Contents

Introduction .......................................................................................................................... 2
NHS General Ophthalmic Services ............................................................................... 2
Policy ................................................................................................................................ 2
Eye Care Professionals: ............................................................................................... 2
Eye Examinations: ........................................................................................................ 2
Patient Type: .................................................................................................................. 3
Domiciliary Visits ....................................................................................................... 3
Data Collection from GOS(S) and HES(S) forms ..................................................... 3
Vouchers .......................................................................................................................... 4
Clinical Conditions ..................................................................................................... 4
Data Analysis ............................................................................................................... 4
NHS Board Boundaries ............................................................................................. 4
Changes to the Publication ......................................................................................... 4
Main points ................................................................................................................... 6
Results and Commentary ............................................................................................ 7
Eye Examinations Summary ....................................................................................... 7
Domiciliary Visits ....................................................................................................... 9
Reasons for the Supplementary Examination ......................................................... 9
Clinical Conditions Relevant to Eye Care ................................................................. 11
Patient Journey (Eye Examination Referrals) ............................................................ 12
Vouchers ....................................................................................................................... 14
Glossary ......................................................................................................................... 16
List of Tables ............................................................................................................... 18
List of Figures .............................................................................................................. 20
Contact ......................................................................................................................... 21
Further Information ..................................................................................................... 21
NHS Performs ............................................................................................................. 21
Rate this publication .................................................................................................... 21
Appendices ................................................................................................................... 22
  A1 – Methodology ...................................................................................................... 22
  A2 – Primary and Supplementary Code Changes after 2010 ....................................... 24
  A3 – Vouchers ........................................................................................................... 26
  A4 – Clinical Conditions ............................................................................................ 28
  A5 – Investigation of the Coding of Clinical Conditions ................................................ 29
  A6 – Number of eye examinations by NHS Board and year; 2006/07 – 2016/17 ............. 31
  A7 - Links to other sources of ophthalmic health information .................................... 33
  A8– Publication Metadata (including revisions details) ............................................... 34
  A9 – Early Access details (including Pre-Release Access) ........................................... 36
  A10 – ISD and Official Statistics ............................................................................... 37
Introduction

This publication provides statistics on NHS General Ophthalmic Services eye examinations and voucher claims from 2006/07 to 2016/17.

NHS General Ophthalmic Services

NHS General Ophthalmic Services in Scotland (GOS) are provided by eye care professionals who use a wide variety of tests and procedures to examine the eyes of a patient during an eye examination. There are a number of possible outcomes following the examination including:

- No medical or corrective action needs to be taken
- A prescription for glasses / contact lenses needs to be issued
- A medical procedure may be required by the patient’s General Practitioner (GP) or a hospital specialist.

Policy

There have been significant legislative changes that have affected GOS during the period covered by this publication. On 1st April 2006 the NHS General Ophthalmic Services (Scotland) Regulations were established and the traditional NHS “sight test” was replaced by a comprehensive eye examination appropriate to the needs of the patient. On 1st April 2010 the regulations were amended and as a result, primary eye examinations can now only be undertaken in line with the set frequencies. Please see Appendix 1 for more details on the policy changes in 2006 and 2010.

Eye Care Professionals:

Optician

A person qualified to prescribe and dispense glasses and contact lenses, and to detect eye diseases (Optometrist) or to make and supply glasses and contact lenses (Dispensing optician). Opticians will be referred to as Optometrists or Ophthalmic Medical Practitioners in this report.

Optometrist (OP)

Primary health care specialist trained to examine the eyes to detect defects in vision, signs of injury, ocular diseases or abnormality and problems with general health. Optometrist is the modern term for an Ophthalmic Optician.

Ophthalmic Medical Practitioner (OMP)

Qualified doctor who has post-qualification training in optics and eye care.

Optical Assistant

Provides delegated care to patients and supports the dispensing of glasses.

Eye Examinations:

In this report, data on examinations relates to the following:

Primary

An initial eye examination carried out by an eye care professional, usually an OP or OMP, where the patient will have a comprehensive assessment of their eye health.

Supplementary

Additional eye care for patients when a primary examination is not required. This includes emergency eye care for patients, additional assessments and examinations, and follow-up of treatments.
**Hospital Eye Service (HES) Primary**
Primary Eye examination performed by an OP or OMP on behalf of a hospital, but not an NHS Primary Care health board. For example, a hospital that has no facility to carry out a full eye examination.

**Hospital Eye Service (HES) Supplementary**
Supplementary eye examination performed by an OP or OMP on behalf of a hospital, but not an NHS Primary Care health board. For example, a hospital that has no facility for a particular type of supplementary eye examination.

**Patient Type:**
- **Ordinary Resident**: A person living lawfully in the UK for settled purposes, as part of a person’s regular order of life.
- **Exempt Visitor**: Citizen of a member state of the European Economic Area or a country, with which the UK has reciprocal arrangements regarding health care.

**Domiciliary Visits**
Normally, patients are encouraged to visit the OP or OMP practice for a full comprehensive eye examination; however, sometimes a patient may not be able to get to the practice. In such circumstances, a fee can be claimed for a visit to a patient’s home or a day care centre on condition the OP or OMP states the reason why such a visit was necessary.

**Data Collection from GOS(S) and HES(S) forms**
OPTIX is the payment system which processes information on General Ophthalmic Services in Scotland. The OP or OMP submits a GOS(S) or HES(S) claim form for the services provided, which is signed by both the OP or OMP and the patient. The form is sent to Practitioner Services Division (PSD; now part of Practitioner & Counter Fraud Services) for processing. The forms are scanned and the information is stored in the OPTIX database.

Data reported in this publication are taken from the following GOS(S) and HES(S) forms:

- **GOS(S)1**: Used for NHS eye examinations
- **GOS(S)3**: Referred to as ‘vouchers’, these are used to provide a contribution to glasses or contact lenses
- **GOS(S)4**: Referred to as ‘vouchers’, these are used for repairs and replacement glasses or contact lenses.
- **HES(S)(R1)**: Issued by Hospital Eye Services (HES) when referring a hospital out patient to the General Ophthalmic Service (GOS). This is a record of an eye examination carried out by GOS on behalf of HES.

The HES(S)(R1) form collects less information about the eye examination compared to the GOS(S)1 form. As a result some data is not collated for this subset of examinations and therefore cannot be reported in this publication. This will be noted in the results and commentary section where applicable.
Vouchers
Eligible patients can receive help towards the cost of glasses or contact lenses using a voucher GOS(S)3. The voucher can only be issued by the OP or OMP following a valid GOS eye examination. GOS(S)4 vouchers relate to replacement or repair to glasses. Further information including the voucher categories and eligible patients are detailed in Appendix 3.

