



Llywodraeth Cymru  
Welsh Government

BACKGROUND, DOCUMENT

# Eye care statistics: quality report

This report covers the general principles and processes leading up to the production of our statistics.

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# Statistical presentation

## Data description

The release provides a range of statistics relating to eye care services in Wales, including primary care services, secondary care services and workforce.

Primary care statistics are included on services available through the Welsh General Ophthalmic Service (WGOS) and targeted Welsh eye care services such as the Diabetic Eye Screening Wales (DESW).

Secondary care statistics are included on admissions to hospitals, outpatient appointments, referral to treatment waiting times and eye care measures.

Statistics are also included on both the primary care and secondary care workforce.

## Statistical concepts and definitions

### Primary care

Optometrists working in primary care in Wales (typically in high street optician's premises) can provide services which are free to some patients, under WGOS. After a service is performed, the optometrist submits a claim for payment for providing that service to NHS Shared Services Partnership (NWSSP). The statistics in this release relating to WGOS are based on the administrative data collected through this process.

**Eligibility criteria and definitions of services included are published on the Welsh Government website.**

## **Summary of the full WGOS service**

### **WGOS 1**

An eye examination comprising of a sight test (as defined by the Opticians Act 1989 with embedded prevention and well-being provision to create a patient management plan specific to the patient.

### **WGOS 2**

#### **Band 1**

Acute eye care and referrals from another healthcare professional.

#### **Band 2**

Further examination to inform or prevent a referral.

#### **Band 3**

Follow up to Band 1 and Post Cataract Assessment.

### **WGOS 3**

Enables patients who would benefit from optical and non-optical aids as well as holistic rehabilitation support (including sight impairment registration) and advice to access a low vision service in or close to their place of residence. WGOS 3 also includes Certification of Vision Impairment (CVI).

## **WGOS 4**

A service where patients who would previously have been referred to/or managed in the Hospital Eye Service (HES) instead remain in primary care for further enhanced assessment as part of an agreed referral refinement or monitoring pathway.

## **WGOS 5**

Provision of eye care services in primary care that require an independent prescriber optometrist to manage, treat and monitor patients to prevent onward referral.

## **WGOS Optical Vouchers**

Provision of optical appliances.

In addition to WGOS statistics, the release also includes statistics from **Diabetic Eye Screening Wales (DESW) (Public Health Wales)**. The statistics focus on the number of patients who are eligible for screening and how many screening occurred in the reference year. All people living in Wales, over age 12 who have been diagnosed with diabetes are eligible for diabetic eye screening. The frequency of screening is dependent on the patient's circumstances; if the patient's last two diabetic eye screenings found no sign of diabetic eye disease, they should be screened every two years, whereas any patients with diabetic eye disease should be screened more often.

Data on new registrations for **certificates of visual impairment (CVI) (Department of Health and Social Care)** have been provided by Moorfields Eye Hospital NHS Foundation Trust from the Database for Epidemiological data on Visual Impairment Certificates (DEVICE). The analysis is supported by RNIB,

the NIHR Biomedical Research Centre for Ophthalmology and the Royal College of Ophthalmologists.

Patient counts relate to completions of CVI (all causes - preventable and non-preventable) by a consultant ophthalmologist. The cause of sight loss counts of CVIs are provided for the three main eye diseases, which can result in blindness or partial sight if not diagnosed and treated in time. These are age related macula degeneration (AMD), glaucoma and diabetic retinopathy. For each cause the counts include sight loss due to each cause as the main cause or if no main cause as a contributory cause, which could result in individuals being counted again under other conditions if more than one contributory cause. Note that for Diabetic retinopathy these are not counts of diabetics with visual impairments due to any cause.

## Secondary care

This release draws out the key, eye-care specific parts of wider secondary care statistical publications.

**Referrals (StatsWales)** statistics count the number of referrals received by Welsh local health boards for a first outpatient consultant appointment (regardless of the patient's area of residence).

The referral date is the date which the local health board received the referral and not the date which the patient was referred.

**Referrals for first outpatient appointments for all specialities has its own quality report.**

The **referral to treatment times (StatsWales)** statistics in this release show data on the waiting time from referral by a GP or other medical practitioner to ophthalmology hospital departments, for treatment in the NHS in Wales. Data on

Welsh residents treated or waiting for treatment outside of Wales is not included in the release.

