RCOphth

NOD
National Ophthalmology Database Audit

National Ophthalmology Database Audit

Year 6 Annual Report – The Fifth Prospective Report of the National Ophthalmology Database Audit

NHS or equivalent Funded Cataract Surgery for the 2020 NHS year: 01 April 2020 to 31 March 2021

2022

The Royal College of Ophthalmologists (RCOphth) is the professional body for eye doctors, who are medically qualified and have undergone or are undergoing specialist training in the treatment and management of eye disease, including surgery. As an independent charity, we pride ourselves on providing impartial and clinically based evidence, putting patient care and safety at the heart of everything we do. Ophthalmologists are at the forefront of eye health services because of their extensive training and experience. The Royal College of Ophthalmologists received its Royal Charter in 1988 and has a membership of over 4,000 surgeons of all grades. We are not a regulatory body, but we work collaboratively with government, health and charity organisations to recommend and support improvements in the coordination and management of eye care both nationally and regionally.

The ROYAL COLLEGE of OPHTHALMOLOGISTS

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Foreword

The National Ophthalmology Audit Database for cataract surgery continues to grow, with data collected from over 134 centres. The analysis and sharing of the audit output with surgeons helps improve patient care and surgical outcomes. This success has been rewarded with the NOD Cataract Audit being included on the Quality Accounts List, meaning that all NHS Trusts in England are required to participate, or justify non-participation.

The data from NOD is able to reassure patients of good outcomes in their surgery. Only 0.91% of all operations were affected by posterior capsule rupture (PCR) in this most recent audit period, and continues the trend of improvement that the NOD has reported on since 2010.

However, it is unsurprising that COVID-19 has caused a significant disruption to overall eye services, particularly to elective cataract surgery with the number of publicly funded operations dramatically reduced to approximately 246,000 in England and 5,700 in Wales. This has profoundly affected ophthalmologists in training opportunities to undertake cataract surgery, and the situation may not automatically reverse as the pandemic eases given the shift in service provision from traditional NHS providers to independent sector providers. The RCOphth is working directly with NHS England & Improvement, the major independent sector providers and deaneries to increase training opportunities.

Most recently, with College input, NHS England has taken an important step to address this challenge, which impacts on patient care, with the new Cataract Surgery Specification which aims to ensure all providers of cataract surgery in England meet certain standards and requirements. These include the delivery of training, the handling of post-surgical and out of hours complications, as well the requirement that there should be no financial link between the provider and any referring organisation. I am pleased to say that the RCOphth will continue to be an important influencing factor in the implementation of the specification to maintain standards of patient care and support for our trainees.

The data from NOD will continue to allow monitoring trends and have an increasing influence in enabling change to drive improvements in cataract surgery outcomes, training and standards of patient care. A huge thank you to all the NOD team and congratulations to the clinicians and staff involved in this extremely important audit.

Professor Bernard Chang
President, The Royal College of Ophthalmologists

Executive Summary

Background

Cataract surgery remains the most frequently undertaken NHS surgical procedure with approximately 456,000 publicly funded cataract operations undertaken in England and 20,000 in Wales during the 2019 NHS year. The annual cost to the NHS of cataract surgery is estimated at around £500 million. In contrast, during the 2020 NHS year approximately 246,000 cataract operations were performed in England and 5,700 in Wales. This vast reduction was due to service disruption, cancelled services and national lockdowns from the COVID 19 pandemic.

Aims of the audit

The audit is intended to quality assure NHS and publicly funded cataract surgery for patients whose vision is adversely affected by cataract to the point where they seek and undergo surgical intervention. Should performance fall short of what can reasonably be expected by patients this is highlighted. In addition, the audit serves as a powerful driver of quality improvement with year on year reductions in complication rates as evidenced in our series of annual reports available at nodaudit.org.uk/resources/publications-annual-report. The RCOphth NOD is configured to receive data from both public and private sectors and encourages participation of all cataract surgery service providers.

The RCOphth NOD prospectively collects cataract surgery data and provides results for named centres offering NHS and publicly funded independent surgery. These include operations performed and recorded by all surgeons of all grades within centres. Outcomes for named consultant surgeons will be separately published on the RCOphth NOD Audit website and results for English and Welsh centres will be submitted to the Care Quality Commission (CQC).