Clinical Conditions
When the patient is examined, the OP or OMP will identify clinical conditions within the eye and record some of them on the GOS(S)1 form. The patient will be asked if they have diabetes and this will also be recorded on the form (for further information and a list if the clinical conditions see Appendix A4). There are some data quality concerns relating to the capture of this information detailed in Appendix A5.

Data Analysis
Data in this report is published by the financial year (01 April – 31 March) in which the claim was paid.

NHS Board Boundaries
Data in this report is based on the NHS Board in which the practice is located. OPTIX, the payment system from which the data is extracted, does not have the capacity to look back at data up to 2013/14 using the new 2014 NHS Board boundaries. Therefore, data in this publication are reported as follows:
- 01 April 2014 onwards – using 2014 NHS Board boundaries

Changes to the Publication
Due to analytical errors, all data from 2006/07 to 2015/16 has been revised in this publication. This has resulted in only small differences compared to the published figures but has resulted in some changes to the interpretation of the results. All charts and tables are noted “R” and footnoted where appropriate. The revision affects the national totals as follows:

<table>
<thead>
<tr>
<th>Year</th>
<th>Previously published figure</th>
<th>Revised figure</th>
<th>Difference Value</th>
<th>Difference %</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006/07</td>
<td>1,520,673</td>
<td>1,572,455</td>
<td>51,782</td>
<td>3.4</td>
</tr>
<tr>
<td>2007/08</td>
<td>1,597,130</td>
<td>1,621,353</td>
<td>24,223</td>
<td>1.5</td>
</tr>
<tr>
<td>2008/09</td>
<td>1,192,002</td>
<td>1,718,819</td>
<td>526,817</td>
<td>44.2</td>
</tr>
<tr>
<td>2009/10</td>
<td>1,705,551</td>
<td>1,765,663</td>
<td>60,112</td>
<td>3.5</td>
</tr>
<tr>
<td>2010/11</td>
<td>1,774,949</td>
<td>1,797,960</td>
<td>23,011</td>
<td>1.3</td>
</tr>
<tr>
<td>2011/12</td>
<td>1,884,531</td>
<td>1,907,626</td>
<td>23,095</td>
<td>1.2</td>
</tr>
<tr>
<td>2012/13</td>
<td>1,903,633</td>
<td>1,927,081</td>
<td>23,448</td>
<td>1.2</td>
</tr>
<tr>
<td>2013/14</td>
<td>1,986,135</td>
<td>2,030,614</td>
<td>44,479</td>
<td>2.2</td>
</tr>
<tr>
<td>2014/15</td>
<td>2,020,593</td>
<td>2,039,845</td>
<td>19,252</td>
<td>1.0</td>
</tr>
<tr>
<td>2015/16</td>
<td>2,092,493</td>
<td>2,109,947</td>
<td>17,454</td>
<td>0.8</td>
</tr>
</tbody>
</table>
Some of the data in the publication were incorrectly titled or annotated. The following tables and figures have been amended to correctly reflect the data reported.

<table>
<thead>
<tr>
<th>Table/Figure No.</th>
<th>Previously Published Title</th>
<th>Details of error</th>
<th>Revised Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Figure 6</td>
<td>Number of claimants for glasses /contact lenses</td>
<td>This was incorrectly interpreted as the number of patients or GOS(S) vouchers</td>
<td>Number of glasses, lenses and supplements, excluding replacements</td>
</tr>
<tr>
<td>Figure 7</td>
<td>Number of claimants for glasses /contact lenses</td>
<td>This was incorrectly interpreted as the number of patients</td>
<td>Number of glasses, lenses and supplements</td>
</tr>
<tr>
<td>Figure 8</td>
<td>Number of claimants for single vision and bifocal lenses</td>
<td>This was incorrectly interpreted as the number of patients</td>
<td>Number of single vision and bifocal lenses</td>
</tr>
<tr>
<td>Tables 5a.1 &amp; 5a.2</td>
<td>Number of vouchers by claimant</td>
<td>This was incorrectly interpreted as the number of GOS(S) vouchers</td>
<td>Number of glasses, lenses and supplements by type of claimant</td>
</tr>
<tr>
<td>Tables 5b.1 &amp; 5b.2</td>
<td>Number of vouchers by all claim categories excluding supplements</td>
<td>This was incorrectly interpreted as the number of GOS(S) vouchers. The data includes supplements but excludes replacements</td>
<td>Number of glasses, lenses and supplements (excluding replacements) by claimant category</td>
</tr>
<tr>
<td>Tables 5c.1 &amp; 5c.2</td>
<td>Number of vouchers by all claim categories including supplements</td>
<td>In the previous publication, this was incorrectly interpreted as the number of GOS(S) vouchers. The data excludes most supplements, repairs and replacements</td>
<td>Number of glasses, lenses and complex supplements by claim category - Excludes supplements for prisms, tints and small frames, repairs and replacements</td>
</tr>
</tbody>
</table>
Main points

- In 2016/17 around 2.2 million eye examinations were performed by optometrists working in Scottish local communities, the highest level reported since 2006/07.
- Most patients attending for an eye examination were managed within primary care optometry (94%) and not referred for further investigation.
- Four in five claims were for initial eye examinations (primary examinations). The others were for emergency, additional or follow-up care (supplementary examinations).
- The most common reason for a supplementary examination was ‘Sudden vision loss and floaters’.
- Clinical conditions were recorded during the eye examination. Cataracts were the most common of all the recorded conditions (17%).
Results and Commentary

Eye Examinations Summary
In 2016/17, the total number of eye examinations undertaken in Scotland was around 2.2 million, an increase of 40% since 2006/07 (Figure 1a).

Figure 1a. Number of eye examinations, Scotland, by year; 2006/07 - 2016/17

Source: OPTIX
* Figures for 2006/07 to 2015/16 have been updated following the identification of errors in the methodology.

In April 2010, a change in legislation reduced the frequency and circumstances under which a primary examination can be undertaken. If these conditions are not met, only a supplementary examination can be claimed (see Appendix 1 for further information).

As a result of this change in the legislation, there was a change in the use of services; with an initial reduction in primary eye examinations and a corresponding increase in supplementary eye examinations (Figure 1b).