A patient is defined to have been treated, or their pathway closed if either, following consultation with a hospital specialist, no hospital treatment is necessary or if treatment begins. This could include:

- being admitted to hospital for an operation or treatment
- starting treatment that does not require a stay in hospital (for example, medication)
- beginning the fitting of a medical device
- starting an agreed period of time to monitor the patient's condition to see if further treatment is needed
- it is determined that the patient does not need treatment or has died

Open pathways refer to the patient pathways where the patient has yet to start treatment and they are actively on the waiting list for treatment.

'Patient pathways' are counted, rather than patients. 'Patient pathways' and 'patients' do not approximate to each other as the same patient could have multiple pathways for different conditions. This is particularly important to note in relation to eye care, as there will be a referral for each condition, in each eye. For example, if a single patient had two conditions affecting both eyes, four different pathways would be opened.

**Referral to treatment statistics for all specialities, not just ophthalmology, also has its own quality report.**

An **outpatient attendance (StatsWales)** is defined as a patient who attends an ophthalmology department (speciality code 130) at an NHS hospital for treatment or a consultation with either a consultant or a specialist nurse, without staying there overnight. Appointments with other health professionals and telemedicine are not captured.

The **Digital Health and Care Wales (DCHW) data dictionary** defines the types of appointments included in each category.

Total Attendances includes all outpatient attendances including new, follow-up and pre-operative assessment attendances where the patient was coded as being seen.

Follow-up attendances includes all follow-up appointments (**Attendance Category = '2' (Data Dictionary)**) where the patient was coded as being seen.

New Attendances include any attendance that is the start of the outpatient episode and is the first attendance in a series with the same consultant or independent nurse following a referral (**Attendance Category = '1' (Data Dictionary)**) and where the patient was coded as being seen.

Pre-operative assessment attendances includes all pre-operative appointments (**Attendance Category = '3' (Data Dictionary)**) where the patient was coded as being seen.

**Hospital admissions (StatsWales):** Patients are defined as being admitted to hospital if they stay at least one night (inpatients), or if they are admitted electively for treatment or care that does not require an overnight stay in hospital (day cases).

The first period of inpatient care under one consultant within one healthcare provider are counted, in which they begin.

Data is sourced through the **Patient Episode Database for Wales (PEDW) (Digital Health and Care Wales)** and the total number of admissions to ophthalmology is based on speciality code 130.



## Principal diagnosis codes for specific conditions relating to ophthalmology

### Age Related Macular Degeneration

H353

Degeneration of macula and posterior pole.

### Cataract

H25

Senile cataract.

H26

Other cataract.

H281

Cataract in other endocrine, nutritional and metabolic dis

H282

Cataract in other diseases classified elsewhere.

**Q120**

Congenital cataract.

## **Glaucoma**

**H40**

Glaucoma.

**H42**

Glaucoma in diseases classified elsewhere.

**Q150**

Congenital glaucoma.

## **Diabetic Retinopathy**

**H360**

### **Diabetic retinopathy with any of these diabetes codes**

**E103**

Insulin-dependent diabetes mellitus with ophthalmic complications.

E113

Non-insulin-dependent diabetes mellitus with ophthalmic complications.

E123

Malnutrition-related diabetes mellitus with ophthalmic complications.

E133

Other specified diabetes mellitus with ophthalmic complications.

E143

Unspecified diabetes mellitus with ophthalmic complications.

**DHCW publish further quality information for statistics sourced from PEDW** on their website.

**Eye care measures for NHS outpatients (StatsWales)** have been designed to provide a framework for new and follow up ophthalmology patients, based on the priority and urgency of care required by each patient and are being reported in addition to the current referral to treatment waiting times.

## **Health Risk Factors associated with the eye care measures**

R1

Risk of irreversible harm or significant patient adverse outcome if target date is

missed.

**R2**

Risk of reversible harm or adverse outcome if target date is missed.

**R3**

No risk of significant harm or adverse outcome.

**Target date**

A clinically determined maximum waiting time following referral for a new or follow up ophthalmology outpatient appointment which is in line with national condition specific guidance.

**Waiting within target date**

The number of new and follow-up ophthalmology outpatient pathways that are at or within their target date at the end of the month.

**Waiting within 25% of beyond target date**

The number of new and follow up ophthalmology outpatient pathways that are up to 25% beyond their target date at the end of the month.

**[Eye care measures statistics has its own quality report.](#)**

## Workforce

Between 2020 and 2024 primary care optometry workforce is defined as the number of optometrists on the [Ophthalmic performers list \(NHS Wales Shared Services Partnership \(NWSSP\)\)](#). Optometrists must be registered on this list before they are enabled to deliver services in Wales.

