaining the register and investigating fitness to practice cases.

In the UK, students on an optometry course which is approved by the GOC must be registered. This process invokes a code of conduct to which they are expected to adhere. Student registrants, as with full registrants, can be struck off for a breach of this code, although this is a rare occurrence. On successful completion of the course and post-qualification training, practitioners can apply to become full registrants, at which point they are deemed fit to practise in the UK. Practitioners who have trained overseas can apply to have their qualifications and experience assessed by the GOC, and may be required to undergo further training during an adaptation period.

Practitioners who wish to extend the standard scope of practice to the supply or prescribing of therapeutic drugs, must be registered on the relevant specialty register.

4.2 Registrant demographics

The GOC publishes information on their registrants in their annual reports which shows that the total number of Optometrists in the UK has risen by a third (36%) from 9710 in 2003 to 13,202 in January 2012, see Figure 4.1. [5]

Across the UK just under half (48%) of Optometrists were aged between 25 and 39 between 2008 and 2012, with a further third of the total population in each of these years aged between 40 and 54 (32%). These proportions have changed little in five years.

In Scotland there was a 39% increase in overall numbers from 2004 to 2012 (898 to 1,208). This comprises a rise of 18% in the number of male and a 59% rise in female Optometrists. Among UK countries, Scotland has a relatively high
Figure 4.1: Total number of registered Optometrists in the UK 2004-2012

![Graph showing the total number of registered Optometrists in the UK 2004-2012](source: GOC)

proportion (60% in January 2012) of female registered practitioners, second only to Northern Ireland with 61%.

### 4.3 NHSScotland Workforce

A small minority of Optometrists are employed in NHSScotland. Workforce information on this group is published by the Information Services Division (ISD) as national statistics within a group of healthcare professionals: Other Therapeutic and Personal and Social Care.

The overall composition of the NHSScotland optometry workforce by grade of post is shown in Figure 4.2. The Whole Time Equivalent (WTE) of staff approximately doubled between 2007 and 2009 and has since remained at around 40 each year. In September 2012 the WTE comprised 74 individual practitioners. This represents just over 6% of registered Optometrists in Scotland, using GOC data from January 2012. Over 85% of NHSScotland Optometrists, by both headcount and WTE, were female.

The total WTE number of staff by NHS Board is shown in Figure 4.3.
**Figure 4.2:** Band of NHSScotland Optometrist posts at 30th September 2007-2012

![Graph showing band of optometrist posts from 2007 to 2012](image)

Source: ISD

**Figure 4.3:** WTE Optometrists in NHSScotland at 30th September 2007-2012

![Graph showing WTE optometrists by region](image)

Source: ISD
Most jobs for Optometrists in Scotland are unlikely to be advertised in job centres and are more commonly advertised on professional publications and websites. However, those data are not publicly available for analysis. NOMIS is a web-based database of labour market statistics run by the University of Durham on behalf of the Office of National Statistics (ONS) and contains official labour market statistics for the UK with location and profession specific data. The NOMIS data therefore represent a nationally standardised source of labour market information including public, private and third sector posts. NOMIS routinely publishes the number of vacancies notified to employment service job centres and the number of Job Seekers’ Allowance (JSA) claimants by the Standard Occupational Classification (SOC) of the sought occupation.

There is an SOC for ophthalmic opticians (including job titles optician and Optometrist). The extent to which these comprise a useful and distinct occupational group are somewhat limited.

Vacancy and JSA claimant data for ophthalmic opticians in Scotland are shown in Figure 4.4.

**Figure 4.4:** Number of job centre vacancies and JSA claimants for dispensing and ophthalmic opticians in Scotland 2006-2012

Source: NOMIS
4.4.1 Annual Survey of Hours and Earnings

The earnings of 1% of UK employees is published as part of the Annual Survey of Hours and Earnings (ASHE) by SOC. These data provide further indication of the labour market conditions for named occupations. Note that this does not include self-employed practitioners, therefore most community Optometrists are not included.

There was limited data available for the optometric occupational groups in Scotland but the available is shown in Figure 4.5 with UK data for comparison.

**Figure 4.5:** Hourly gross pay for ophthalmic employees in Scotland and the UK 2006-2012

![Hourly gross pay chart](chart.png)

Source: ASHE
Chapter 5

Optometric services

ISD publish annual data on the provision of NHS GOS in Scotland after processing for payment by the Practitioner Services Division (PSD).\footnote{www.isdscotland.org/Health-Topics/Eye-Care/} In 2007, following the 2006 amendment by the SG which made GOS eye examinations universally free, the number of exams carried out by ophthalmic opticians\footnote{the term used by ISD, to distinguish from exams carried out by ophthalmic medical practitioners} increased by 64% as shown in Figure 5.1.

\textbf{Figure 5.1:} Number of eye examinations in the GOS in Scotland 2001-2012
The number has subsequently increased further by 22% between 2007 and 2012 to over 1.9 million per year in the year to March 2012.