Primary eye examinations initially increased from over 1.5 million in 2006/07 to over 1.6 million in 2009/10, decreased to nearly 1.5 million in 2010/11 (the lowest recorded rate), before increasing to over 1.7 million in 2016/17. Supplementary eye examinations have increased each year, with a sharp increase in 2010/11 (increasing from around 120,000 to 300,000).
Figure 1b. Number of Primary and Supplementary eye examinations, Scotland, by year; 2006/07 - 2016/17

![Graph showing number of primary and supplementary eye examinations by year from 2006/07 to 2016/17]

Legislation change as at 01 April 2010

Source: OPTIX

Figures for 2006/07 to 2015/16 have been updated following the identification of errors in the methodology.

Figure 1c shows the percentage of primary and supplementary eye examinations undertaken in 2016/17, by NHS Board.

Figure 1c. Percentage of eye examinations by type and NHS Board; 2016/17

![Bar chart showing percentage of primary and supplementary eye examinations by NHS Board]

Source: OPTIX

Appendix 6 provides a more detailed breakdown of eye examinations, showing the number of eye examinations in financial years 2006/07 to 2016/17 for each NHS Board.
**Domiciliary Visits**

A domiciliary visit is claimed when an OP or OMP has visited the patient’s home or a day centre to carry out an eye examination. The number of such visits has shown a similar pattern to the total number of eye exams, increasing from around 37,000 in 2006/07 to around 51,000 in 2016/17 (up by 39%) (Figure 2).

**Figure 2. Number of Domiciliary visits, Scotland, by year; 2006/07 - 2016/17**

![Graph showing the number of domiciliary visits from 2006/07 to 2016/17]

Source: OPTIX

Figures for 2006/07 to 2015/16 have been updated following the identification of errors in the methodology.

Trend data on eye examinations in Scotland are provided in Tables 1a, 1b and 1c. Data by NHS board are provided in Tables 2a, 2b and 2c. The tables have been split at both the point of the legislation change (April 2010) and NHS Board boundary changes (April 2014). Therefore, Tables 1a and 2a show data from 2014/15; Tables 1b and 2b show data for 2010/11 to 2013/14 and Tables 1c and 2c show data for 2006/07 to 2009/10.

**Examinations undertaken on behalf of a hospital**

Eye examinations may be undertaken by an OP or OMP on behalf of a hospital, if, for example, it has no facility to carry out a full eye examination or a particular type of supplementary examination. In this report, these account for less than 1,700 examinations (0.04%) each year.

Data for these examinations are collected on HES(S)(R1) forms. This form collects less information about the eye examination compared to the GOS(S)1 form. As a result some data is not collated for this subset of eye examinations and therefore cannot be reported in the following sections of this report.

**Reasons for the Supplementary Examination**

The reason the examination was undertaken must be recorded for all supplementary exams. Further details including a list of reason codes can be found in Appendix 2.

Figure 3 shows the percentage breakdown of the new supplementary codes recorded from 2010/11 to 2016/17. These codes have been grouped into high, medium and low percentages for ease of display in the charts. The most common reason each year was code...
2.8: ‘Sudden vision loss / flashes and floaters or reduced visual acuity or neurological symptoms’, recorded for around 40% of supplementary examinations each year. The next most common reasons were code 2.5: ‘External eye/anterior segment’ and code 2.2: ‘Referral refinement - Repeat/follow-up procedure’, at around 14% - 29%.

Code 2.6: ‘Refraction for child under 16 referred by HES’ was consistently the smallest proportion of the codes, accounting for less than 1% of supplementary exams each year.

Figure 3. Percentage of supplementary examinations by reason and year, Scotland; 2010/11-2016/17

Trend data by NHS Board for 2014/15 - 2016/17, 2010/11 – 2013/14 and 2006/07- 2008/09 are provided in Tables 2a, 2b and 2c respectively. Scotland trend data can be found in Tables 1a, 1b and 1c.
Clinical Conditions Relevant to Eye Care

The OP or OMP records whether the patient presents with any of the listed clinical conditions on the GOS(S)1 form (see Appendix A4 for details on the listed conditions). If the patient does not present with any of the listed clinical conditions the OP or OMP can explicitly mark ‘none of the above’ on the form.

A patient can present with more than one clinical condition (e.g. a diabetic with signs of cataract and requiring glasses) and all of these are counted and reported. Therefore the total reported number of such clinical conditions will include patients more than once.

In 2016, analysis of clinical conditions data found potential discrepancies and inconsistencies in recording of two categories: ‘none of the above’ and ‘binocular vision anomaly, corrected refractive error, rapidly progressing myopia (BVA, CRE, RPM)’. Recording of the other clinical conditions appeared to be more consistently recorded. More details can be found in Appendix A5.

Clinical conditions are not collated on the HES(S)(R1) form; therefore this information cannot be reported for these eye examinations.

Figure 4a shows the number of clinical conditions recorded in 2016/17. The most and least frequently recorded conditions captured on the forms are ‘cataracts’ and ‘has neurological disorder’ (17% and <1% of all clinical conditions, respectively).

Due to the concerns surrounding the recording of information for ‘BVA, CRE, RPM’ and ‘none of the above’ caution should be taken when interpreting these figures, and as such they have been separated out from the rest of the clinical conditions.

**Figure 4a. Number of clinical conditions relevant to eye care, Scotland; 2016/17**

<table>
<thead>
<tr>
<th>Clinical condition</th>
<th>Number</th>
<th>Has cataracts</th>
<th>Has external eye disease</th>
<th>Has glaucoma / ocular hypertension</th>
<th>Has macula problems</th>
<th>Has neurological disorder</th>
<th>Has vitreo retinal problems</th>
<th>Is diabetic</th>
<th>Is over 40 and the relative of a glaucoma sufferer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Has BVA, CRE RPM None (box explicitly ticked)</td>
<td>434,529</td>
<td>1,024,906</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: OPTIX
A patient can present with more than one clinical condition, and therefore can be counted more than once.

From the list of clinical conditions, three categories; ‘Is diabetic’, ‘Has glaucoma or hypertension’ and ‘Is over 40 and the relative of a glaucoma sufferer’ can potentially increase the risk of a patient’s sight deteriorating and can affect younger people. These patients are entitled to have an annual eye examination due to their conditions posing a potential risk to the patient’s sight, and as a result, the trends over time are of clinical interest. The numbers relating to the risk factors are shown in Figure 4b.

For all three categories, the numbers have increased overall between 2006/07 and 2016/17 in line with the increase in eye examinations. However, only the condition ‘Is diabetic’ increased between 2015/16 and 2016/17 (up by 1%). ‘Has glaucoma or hypertension’ and ‘Is
over 40 and the relative of a glaucoma sufferer’ both decreased in the last year (down by 7% and 3% respectively).