Included in this fifth prospective report are **operations undertaken between 01 April 2020 and 31 March 2021 which corresponds to the 2020 NHS year.**

Audit measures

The hallmarks of high quality are low rates of adverse outcomes based on complete data submissions for all cataract procedures undertaken by contributing centres. Since the original proof of concept of a national cataract audit in 2010, there has been around a 50% reduction in PCR complications and a 38% reduction in VA Losses in cataract surgery, (Table 1, page 9) equating to approximately 4,500 fewer complications annually across the NHS and an estimated annual saving from avoided additional treatments of £2.5 million.

overall reduction in PCR complications since 2010

Two primary outcome indicators of surgical quality are audited. These are:

1. A complication that may occur during surgery when the capsular bag that holds the lens breaks (the index surgical intraoperative complication of significant breach of the lens-zonule barrier through rupture of the posterior lens capsule or vitreous prolapse or both, abbreviated as PCR), and

2. Visual Acuity (VA) Loss (doubling or worse of the visual angle) related to surgery (equivalent to a loss of 3 or more lines or 15 or more letters on a LogMAR chart).

These outcomes are presented as risk adjusted rates for centres and consultant surgeons,

supported by relevant contextual information including surgical volumes, data completeness, case complexity, access to surgery and deprivation.

The overall rates of 1.10% for PCR and 0.90% for VA Loss which are used for risk adjustment of outcomes were set in the second prospective audit year from the underlying unadjusted rate for consultant surgeons. The risk indicators for each of these adverse events were derived from earlier data collections. Case complexity is known to be an important determinant of outcome and a case complexity index is included to document the complexity of surgery being reported. The vast majority of data were obtained through extraction from Electronic Medical Record (EMR) systems, with a small number of centres choosing to submit data from their pre-existing audit databases.

Posterior Capsule Rupture – PCR
As an adverse operative event, PCR is relevant because it results in a significantly higher risk of harm to the eye and may impact recovery of vision. For example, there is an approximately 20-fold higher risk of a retinal detachment occurring in the year following cataract surgery if PCR occurred. Retinal surgery, to correct the detachment, imposes additional risks, morbidity and cost.

Visual acuity Loss – VA Loss
Since VA Loss from surgery is the opposite of the intended effect, these key primary outcomes together capture relevant safety elements of surgical quality. Determination of VA Loss depends on availability of VA measurements at both pre- and postoperative time points. Rates of missing VA data are thus important and are reported for centres.

Results

Participation
Included in this fifth prospective report are **operations undertaken between 01 April 2020 and 31 March 2021.** Reported operations for the current period were performed in 74 English NHS Trusts and four Welsh Local Health Boards. **Approximately 67% of the 115 eligible NHS trusts in England and Wales are thus represented.** In addition, eight independent providers of NHS funded cataract surgery have supplied data for 54 individual sites, as have one centre from Guernsey. For the first time the audit includes data from one private provider of cataract surgery. For the 2020 NHS year, 246,300 cataract operations were reported to NHS Digital from English centres and 5,731 operations from Welsh Local Health Boards. The audit received data for 182,606 cataract operations which equates to approximately 72.5% of operations performed in England and Wales during the 2020 NHS year.

Data collected from

182,606

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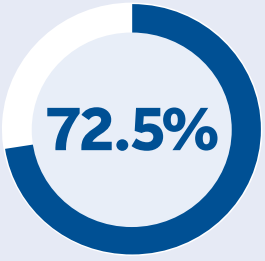


Around 5% of cataract operations were excluded for a variety of reasons such as being done for indications other than visual improvement or being combined with other significant intra-ocular surgery; **this left 172,320 eligible cataract operations available for analysis.**

Data Quality
Data completeness was excellent at around 100% for the PCR outcome of reported operations as this is a compulsory operative field in the EMRs.

An eligible preoperative distance VA was recorded for 71.0% of eyes and a postoperative VA for 59.8% of eyes; 47.4% of eyes had both a preoperative and a postoperative VA measurement. There was significant variation between centres for completeness of VA data, reflecting variations in

EMR use, patient pathways and service disruption from the COVID 19 pandemic.

Findings
For all surgeons, 0.91% of operations were affected by PCR. This is slightly below the current consultant only based average rate of 1.1% used for risk adjustment and approximately 50% lower than in 2010.

A 'good' postoperative VA of 0.30 LogMAR (=6/12, required to drive) or better was achieved in 91.0% of eyes overall, 96.1% of eyes with no ocular co-pathology and 86.1% of eyes with a recorded co-pathology. The median preoperative VA was 0.50 LogMAR units (6/19 Snellen equivalent); the median postoperative VA was 0.10 LogMAR units (6/7.5 Snellen); and the median change in VA was a 0.40 LogMAR gain.

Overall, the VA Loss rate was 0.42%, lower than the 0.9% rate used for risk adjustment and approximately 38% lower than in 2010. The samples used for the VA Loss results is smaller than those used for the PCR results due to missing presenting (pre-) and / or postoperative VA measurements as well as a shorter time period of 10 months to cater for postoperative recovery and VA reporting.