5.1 Spatial distribution

The spatial distribution of GOS practices across Scotland was examined by acquiring the postcode of every GOS practice for which payment had been processed by PSD during the twelve months prior to 31st May 2011. Table 5.1 shows the number of practices by NHS Board.

Table 5.1: Number of GOS practices by NHS Board August 2011

<table>
<thead>
<tr>
<th>Health Board</th>
<th>No of locations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ayrshire &amp; Arran</td>
<td>56</td>
</tr>
<tr>
<td>Borders</td>
<td>14</td>
</tr>
<tr>
<td>Dumfries &amp; Galloway</td>
<td>20</td>
</tr>
<tr>
<td>Fife</td>
<td>50</td>
</tr>
<tr>
<td>Forth Valley</td>
<td>41</td>
</tr>
<tr>
<td>Grampian</td>
<td>57</td>
</tr>
<tr>
<td>Greater Glasgow &amp; Clyde</td>
<td>188</td>
</tr>
<tr>
<td>Highland</td>
<td>45</td>
</tr>
<tr>
<td>Lanarkshire</td>
<td>75</td>
</tr>
<tr>
<td>Lothian</td>
<td>117</td>
</tr>
<tr>
<td>Orkney</td>
<td>1</td>
</tr>
<tr>
<td>Shetland</td>
<td>2</td>
</tr>
<tr>
<td>Tayside</td>
<td>58</td>
</tr>
<tr>
<td>Western Isles</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>727</strong></td>
</tr>
</tbody>
</table>

The relationship between practice postcodes and Scotland’s population was analysed by staff at the School of Geography & Geosciences at the University of St Andrews, who calculated the distance of travel by road and associated drive times between population centres (datazones) and the nearest practice. The results for datazones across the country can be seen in Figure 5.2.

For Scotland as a whole, the average distance to a practice was 3.4km which related to a drive time of 5.3 minutes. Almost two thirds of the population were within 5 minutes drive time of their nearest practice. In Highland, Shetland, the Western Isles, the Borders and Dumfries & Galloway however, many population centres were at distances of 10km or more from local practice.
Figure 5.2: Road travel distance to the closest GOS location in kilometres, 2011
Chapter 6

Conclusions

This initial examination of longitudinal data on the education and labour markets for Optometrists in Scotland has revealed a number of trends. Over the last six years there has been an average output from the BSc optometry degree of around 60-70 per year, with increasing numbers in the four most recent years. The ratio of applications to places on this course decreased between 2004 and 2008 but has since remained steady at around five per place. More than 80% of students complete the degree course within four years, and the completion rate is almost 90% by six years after commencement. Most students are female and most are in their early twenties on entry to the course. The student population includes a relatively large proportion of BME students and students domiciled in Scotland compared to pre-registration pharmacy and undergraduate dental students. The number of registered Optometrists in Scotland has increased steadily since 2004. In late 2012 around 6% of registrants in Scotland were employed by the NHS. There is little available workforce data on the majority of Optometrists in Scotland who work as independent NHS contractors, and the national administrative data on the labour market for this group is limited.

6.1 Avenues for future work

The avenues for future work arising from this report reflect limitations in both data and analysis.

There are several important areas in which there was little or no data available for analysis, including the employment of community Optometrists and information, the pre-registration training year, and the education and labour markets and activity of Dispensing Opticians and optometric assistants. Work will continue to identify and develop access to data in these areas.

There are several data sources that could be explored in more detail, for example, the GOC register provides a consistent source of information on registered Optometrists but is not currently available in full for Scotland at the individual level. Further information on Optometrists’ postgraduate education would
be valuable. Access to individual level NHSScotland GOS activity data would allow detailed analysis of trends in the provision of publicly funded ophthalmic services and its recipients. Finally, geospatial analysis could be undertaken on the location of GOS and specialist service providers and educational opportunities.

Negotiations are underway with stakeholders including the GOC and ISD to gain access to more detailed information that would inform future reports and support planning around education and service provision.
Glossary

**ASHE** Annual Survey of Hours and Earnings

**BDS** Bachelor of Dental Surgery

**BME** Black and Minority Ethnic

**BSc** Bachelor of Science

**CET** Continuing Education and Training

**COptom** College of Optometrists

**CPD** Continuing Professional Development

**EEA** European Economic Area

**GCU** Glasgow Caledonian University

**GOC** General Optical Council

**GOS** General Ophthalmic Service

**HEI** Higher Education Institution

**HESA** Higher Education Statistics Agency

**ISD** Information Services Division

**JSA** Job Seekers’ Allowance

**MPharm** Master of Pharmacy

**NES** NHS Education for Scotland

**ONS** Office of National Statistics
PSD  Practitioner Services Division

SAAS  Students Awards Agency for Scotland

SFC  Scottish Funding Council

SG  Scottish Government

SIMD  Scottish Index of Multiple Deprivation

SOC  Standard Occupational Classification

UCAS  Universities and Colleges Admissions Service

WTE  Whole Time Equivalent
References