Figure 4b. Glaucoma, Over 40 and a relative of glaucoma sufferer & Diabetic, Scotland, by year; 2006/07 - 2016/17

A full breakdown of the number of clinical conditions by NHS Board from 2014/15 to 2016/17 is given in Table 3a, and for 2006/07-2013/14, in Table 3b.

Patient Journey (Eye Examination Referrals)
The referral information recorded on the GOS(S)1 form details the patient’s journey, showing both how the patient accesses an eye examination (e.g. self-referral, recall, by a GP) and whether the patient is referred elsewhere following the examination. One ‘referral from’ and ‘referral to’ reason must be captured on the GOS(S)1 form for a claim to be processed.

It was not mandatory to record referral information until 2006, however, claims were still authorised and paid without referral information in 2007. Referral information is also not collated on the HES(S)(R1) form; therefore this information cannot be reported for these eye examinations. Such records are shown as “no referral data recorded” in the tables.

Figure 5a shows the number of referrals by the ‘Referred from’ category. The chart on the left shows the most common referral categories; Self referred and Recalls. The number of self-referred patients increased from almost 1.5 million in 2006/07 to over 1.6 million in 2008/09. The introduction of the ‘recall’ category resulted in a drop in self referrals to just over 1 million in 2009/10. Since then, the number of self referrals has increased in line with the number of eye examinations. From 2008/09, recalls have also increased in line with the number of eye examinations, from around 507,000 in 2008/09 to around 980,000 in 2016/17.

The chart on the right shows the less common referral categories (each accounting for less than 3% of all examinations each year); Hospital, Other Care Professional, GP and another Optometrist.
Figure 5a. Number of referrals by “Referred from” category, Scotland; 2006/07 - 2016/17

Source: OPTIX

*Figures for 2006/07 to 2015/16 have been updated following the identification of errors in the methodology

Figure 5b shows the number of referrals by the ‘referred to’ categories. The majority of patients are not referred onwards following an eye examination (chart on the left). Patients who are ‘not referred’ following an eye examination have consistently accounted for around 95% of all eye examinations and illustrate that the majority of patients are managed within community optometry.

The chart on the right shows the less common referral categories; Hospital, GP, Care Pathway and Optometrist. Although the number of referrals to a hospital has increased from around 21,000 patients in 2006/07 to over 82,000 in 2016/17, this category only accounts for less than 4% of the total number of referrals following an eye examination. It should be noted that in some Health Board areas patients may still have to be referred via their GP for an onward hospital referral.

Figure 5b. Number of referrals by “Referred to” category, Scotland; 2006/07 to 2016/17

Table 4a.1 and Table 4a.2 provide a full breakdown of who referred patients for an eye examination, for Scotland and by NHS Board, from 2014/15 to 2016/17, and 2006/07 to 2013/14, respectively. Table 4b.1 and Table 4b.2 detail to whom patients were referred following the eye examination, again for Scotland and by NHS Board from 2014/15 to 2016/17, and 2006/07 to 2013/14, respectively.
Vouchers

Numbers of glasses, lenses and supplements

Some patients are entitled to receive help with the cost of glasses or contact lenses (captured on a GOS(S)3 form; see Appendix 3 for further information). Details relating to the type of glasses or contact lenses supplied and any supplements such as prisms and tints are recorded. More than one pair of glasses or lenses may be claimed on each form and all are counted in the figures below.

The data in this section excludes repairs and replacements claimed on GOS(S)4 forms; however this data is available in the background tables, noted below.

Since the peak of over 501,000 in 2011/12, the number of glasses, lenses and supplements claimed has shown an overall decline since to around 450,000, in 2016/17, the lowest number reported (Figure 6).

Figure 6. Number of glasses, lenses and supplements claimed in Scotland, by year;
2006/07 - 2016/17

Source: OPTIX

Figures for 2006/07 to 2015/16 have been updated following the identification of errors in the methodology

Claimants

Children, students, complex lens users and adults receiving certain benefits may be eligible to receive help towards the cost of glasses or contact lenses. A full list of patient groups eligible for help is provided in Appendix 3.

Figure 7 shows the number of glasses, lenses and supplements claimed in 2016/17 by each patient group. The most frequent patient groups claiming help with costs for glasses and contact lenses are children and adults in receipt of pension credit. A similar pattern was seen in previous years.

A full breakdown by NHS Board (including repairs and replacements recorded on GOS(S)4 forms) are given in Table 5a.1 (2014/15 – 2016/17) and Table 5a.2 (2006/07 to 2013/14).
Figure 7. Number of glasses, lenses and supplements claimed by claimant group - Scotland, 2016/17

Source: OPTIX

Voucher Categories

Voucher categories relate to the type of prescription given for the lens. Single vision vouchers are categorised from A to D and bifocal vouchers are categorised from E to H. See Appendix 3 for more detail on the lens categories.

The number of each prescription type of single and bifocal lens issued in Scotland in 2016/17 is shown in Figure 8.