Conclusions
Overall, the audit findings are favourable indicating high quality surgery is being delivered to NHS patients. Specifically, among the contributors, no outlying centres or surgeons were found for PCR or postoperative VA Loss. Whilst the audit can report on increasingly large numbers of procedures, there remain centres that have not yet joined the audit, some who have previously participated no longer doing so and some who did not participate this time due to service disruption from the COVID 19 pandemic (Appendix 2, page 55). Until all centres join, there will remain uncertainty about outcomes across the board.

Table 1: Audit estimates for different NHS years where each year represents the time period of 01 April to 31 March

	NHS year (01 April to 31 March)										
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Number of centres	42	49	50	54	58	71	93	105	114	125	134
Number of eligible operations	70,599	85,752	104,937	124,259	138,119	155,138	194,562	219,077	247,535	277,749	172,320
Case ascertainment (%)*	-	-	-	-	-	-	87.4	84.8	86.1	88.8	100.0
Unadjusted PCR rate (%)	1.90	1.79	1.73	1.46	1.44	1.35	1.29	1.27	1.15	1.04	0.91
The percentage with valid preoperative VA data	86.7	95.5	89.1	88.9	91.1	92.1	92.5	91.6	89.9	85.6	71.0
Number of operations for postoperative VA results	57,255	69,254	86,063	101,747	113,828	127,550	157,355	181,238	203,651	236,256	132,322
The percentage with valid postoperative VA data	69.7	71.8	72.8	73.3	74.7	76.5	76.4	76.8	75.7	72.6	59.8
The percentage with change in VA data	58.8	69.1	68.5	68.5	70.4	72.9	73.1	72.5	70.9	67.5	47.4
Number operations eligible for VA loss results	22,921	39,608	49,561	53,936	59,585	81,862	102,726	116,362	128,946	141,915	35,262
Unadjusted VA loss rate (%)	0.68	0.77	0.86	0.80	0.72	0.62	0.60	0.56	0.59	0.52	0.42

Over the time period above, not all centres have contributed data in consecutive data extractions and some centres have merged. The first prospective audit year ran from 01 September 2015 to 31 August 2016 with prospective audit years 2, 3 and 4 running from the respective months in 2016/17, 2017/18 and 2018/19. From this report onwards the prospective audit year is aligned with the NHS year which runs from 01 April to 31 March. Centres when first submitting data will not always include data for a complete year and there is often a lead time affecting data collection once a centre adopts electronic data collection. When a centre submits data for the first time, they have the option of submitting historic data from 01 April 2010 onwards which is then used in results for historic time periods and increases the number of centres with data for an individual year. *The estimate of the proportion of cases submitted to the audit is derived from the number of completed cataract operations supplied to NHS Digital or DHCW for the audit period. This estimation uses a pro rata calculation for a centre's denominator where the proportion of time during the audit cycle that a centre had been recording cataract operations was multiplied by the number of cataract operations supplied to NHS Digital or DHCW. The numerator was the number of operations a centre had supplied to the audit. Centres that had more operations submitted to the national audit than in the NHS Digital or DHCW data were all assumed to have a complete submission rate as the actual rate was not possible to estimate. Case ascertainment rates have not been estimated for the 2010 to 2015 NHS years due to the audit not receiving the NHS Digital or DHCW data for these years.

Recommendations

1. Recommendations for Patients

1.1 Patients, carers and those with an interest in cataract surgery are encouraged to access information about the quality of cataract surgery and their local services, and can view information online on the National Ophthalmology Database Audit website. (page 46, Summary Key Point 2, 5)

1.2 Patients should discuss and understand the risks and potential outcomes of eye surgery with their surgeon including for their own particular risk profile

1.3 Patients whose local cataract provider is not participating in the national cataract audit could contact their hospital to request information on the quality of outcomes

1.4 Patients interested in finding out more about cataract surgery, should access information online from their hospital trusts and health boards, as well as from charity organisations such as Royal National Institute of Blind People (RNIB)

2. Recommendations for Providers of cataract surgery

2.1 All providers of NHS cataract surgery should submit data to the audit to publicly demonstrate their commitment to high quality care and good professional practice through participation (page 46, Summary Key Point 1)

2.2. Providers should submit complete data including all relevant risk factors for outcomes to ensure case complexity can be taken into account and results appropriately interpreted (UK Minimum Cataract Dataset for National Audit) (page 46, Summary Key Point 8)