Secondary care ophthalmology doctors and orthoptic staff are defined by the [NHS occupation code \(NHS Digital\)](#) which is recorded on the Electronic Staff Record (ESR).

### Ophthalmology doctors staff occupation codes

**M025**

Doctors in Ophthalmology

**M096**

Doctors in medical ophthalmology

### Orthoptic staff codes

**S0D**

Manager - Orthoptics

**S1D**

Therapist - Orthoptics

**S2D**

Scientist - Orthoptics

**S4D**

Technician - Orthoptics

**S5D**

Assistant Practitioner - Orthoptics

**S9D**

Assistant - Orthoptics

**Staff directly employed by the NHS, for all job types has its own quality report.**

## **Statistical unit**

For primary care activity, the majority of the statistics are based on the number of claims made for payment. For example, WGOS 1 sight tests refers to the number of claims made for sight tests provided by NHS optometrists. Where there are characteristic breakdowns, for example low vision assessments by

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age, these are the number of assessments made, broken down by the age of the patient.

For secondary care, the statistical unit is patient pathways for referral to treatment statistics. The units in the other sections depend on the activity, for example statistics on admissions to ophthalmology is based on the number admissions not the number of unique patients.

For workforce, the primary care statistics are based on headcounts as full-time equivalent (FTE) data is not available. For staff directly employed by the NHS (secondary care workforce), statistics are based on FTE.

## Statistical population

The primary care statistics relate to activity which took place in Welsh health boards.

Most of the secondary care statistics relate to activity which took place in Welsh hospital settings. The exception is outpatient attendances which is based on all patients registered with a Welsh GP, as some specialist eye care services are based in English hospitals.

Any private eye care services are not included in these data.

Primary care workforce data relates to optometrists registered on the Ophthalmic performers list. Staff directly employed by the NHS (secondary care) data relates to those recorded on ESR.

## Reference area

Statistics are published at Wales and local health board level.

## Time coverage

Sight test data is available from 1996, with some of the more detailed primary care data available from 2008.

Referral to treatment and outpatient activity data is available from 2011.

Eye care measures data is available from April 2019.

Admissions data is available from 2008.

Primary care workforce data is available from 1996; staff directly employed by the NHS (secondary care) data is available from 2009.

## Statistical processing

### Source data

The majority for primary care data is sourced from ophthalmic payments systems, maintained by primary care services in NWSSP.

Certificates of vision impairment are sourced from Moorfields Hospital, but from 2023-24 will be sourced from NWSSP.

Outpatients data is sourced from the outpatients minimum dataset, hosted by Digital Health and Care Wales (DHCW); referral to treatment data is sourced from the RTT dataset in DHCW and referrals data is sourced from Outpatient Referral Dataset, also hosted by DHCW.

Hospital admissions data is sourced from PEDW (hosted by DHCW).



Primary care workforce data is sourced from the ophthalmic performers list, hosted by NWSSP.

Staff directly employed by the NHS data is sourced from the Electronic Staff Record (ESR) maintained by Health Education and Improvement Wales (HEIW).

## Data validation

The majority of primary care eye care activity data in this release is based on claims for payment which are processed by NWSSP. Those claims are assessed by NWSSP before being made. Data is submitted to Welsh Government where further validations take place, such as:

- data is submitted for every health board
- data at each level of aggregation is within expected limits of previous years
- data for sub-sections sums correctly to section totals
- data for all parts of WGOS which are operational, are submitted

Where any suspected data quality issues are identified, information is relayed to NWSSP for further investigation.

Similar processes are in place for the other statistics presented in this release; however, note that information on specific validation steps for referrals for first appointments, referral to treatment times, eye care measures, admissions and staff directly employed by the NHS are provided in their own quality reports, linked in the statistical concepts and definitions section.

The primary care optometry workforce data is provided by NWSSP and is based on the ophthalmic performers list which includes both individual contractors and the supplementary list. Anonymized individual level data is shared and the data is checked to ensure that the 'list status' data item is equal to 'included'.

In previous years there has been a longer lag in the performers list being maintained, when optometrists are no longer working in Wales. However, following the introduction of the WGOS in 2023, more detailed scrutiny of the performers list resulted in more optometric performers being removed from the list than in previous years.

Prior to 2020, primary care optometry workforce data was sourced from the Exeter payment system. More information on historic validations of this data is included in the [quality report for the archived Sensory Health Statistical release](#).