Figure 8. Number of single vision and bifocal lenses by type, Scotland; 2016/17

Source: OPTIX

Table 5b.1 and Table 5b.2 show the range of voucher categories and supplements claimed for from 2014/15 to 2016/17 and 2006/07 to 2013/14, respectively (including repairs and replacements recorded on GOS(S)4 forms). Table 5c.1 and Table 5c.2 provide a more detailed breakdown of those specifically for single vision, bifocal and multifocal lenses (excluding repairs and replacements).
<table>
<thead>
<tr>
<th>Glossary</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adults – JSA</td>
<td>Adults in receipt of Job Seeker’s Allowance</td>
</tr>
<tr>
<td>AMD</td>
<td>Age-related macular degeneration</td>
</tr>
<tr>
<td>BVA</td>
<td>Binocular Vision Anomaly</td>
</tr>
<tr>
<td>Care Pathway</td>
<td>Local schemes developed for local needs</td>
</tr>
<tr>
<td>CRE</td>
<td>Corrected Refractive Error</td>
</tr>
<tr>
<td>Exempt Visitor</td>
<td>Citizens of a member state of the European Economic Area or a country, with which the UK has reciprocal arrangements regarding health care</td>
</tr>
<tr>
<td>GOS(S)1</td>
<td>General Ophthalmic Service GOS(S)1 forms are used for NHS eye examinations</td>
</tr>
<tr>
<td>GOS(S)3</td>
<td>General Ophthalmic Service GOS(S)3 forms are referred to as vouchers and are used to provide glasses</td>
</tr>
<tr>
<td>GOS(S)4</td>
<td>General Ophthalmic Service GOS(S)4 forms are vouchers used for repairs and replacements to glasses/contact lenses.</td>
</tr>
<tr>
<td>HES(S)(R1)</td>
<td>Issued by Hospital Eye Services (HES) when referring a hospital out patient to the General Ophthalmic Service (GOS). This is a record of an eye examination carried out by GOS on behalf of HES.</td>
</tr>
<tr>
<td>HC2</td>
<td>Health care cost form for people on low incomes providing the full cost</td>
</tr>
<tr>
<td>HC3</td>
<td>Health care cost form for people on low incomes providing part of the cost</td>
</tr>
<tr>
<td>Income Related ESA</td>
<td>Income Related Employment Support Allowance</td>
</tr>
<tr>
<td>Ophthalmic Medical Practitioner (OMP)</td>
<td>Ophthalmic Medical Practitioners are qualified doctors who have a post-qualification training in optics and eye care</td>
</tr>
<tr>
<td>Optical assistant</td>
<td>Provides delegated care to patients and support the dispensing of glasses</td>
</tr>
<tr>
<td>Optician</td>
<td>A person qualified to prescribe and dispense glasses and contact lenses, and to detect eye diseases (Ophthalmic optician) or to make and supply glasses and contact lenses (Dispensing optician). Opticians will be referred to as Optometrists or Ophthalmic Medical Practitioners in this report.</td>
</tr>
<tr>
<td>Optometrist (OP)</td>
<td>Primary health care specialists trained to examine the eyes to detect defects in vision, signs of injury, ocular diseases or abnormality and problems with general health</td>
</tr>
<tr>
<td>Ordinary Resident</td>
<td>A person living lawfully in the UK for settled purposes, as part of a person’s regular order of life</td>
</tr>
<tr>
<td>Primary Eye Examination</td>
<td>An initial, eye examination is carried out by an eye care professional, usually an OP or OMP, where the patient will have a comprehensive assessment of their eye health</td>
</tr>
<tr>
<td>Recall</td>
<td>The practice asks the patient to come back for an eye</td>
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<tr>
<td>RPM</td>
<td>Rapidly Progressing Myopia</td>
</tr>
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<tr>
<td>Self-referred</td>
<td>The patient has chosen themselves to have an eye examination and has not been referred by a health professional</td>
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## List of Tables

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<td>Number of claimants for glasses/ contact lenses by group, Scotland</td>
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Contact

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Further Information
Further information can be found on the ISD website

NHS Performs
A selection of information from this publication is included in NHS Performs. NHS Performs is a website that brings together a range of information on how hospitals and NHS Boards within NHSScotland are performing.

Rate this publication
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Appendices
A1 – Methodology

Policy Changes
Legislative changes that have affected NHS General Ophthalmic Services during the period covered by this publication.

On 1st April 2006:
- The NHS (General Ophthalmic Services) (Scotland) Regulations were established
- The traditional NHS "sight test" was replaced by a comprehensive eye examination appropriate to the needs of the patient
- An initial eye examination was carried out focused on eye health (primary eye examination) and where necessary was followed up by a second eye examination (supplementary eye examination)
- The optical assistant may have taken a photograph of parts of the eyes to monitor eye health
- Everyone in Scotland became eligible for a fully funded NHS primary eye examination
- The recommendation was that a primary eye examination would be carried out at least every two years for all patients
- However, there were certain groups who were eligible for an annual primary eye examination. These were:
  - Children < 16 years
  - Patients > 60 years
  - Patients with Diabetes
  - Patients with Glaucoma
  - Patients > 40 years, closely related to someone with Glaucoma

Note: * relates to first generation (e.g. mother, father, sister, brother, son, daughter).

On 1 April 2010:
- The NHS (General Ophthalmic Services) (Scotland) Regulations 2006 were amended
- Primary eye examinations could now only be undertaken in line with the set frequencies for different categories of patients outlined above, that is, at intervals of one or two years respectively, and not any shorter than these intervals
- Other eye examinations required at shorter intervals than these frequencies could be undertaken as supplementary eye examinations.

As a result of this change in the legislation, there was also a change in the use of services; with an initial reduction in the use of primary eye examinations and a corresponding increase in the use of supplementary eye examinations. Further information can be found on the PSD website.

Items of Service
The OPTIX payment system automatically derives a patient’s age at the time of the eye examination by scanning the information entered on the GOS(S) claims form and comparing this with the patient’s history. Thus, appropriate payments are made for patients under 16 years, or those over 60 years, who are entitled to an annual eye examination instead of one
every two years. Everyone else continues to receive a fully funded eye examination every two years.

The supplementary eye examinations codes entered on the GOS(S) form detailing the reason for a supplementary eye examination also reduced from seventeen to nine codes following the regulation change in 2010. The list of supplementary eye examination codes can be found in Appendix A2.

Although the change in recording practice officially changed in 2010/11, some of the pre-2010 codes have been recorded after the regulation change while some of the post-2010 codes were used before the regulation change. As this activity has been recorded and subsequently paid in the OPTIX system these codes have been grouped into an ‘Other’ category and included in the analysis.
A2 – Primary and Supplementary Code Changes after 2010
Following the legislation change in 2010 both the primary and supplementary eye examination codes changed.

Primary Codes
Following the change in regulations in 2010, the number of primary eye examination codes entered in the GOS(S)1 form reduced from eight to two, namely:

(7) Patient is new to practice and the OP or OMP does not have access or means to access the patient’s records
(8) Patient turned 16, resulting in change in frequency between primary eye examinations from 1 to 2 years.

Prior to April 2010, the following primary codes were extracted from GOS(S)1 forms:
(1) Patient at risk of frequent changes of prescription for reasons not requiring medical referral or for reasons already known to a medical practitioner – justified by the patient’s history as recoded on the patient’s record
(2) Patient with pathology likely to worsen, for example age-related macular degeneration, cataract, corneal dystrophy or congenital anomalies
Patient has presented with symptoms or concerns requiring ophthalmic investigation:
(3.1) Resulting in referral to a medical practitioner, ophthalmic hospital or other care professional; or
(3.2) Resulting in issue of a changed prescription; or
(3.3) Resulting in either no change or no referral
(4) Patient has presented for an eye examination at the request of a medical practitioner, optometrist/ophthalmic medical practitioner or other care professional
(5) Other unusual circumstances requiring clinical investigation (add remarks to General Ophthalmic Services (Scotland) (GOS)(S)1)
(6) Early response, by up to four weeks, to recall. This allows testing where the appointment has been rearranged to suit an individual patient’s circumstances.