2.3. In line with the NHS Digital Agenda, providers should use electronic data collection to improve data completeness and utilise EMR audit tools for continuous real time monitoring of results for early detection and correction of possible issues (page 46, Summary Key Point 9)

2.4. Providers should review patient pathways to maximise the recording of both preoperative and postoperative VA data for every operation (page 46, Summary Key Point 7)

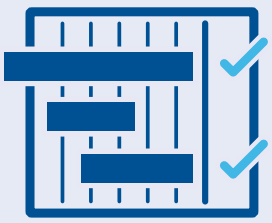
2.5. Providers should use the RCOphth NOD audit for quality improvement by comparing their results against other cataract surgery providers and their past performance to identify and act on specific areas that may need improvement (page 46, Summary Key Point 5)

2.6. Providers should consider including Patient Reported Outcome Measures (PROMs) before and after surgery to quantify and validate patient benefit from surgery, as advised in the 2019 NICE Quality standard for serious eye disorders (QS180)

2.7. EMR enabled providers should review the settings on their EMR regarding mandatory data collection. Specifying mandatory collection for specific data items aids in improving data collection

2.8. Surgeons working in non-participating centres should approach their senior management teams and emphasise the importance of participation, pointing out the benefits in terms of quality assurance, quality improvement, accountability, public perception and validation to commissioners of the service being provided

3. Recommendations for Commissioners



3.1 Service specification contracts should require quality assurance and improvement based on RCOphth NOD national audit outcomes and the 2017 NICE cataract surgery guideline (NG77) for management of cataracts in adults (page 46, Summary Key Point 4)

3.2. Commissioners should use quality focused service specification contracts with providers of cataract surgery which include submission of full data to the RCOphth NOD audit, including pre- and postoperative VA for visual outcomes reporting (page 46, Summary Key Points 1, 2, 6, 7, 8). This applies to NHS providers and independent providers of NHS cataract surgery

3.3. Services where postoperative care is outsourced, e.g. to optometric practices should require return of postoperative data (VA and refraction) to the operating centre using the data return audit tools available for such purposes

4. Recommendations for the Regulators

4.1 Regulators should expect NHS services to participate in all national audits, with RCOphth NOD audit results made available to them when inspecting NHS organisations which either commission or deliver cataract surgery services (page 46, Summary Key Points 1, 6)

4.2. Regulators should ensure that all providers of NHS cataract surgical care are able to provide quality assurance regardless of whether they are traditional NHS centres or independent providers (page 46, Summary Key Point 1)

4.3. Centres providing both publicly and privately funded surgery across the UK are eligible to join the RCOphth NOD audit and all UK cataract surgery centres are invited and encouraged to participate

1. Introduction

The healthy eye has a clear lens which sits just behind the iris, the coloured part of the eye, and this lens helps to focus light entering the eye. A cataract is a clouding of that lens. Cataracts cause sight to become cloudy and unclear, or can cause glare or dazzle in certain lighting conditions. Cataracts can affect one or both eyes and are treated by surgery, during which the cloudy lens is removed and replaced by an artificial lens. The artificial lens is known as an intraocular lens (IOL). There are no medicines or drops that can successfully treat cataracts; surgery is the only way to treat them. Further information for patients and the public concerning cataract surgery is available on The Royal College of Ophthalmologists' website.

In the 2019 NHS year (01 April 2019 to 31 March 2020), around 456,000 NHS cataract surgery procedures were undertaken in England and 20,000 in Wales. This reduced considerably during the 2020 NHS year to around 246,000 operations in England and 5,700 operations in Wales due to the COVID 19 pandemic. Cataract surgery remains the most frequently performed surgical procedure in the UK and a widely accepted indicator of surgical quality is the frequency of significant breach of the lens-zonule barrier through posterior capsule rupture with or without vitreous prolapse, or zonule rupture with vitreous prolapse, events abbreviated here as PCR.

PCR is emphasised in the NICE cataract surgery guideline (NG77) in the context of surgical risk and is similarly used as a clinical outcome (adverse event) by the International Consortium for Health Outcome Measurement (ICHOM). This operative complication arises on average in approximately one operation in 100, but the risk of this event varies by as much as fifty-fold depending on preoperative risk factors associated with the patient (e.g. age) and their eye (e.g. how advanced the cataract is).

PCR is relevant as an adverse operative event because it results in a significantly higher risk of harm to the eye and may impact recovery of vision. For example, there is an approximately twenty-fold higher risk of a retinal detachment occurring in the year following cataract surgery if PCR occurred, and retinal surgery imposes additional risks, morbidity and cost. Importantly, when PCR occurs there is a six-fold higher chance of loss of vision from pre- to postoperatively in the eye undergoing surgery.