## Adjustment

Sight test data collected through WGOS1 is subject to some estimation. Due to the scale of the number of sight tests, the information from only 1 in 50 sight tests is recorded to a database. This means that the information from that sample is scaled up to estimate the number of sight tests by eligibility criteria. While only a 2% sample is taken, the time series of the data is broadly stable.

No other adjustments are made to the data.

## Quality management

### Quality assurance

Quality assurance is undertaken in line with the [quality strategy](#) and the Quality pillar of the [Code of Practice for Statistics](#).

## Quality assessment

These statistics are currently classified as 'Accredited Official Statistics', formerly known as National Statistics. **Accreditation was provided in June 2012 (Office for Statistics Regulation (OSR)).**

## Relevance

### User needs

The aim of these statistics is to inform users about a wide spectrum of eye care services from primary care to secondary care activity and the workforce that delivers these services. The key users of the statistics are:

- Ministers and the Members Research Service in the Welsh Parliament
- local health boards
- local authorities
- optometry practices, general practices and primary care clusters
- the department for Health and Social Services in the Welsh Government
- other areas of the Welsh Government
- National Health Service, including ophthalmology departments
- Public Health Wales
- the research community including students, academics and universities
- representative bodies
- individual citizens, third sector organisations and private companies
- other UK government departments

The statistics are used in various ways. Examples include:

- advice to Ministers

- to inform debate in the Welsh Parliament and beyond
- to provide publicly available data on eye care in Wales

## Completeness

There are no known incomplete data from the majority of sources used in this statistical release.

Primary care activity data includes data for all optometrist practices in contract with health boards; primary care workforce includes all optometrists registered to perform in Wales; secondary care activity is based on the number of referrals in the system; and staff directly employed are based on all staff on the NHS HR system.

Locum or agency workers are not included on the NHS HR system, so if these staff performed in hospital eye care roles they would not be included in the workforce data.

There is a known completeness issue with clinical coding in health boards which affects some of the data sourced through PEDW. In 2023-24, 16% of the admissions to ophthalmology departments did not have a principal diagnosis code recorded. This compares with 8% in 2022-23 and 3% in 2021-22. This means that comparisons of the number of specific diagnoses (cataracts, macular degeneration, glaucoma for example) cannot be fairly compared between these years. The incomplete clinical coding does not affect the total number of admissions to ophthalmology departments as it's recorded through the specialty code which does not have the same level of incompleteness.

## Sight impairment registers

Local authority data collection on disability registers, including sight impairment

ceased in 2022. Since 1 April 2023, local authorities have collected new data through the Adults Receiving Care and Support Census, which includes information on all adults aged 18 or older with sight impairments, who had a care and support plan at any point during the year. The first year of data is expected to be supplied to Welsh Government by the end of October 2024 and a statistical release is planned to be produced in the months after this date, subject to data validation checks.

## Accuracy and reliability

### Overall accuracy

These statistics are based on administrative data and are therefore not subject to any survey sampling error.

There are manual processing steps involved in submitting data for additional activities and therefore these data are subject to human processing errors; however, these are likely to be highlighted during the validation processes.

Primary care workforce data between 2020 and 2023 is likely to be a slight overestimate of the actual number of staff. This is because the source data (ophthalmic performers list) is not a strict workforce reporting system and does not automatically update when optometrists leave the workforce. Increased validation of the list was performed in during 2023-24 which resulted in a higher-than-usual number of inactive practitioners being removed from the list.

All other data used in the statistical release is thought to be of broadly good accuracy.

## Data revision

Most datasets included in this release are not revised routinely.

Data on referral to treatments is published and the previous twelve months of data may be revised in the data submission. Revisions are typically very small and are highlighted if they are more substantial.

Any other revisions to data included in this release are likely to be due to errors found in previous publications. When this does occur, data tables on StatsWales will be updated and a note added to the metadata.

Any larger revisions will be noted in the html statistical release itself.

## Timeliness and punctuality

### Timeliness

The statistical release focusses on data at the end of the financial year (March) and is published in August. This is because primary care data is based on claims for payment which are associated with the financial year. Data is typically supplied by NWSSP in May and June.

Where possible, data from other sources are also focused on the position at the financial year end.

### Punctuality

All outputs adhere to the Code of Practice by pre-announcing the date of

publication through the upcoming calendar. Furthermore, publication dates are announced well in advance and any delays are communicated via notices on our website. Any revisions or postponements to outputs follow the [Revisions, Errors and Postponements policies published online](#).