Supplementary Codes
The supplementary eye examinations codes entered on the GOS(S)1 form detailing the reason for a supplementary eye examination also reduced from seventeen to nine codes (codes 2.0 to 2.8), following the regulation change in 2010, namely:

(2.0) Cycloplegic Sight test either after or during routine eye exam
(2.1) Paediatric review within 12 months of the previous exam
(2.2) Referral refinement. Repeat/follow-up procedure
(2.3) Suspect glaucoma/unusual optic nerve appearance or other abnormalities
(2.4) Under 60s with suspect conditions
(2.5) External eye/anterior segment disorder
(2.6) Refraction for child under 16 referred by HES
(2.7) Patient discharged by HES following cataract operation
(2.8) Sudden vision loss/flashes and floaters or reduced visual acuity or neurological symptoms.

Prior to April 2010, the following supplementary codes were extracted from the GOS(S)1 forms:

Acute presentation/ocular emergency assessment
Binocular Vision Anomaly
Biomicroscopy
Cycloplegic refraction
External eye/anterior chamber follow up
Headaches/neurological symptoms
Multiple reasons selected
New symptoms (e.g. change in Rx)
Other
Other circumstances requiring clinical evaluation
Paediatric follow up
Paediatric review (e.g. BVA, RPM)
Referral refinement (e.g. repeat procedure)
Referral refinement/Rpt visual & applanation
Repeat external assessment
Under 60 dilation, slit lamp bio & image
Vitreo-retinal problems (e.g. flashes)
A3 – Vouchers

Categories
Eligible patients can receive help towards the cost of glasses or contact lenses using a voucher GOS(S)3. The voucher can only be issued by the OP or OMP following a valid GOS eye examination.

GOS(S)4 vouchers can be used by ophthalmic practices to claim payment for replacement or repair to glasses for eligible patients.

Voucher categories depend on the prescription for the lens. Single vision lenses fall within voucher category A to D. Bifocal or Multifocal lenses fall within voucher category E to H. The patient’s optical prescription determines the voucher category she/he is eligible for on condition the patient falls into the eligible claimant categories.

Items included:
Single vision – A, B(1), B(2), C D(1), D(2).

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<tr>
<td>Plano – 6.00</td>
<td>A</td>
<td>B</td>
<td>D</td>
</tr>
<tr>
<td>6.25 – 9.75</td>
<td>B</td>
<td>B</td>
<td>D</td>
</tr>
<tr>
<td>10.00 – 14.00</td>
<td>C</td>
<td>C</td>
<td>D</td>
</tr>
<tr>
<td>Over 14</td>
<td>D</td>
<td>D</td>
<td>D</td>
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Bifocal - E, F(1), F(2), G, H(1), H(2), H(3)

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<td>6.25 – 9.75</td>
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<td>H</td>
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<tr>
<td>10.00 – 14.00</td>
<td>G</td>
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<td>H</td>
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<tr>
<td>Over 14</td>
<td>H</td>
<td>H</td>
<td>H</td>
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Complex lenses - Complex Supplement Single, Complex Supplement Bifocal

Worked Prism lenses - Prism Supplement Single, Prism Supplement Bifocal

Tinted lenses fitted - Tint Supplement Single, Tint Supplement Bifocal

Small glass supplement - Small Glasses Supplement

Repairs - Frame Repair Front, Frame Repair Side, Frame Repair Whole Prism Repair Bifocal,
Prism Repair Single, Repair lens A, B(1), B(2), C, D(1), D(2), E, F(1), F(2), G, H(2), H(3),
Note: If a patient is entitled to subsidised eye care, they must present evidence of this to the OP or OMP. A list of eligible patients who can receive vouchers is listed below. Further information on vouchers can be found on PSD’s website.

Claimants
Below is a list of groups who can receive help towards the cost of glasses or contact lenses using vouchers GOS(S)3 and GOS(S)4:
- Children under 16
- Students
- Adults on Income Support
- Adults in receipt of Job Seeker’s Allowance
- HC2 holder (Health care cost form for people on low incomes).
- HC3 holder (Health care cost form for people on low incomes).
- Complex lens user
- Receiving Tax credit
- Receiving Pension credit
- Income Related Employment Support Allowance.
A4 – Clinical Conditions

If a patient has any of the following clinical conditions, they will be recorded on the GOS(S)1 form, as some of them may increase the risk of damage to eyesight. A patient can present with more than one condition and as such all conditions recorded on the GOS(S)1 form are counted:

Cataracts: Where the natural lens inside the eye is unclear, cloudy or opaque. Sight loss can be restored by sophisticated surgery

Diabetes: Diabetes is a growing health problem that can also affect the eyes and quality of vision. Regular eye examinations are essential to pick up undesirable changes, making sure appropriate treatment is implemented and avoid blindness resulting from untreated diabetic eye disease

Glaucoma: Glaucoma is a range of diseases that can affect the optic nerve, pressure of fluid inside the eye, quality of vision and visual fields. Regular eye checkups can help avoid blindness resulting from the insidious effects of untreated glaucoma. Close relatives of someone with glaucoma are at a greater risk of developing the condition

External eye disease: Any condition affecting the surface of the eye and surrounding tissue (e.g. dry eye, conjunctivitis, blepharitis)

Ocular hypertension: Where the pressure of fluid inside the eye is above normal but there are no other insidious signs of glaucoma

BVA (binocular vision anomaly): Describes any condition where the two eyes are not working in total harmony with each other. This can lead to a range of symptoms if not treated properly. Most can be treated with glasses and/or particular types of eye exercises

CRE (corrected refractive error): Describes any condition where the optical defect of the eyes can be corrected with lenses (glasses or contact lenses)

RPM (rapidly progressing myopia): Short sightedness that is unstable, increasing by significant amounts year to year

Macula problems: Where the macula (the central part of the retina) has visible signs of abnormality or disease

Neurological disorder: Where the nerves associated with eye movements or tissue around the eyes are affecting the general comfort of vision (e.g. double vision, headaches after concentrated vision tasks etc)

Vitreo-retinal problems: Any condition affecting the jelly inside the eye (vitreous) and possibly the retina (e.g. floaters)
A5 – Investigation of the Coding of Clinical Conditions

Potential discrepancies and inconsistent recording of clinical conditions across Scotland have been identified.

In 2016, analysis of clinical conditions data found potential discrepancies in the number of forms with ‘none of the above’ recorded on them, with this number (43% of all forms) being higher than is generally expected. Deeper investigation of this issue (by examining data from two comparable practices with a similar patient demographic were identified to allow comparisons of the coding, and determine whether any sensible inferences could be made (Table AA).

Percentages of conditions selected on forms for both practices (A and B) and the average for their NHS Board (HB) in 2015 are shown below. The difference in ‘none of the above’ and ‘binocular vision anomaly, corrected refractive error, rapidly progressing myopia (BVA, CRE, RPM)’ is apparent.

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<th>2015 Percentages</th>
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<td>Conditions</td>
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<tr>
<td>BVA, CRE, RPM</td>
<td>52.0%</td>
<td>1.0%</td>
<td>15.3%</td>
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<tr>
<td>Cataracts</td>
<td>16.6%</td>
<td>20.8%</td>
<td>19.3%</td>
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<tr>
<td>Diabetic</td>
<td>4.2%</td>
<td>6.2%</td>
<td>5.2%</td>
</tr>
<tr>
<td>External Eye Disease</td>
<td>6.2%</td>
<td>1.5%</td>
<td>4.4%</td>
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<tr>
<td>Glaucoma</td>
<td>1.7%</td>
<td>1.8%</td>
<td>1.3%</td>
</tr>
<tr>
<td>Macula Problems</td>
<td>5.3%</td>
<td>3.6%</td>
<td>5.2%</td>
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<tr>
<td>Neurological Disorder</td>
<td>0.6%</td>
<td>0.2%</td>
<td>0.8%</td>
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<td>None of the above</td>
<td>7.2%</td>
<td>58.0%</td>
<td>41.4%</td>
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<td>Ocular Hypertension</td>
<td>0.1%</td>
<td>0.6%</td>
<td>0.9%</td>
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<td>Over 40 and relative of someone with glaucoma</td>
<td>4.6%</td>
<td>4.3%</td>
<td>4.2%</td>
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<tr>
<td>Vitreo Retinal Problems</td>
<td>1.3%</td>
<td>1.9%</td>
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This would suggest that ‘BVA, CRE, RPM’ and ‘None of the above’ are recorded inconsistently and therefore reported incorrectly, whereas the other conditions seem to be reasonably similar, suggesting there is consistent and correct recording.

Further evidence to support this is given below in Table BB. When a ‘new or changed prescription’ is recorded on the GOS(S)1 form, then it follows that the clinical condition ‘has BVA, CRE, RPM’ should also be recorded (as the prescription issued relates to the correction of a refractive error). Therefore, forms with ‘none of the above’ recorded in the clinical conditions section should not have a ‘new or changed prescription’ recorded. A validation check on this was carried out to determine how many of the forms with the claim type ‘new or changed prescription’ also had ‘none of the above recorded as the clinical condition’. The table below shows there were over 670,000 and 660,000 incorrect claims in Scotland in the calendar years 2014 and 2015.
Table BB. Number of incorrect claims in Scotland; 2014 and 2015

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<td>Number of ‘none of the above’</td>
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To aid better and more accurate recording of data a further, more in-depth investigation is planned in the next 12 month across many more practices in Scotland to assess coding and how this may affect reported figures, and to understand how the data can be improved to aid more accurate information recording and service planning.

During this time a data warehouse for Ophthalmic information will be built enabling direct access to the data which can be drilled down and interrogated. This will result in more effective analysis and a greater understanding of recording practices (for more details, contact NSS.isd-dental-info@nhs.net)
A6 – Number of eye examinations by NHS Board and year; 2006/07 – 2016/17
The red line in the graphs displays the time of the NHS Board boundary change and is only included for the Boards affected.
A7 - Links to other sources of ophthalmic health information

The sources below offer information related to eye care services and health. Most of these sources are external to ISD and we cannot guarantee the content or accessibility of these external web sites. ISD cannot comment on the ophthalmic payment verification systems nor the optician payment tariffs used by other organisations. However, aspects such as numbers of eye tests, vouchers used and repairs and replacements are more closely comparable. Note that since eye tests are full funded by the NHS to the whole population in Scotland, unlike in other parts of the UK, the higher numbers per population would be expected in comparison to other countries where some patients would pay a fee.

Other providers of ophthalmic data in the UK include:

Health & Social Care Information Centre – General Ophthalmic Services: HSCIC provide ophthalmic activity data on eye tests, vouchers used, expenditure, glasses repairs and replacements and geographical data for England up to March 31, 2017.

Stats Wales – Eye Care Statistics: Stats Wales provide ophthalmic activity data on data on eye tests, vouchers used, glasses repairs and replacements and geographical (Local Health Board) data for Wales up to March 31, 2017. This is presented annually and by Local Health Board.

HSC Business Services Organisation – Ophthalmic Statistics: HSC BSO provide extensive data for Northern Ireland on medical practitioners and optometrists up to March 31, 2015, and sight tests conducted, vouchers used, glasses repairs and replacements and overall expenditure, by local government district up to March 31, 2013.

Royal National Institute for the Blind (RNIB) Scotland: RNIB provide extensive information on eye health and sight-loss including comprehensive clinical descriptions of eye conditions.
## A8– Publication Metadata (including revisions details)