## Coherence and comparability

### Geographical comparability

Data is collected on the same basis for all health boards in Wales, so there are no known compatibility issues within Wales.

No comparability work has been done with other countries to date, specifically for eye care statistics. Given each nation has its own eye care policies and systems for delivering services, it is unlikely that most statistics in this release will be directly comparable without further investigations.

Some work has been done on the broader areas of [referral to treatment comparability \(ONS\)](#) and [staff directly employed by the NHS comparability \(ONS\)](#) across the UK.

### England

NHS England publish statistics on their [Government Ophthalmic Service activity \(NHS Digital\)](#); secondary eye care activity statistics would be included their [referral to treatment statistics \(NHS England\)](#) and [hospital episode statistics \(NHS Digital\)](#); and staff directly employed by the NHS are available in their [NHS workforce statistics \(NHS Digital\)](#).

## Scotland

**Public Health Scotland publish statistics on their Government Ophthalmic Service workload**; secondary eye care activity statistics would be included **Public Health Scotland's NHS waiting times stage of treatment statistics** and **acute hospital activity statistics (Public Health Scotland)**; and staff directly employed by the NHS are available through **NHS Education for Scotland's official workforce statistics**.

## Northern Ireland

**Business Services Organisation publish statistics on their Government Ophthalmic Service activity**; secondary eye care activity statistics would be included the **Department for Health's hospital waiting times statistics** and **hospital activity statistics (Department for Health)**; and staff directly employed by the NHS are available through the **Department for Health's health and social care workforce statistics**.

## Comparability

Referrals for first outpatient appointment: There was a large increase in the number of non-GP referrals in October 2014, which in turn increased the total number of referrals. For ophthalmology this is important as there are specific primary care eye care doctors (optometrists) which most other treatment specialities will not have. While the total number of referrals remains comparable before and after this date, users should be aware that any changes may be explained by this.

The outpatient attendance data included in this release includes appointments for all patients who are registered with a Welsh GP, of which some will live in



England and have secondary care appointments in England. The StatsWales data is based on appointments which happened at hospital sites in Wales, regardless of where the patient lives or where their GP is located. It excludes appointments for Welsh residents who had appointments in English hospitals.

Figures for optometry workforce refer to the position at 31 December each year for 2019 and all years prior, and refer to the position at 31 March for 2020 and all subsequent years. This is because figures for 2019 and backwards were sourced from NHS Digital (now NHS England) and reflected practitioners who were authorised by local health boards (LHBs) to carry out NHS funded sight tests, based on data derived from the Central Ophthalmic Payments system.

Data collection from that source ceased, so from 2020 to 2024, data has been sourced from the performers list (Ophthalmic List and Ophthalmic Supplementary List), a register of all ophthalmic practitioners able to practice in Wales, maintained by NHS Shared Services Partnership. Due to the change in data source and reference period for 2020 onwards, data for 2020 onwards are not directly comparable with previous years.

## Accessibility and clarity

### Publication

The statistics are pre-announced and then published at 9:30am on the date of publication on the [Welsh Government website](#).

The detailed annual report is published in html format with accompanying open data tables published on [StatsWales](#).

Data published on StatsWales can be viewed and restructured online or downloaded into spreadsheets. Additionally, a connection can be made to the

datasets from a software package (for example, Microsoft Excel) using the OData feed of the StatsWales cube.

## Online databases

Full datasets are published on the [‘Eye care’ section of StatsWales](#).

## Documentation on methodology

[Further information on WGOS is available through Welsh Government](#) and through [NWSSP](#) (NHS Wales) and their [service manuals \(NHS Wales\)](#).

Links to quality reports of other areas of statistics included in this release are included in the ‘Statistical concepts and definitions’ section.

## Cost and burden

The data used in this statistical release are based on existing administrative systems, where statistical use is a secondary purpose. There is limited additional burden on data suppliers in producing these statistics, generally relating to extracting and submitting data from established systems.

## Confidentiality

### Confidentiality: policy

The Welsh Government’s statistics and research [statement on confidentiality](#)

**and data access** describes our approach to data confidentiality and conforming with the data governance principle of the Trustworthiness pillar in the **Code of Practice for Statistics**.

## Confidentiality: data treatment

Only anonymized or aggregated data is supplied to Welsh Government in producing these statistics. No personal identifiable information is included.

Small numbers are not deemed to be disclosive and therefore no disclosure control methods (for example, suppression) are applied to the published statistics, with the exception of data for certificates of vision impairment (CVI).

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