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<tr>
<td>Description</td>
<td>This release provides information on General Ophthalmic Services (GOS) Statistics for 2016/17. Information on referrals, reasons for primary and supplementary NHS eye examinations and patient type for financial year 2006/07 to 2015/16 can also be found in this release.</td>
</tr>
<tr>
<td>Theme</td>
<td>Eye Care.</td>
</tr>
<tr>
<td>Topic</td>
<td>General Ophthalmic Services workload.</td>
</tr>
<tr>
<td>Format</td>
<td>Excel workbooks and PDF.</td>
</tr>
<tr>
<td>Data source(s)</td>
<td>OPTIX.</td>
</tr>
<tr>
<td>Date that data are acquired</td>
<td>20 September 2017.</td>
</tr>
<tr>
<td>Release date</td>
<td>10 October 2017.</td>
</tr>
<tr>
<td>Frequency</td>
<td>Annual.</td>
</tr>
<tr>
<td>Timeframe of data and timeliness</td>
<td>1 April 2006 - 31 March 2017. Seven months in arrears.</td>
</tr>
<tr>
<td>Continuity of data</td>
<td>Reports annually for latest financial year.</td>
</tr>
<tr>
<td>Revisions statement</td>
<td>Data for 2014/15 onwards reflects the 2014 NHS Board boundary change. ISD aims to continually improve the interpretation of the data and therefore analysis methods are regularly reviewed and may be updated in future.</td>
</tr>
<tr>
<td>Revisions relevant to this publication</td>
<td>Revisions See <a href="#">Changes to Publication</a> section for details of revisions.</td>
</tr>
<tr>
<td>Concepts and definitions</td>
<td>See Glossary and footnotes.</td>
</tr>
<tr>
<td>Relevance and key uses of the statistics</td>
<td>Making information publicly available for planning, provision of services, research, etc.</td>
</tr>
<tr>
<td>Accuracy &amp; Completeness</td>
<td>General Ophthalmic Services data are considered highly accurate and reliable; they are the product of practitioners’ detailed records of treatments provided to their patients submitted for payment purposes. Practitioner Services internal reporting routinely quantifies the accuracy of OPTIX source data. However, errors made by practitioners in claiming for treatment provided are identified by OPTIX’s validation algorithms or by the practitioner and would be corrected in the next available payment schedule (usually the following month). Summary of the quality assurance undertaken in the ophthalmic payments process:</td>
</tr>
</tbody>
</table>
Two types of checks are made as payment verification of GOS payments (see [http://www.psd.scot.nhs.uk/professionals/ophthalmic/payment-verification.html](http://www.psd.scot.nhs.uk/professionals/ophthalmic/payment-verification.html)). The Level 1 checks are there to check the quality of the data held in each claim against the historic information held in the database; Levels 2-4 are designed to determine unusual payment or treatment patterns, including potentially fraudulent claims by opticians.

The Level 1 checks cover a range of validations to ensure the payment claims submitted meet the criteria laid down within the Statement of Ophthalmic Remuneration, that they are not duplicates, that they make sense with regards to the claim being made by the optician, and are run against all relevant patient records and business rules before being accepted onto the database.

The second type of checks (the Level 2-4 checks) are largely aimed at identifying outlier claim patterns and then determining whether these are variant treatment practice, miss-claiming or potentially fraud. The Level 2 checks involve undertaking trend analysis to try to identify outlier patterns which may indicate fraudulent activity, while levels 3 and 4 involve examining and auditing ophthalmic care records, usually during practice visits on either a random or targeted basis. All of these activities will improve accuracy with any errors identified and resolved within the database.

<table>
<thead>
<tr>
<th>Comparability</th>
<th>Comparisons with UK-wide statistics - See Appendix A7.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accessibility</td>
<td>It is the policy of ISD Scotland to make its web sites and products accessible according to published guidelines.</td>
</tr>
<tr>
<td>Coherence and clarity</td>
<td>Tables and charts are accessible via the ISD website.</td>
</tr>
<tr>
<td>Value type and unit of measurement</td>
<td>Number of eye examinations carried out by General Ophthalmic Services; number of payment exemption vouchers claimed.</td>
</tr>
<tr>
<td>Disclosure</td>
<td>The ISD protocol on Statistical Disclosure Protocol is followed.</td>
</tr>
<tr>
<td>UK Statistics Authority Assessment</td>
<td>Awarded. Further details can be found in the UKSA assessment report (<a href="http://www.psd.scot.nhs.uk/professionals/ophthalmic/payment-verification.html">report 209</a>).</td>
</tr>
<tr>
<td>Last published</td>
<td>19 September 2016</td>
</tr>
<tr>
<td>Next published</td>
<td>October 2018</td>
</tr>
<tr>
<td>Date of first publication</td>
<td>31 July 2007. Revised format 21 April 2015.</td>
</tr>
<tr>
<td>Help email</td>
<td>All ophthalmic enquiries should be sent to <a href="mailto:NSS.ISD-Dental-Info@nhs.net">NSS.ISD-Dental-Info@nhs.net</a>. This mailbox is monitored by staff from the Dental &amp; Ophthalmic team.</td>
</tr>
<tr>
<td>Date form completed</td>
<td>21 September 2017.</td>
</tr>
</tbody>
</table>
A9 – Early Access details (including Pre-Release Access)

Pre-Release Access
Under terms of the "Pre-Release Access to Official Statistics (Scotland) Order 2008", ISD are obliged to publish information on those receiving Pre-Release Access ("Pre-Release Access" refers to statistics in their final form prior to publication). The standard maximum Pre-Release Access is five working days. Shown below are details of those receiving standard Pre-Release Access.

Standard Pre-Release Access:
- Scottish Government Health Department
- NHS Board Chief Executives
- NHS Board Communication leads
A10 – ISD and Official Statistics

About ISD

Scotland has some of the best health service data in the world combining high quality, consistency, national coverage and the ability to link data to allow patient based analysis and follow up.

Information Services Division (ISD) is a business operating unit of NHS National Services Scotland and has been in existence for over 40 years. We are an essential support service to NHSScotland and the Scottish Government and others, responsive to the needs of NHSScotland as the delivery of health and social care evolves.

Purpose: To deliver effective national and specialist intelligence services to improve the health and wellbeing of people in Scotland.

Mission: Better Information, Better Decisions, Better Health

Vision: To be a valued partner in improving health and wellbeing in Scotland by providing a world class intelligence service.

Official Statistics

Information Services Division (ISD) is the principal and authoritative source of statistics on health and care services in Scotland. ISD is designated by legislation as a producer of ‘Official Statistics’. Our official statistics publications are produced to a high professional standard and comply with the Code of Practice for Official Statistics. The Code of Practice is produced and monitored by the UK Statistics Authority which is independent of Government. Under the Code of Practice, the format, content and timing of statistics publications are the responsibility of professional staff working within ISD.

ISD’s statistical publications are currently classified as one of the following:

- National Statistics (i.e. assessed by the UK Statistics Authority as complying with the Code of Practice)
- National Statistics (i.e. legacy, still to be assessed by the UK Statistics Authority)
- Official Statistics (i.e. still to be assessed by the UK Statistics Authority)
- other (not Official Statistics)

Further information on ISD’s statistics, including compliance with the Code of Practice for Official Statistics, and on the UK Statistics Authority, is available on the [ISD website](#).

The United Kingdom Statistics Authority has designated these statistics as National Statistics, in accordance with the Statistics and Registration Service Act 2007 and signifying compliance with the Code of Practice for Official Statistics. Designation can be broadly interpreted to mean that the statistics:

- meet identified user needs;
- are well explained and readily accessible;
- are produced according to sound methods, and
- are managed impartially and objectively in the public interest.

Once statistics have been designated as National Statistics it is a statutory requirement that the Code of Practice shall continue to be observed.