Some weeks following cataract surgery, most patients attend their community optometrist (high street optician) for updating of their glasses prescription, and at this point the final 'best-corrected' visual acuity is established. The results of this follow-up episode are currently inconsistently communicated back to the hospital to allow a definitive measure of visual acuity (VA) benefit from surgery. A web-based data return tool has been developed and was initially offered as a free EMR software enhancement to audit centres to encourage and facilitate data returns for postoperative VA and refraction. Since VA Loss from surgery is the opposite of the intended effect, these key primary outcomes together capture relevant safety elements of surgical quality. VA Loss is emphasised in the NICE cataract surgery guideline (NG77) in the context of surgical risk. In addition to postoperative VA, return of postoperative refraction data would expand the options for outcome reporting.

Providing risk adjusted results for centres and surgeons enables them to benchmark their own performance against their peers and acts as a prompt to reviewing practice where outcomes are less good. Our experience indicates that showing individual surgeons their performance stimulates them to be more mindful of quality generally and to improve performance where needed.

Since safety is a key domain for the NHS, embodied in the oft quoted phrase from the Hippocratic Oath "First, do no harm", the audit is primarily focused on two chosen safety metrics. The EMR data collection systems used by the majority of contributing centres allow for real time local tracking of outcomes by surgeons and centres. This empowers them to monitor their results locally and to detect adverse signals early with a view to minimising patient harm through prompt action. The report

includes additional contextual information which provides centres, surgeons and the wider NHS with secondary outcomes in terms of case complexity, access to surgery by centre and deprivation, and data completeness.

In the RCOphth NOD prospective cataract audit reports we show the case complexity adjusted rates of PCR and monocular visual acuity (VA) Loss for named centres (including all surgeons). On the RCOphth NOD website we present case complexity adjusted rates of PCR and VA Loss for participating centres and surgeons, centre results are provided to the CQC, and risk adjusted outcomes for centres and named consultant surgeons are available on the audit website for both PCR and VA Loss. Incomplete data will be highlighted and where <40% of outcome data are available for a particular centre (e.g. for VA Loss) the rate will not be reported as deemed too unreliable.

2. Audit Framework

The National Cataract Audit data in this report covers adult phacoemulsification cataract surgical operations recorded on:

- Medisoft EMR in use at 105 contributing centres
- OpenEyes EMR in use at six centres
- Medisoft and OpenEyes EMR used in one centre
- Epic patient record system in one centre
- In-house cataract or bespoke data collection systems used in 21 contributing centres

For the PCR outcome, the audit included all reported cataract operations performed in the period between 01 April 2020 and 31 March 2021. For the risk adjusted VA Loss outcome, postoperative complications and postoperative visual acuity results, the reported period was 01 April 2020 to 31 January 2021 in order to allow time for postoperative data to become available following recovery from surgery. Inclusion and exclusion criteria are detailed in Appendix 4.

Excluded were:

- Cataract operations not done by phacoemulsification
- Operations done as combined procedures along with another significant intraocular procedure (e.g. a trabeculectomy, minimally invasive glaucoma surgical procedure or a pars plana vitrectomy combined with other vitreoretinal procedures)
- Operations done on eyes previously damaged by ocular trauma
- Operations on polar cataracts
- Operations done on eyes with significant congenital or developmental abnormalities
- Operations on individuals aged <18 years

Centres are identified by name and allocated audit number in appendix tables.

3. Aims

The audit reports risk-adjusted rates for two primary patient safety outcomes: PCR and VA Loss in cataract surgery. PCR will have high levels of data completeness for all participating centres as recording of the absence or presence of specified operative complications is mandatory in ophthalmology EMR systems. The preoperative risk indicator and follow up VA data are, however, expected to be less complete because of variations in patient pathways and use of the EMR in different settings.

The quality improvement aims of this report include:

- Reporting of the intraoperative risk adjusted complication rates, emphasising the need for careful risk profiling of cases in advance of surgery to anticipate and minimise avoidable surgical complications
- Reporting the rates of VA Loss, highlighting potentially avoidable visual harm where unwarranted variation is observed

There are several secondary aims developed throughout the life of the audit, for example the contextual information includes: case complexity metrics, rates of recorded valid VA data and access (preoperative VA) by centre and overall by deprivation.

4. NHS Trust / Health Board and Surgeon Participation

The audit brief is to include all NHS or publicly funded independent cataract surgery where permission for inclusion of the institutions' data has been provided by Clinical Leads / Medical Directors and Caldicott Guardians or a Governance equivalent for centres from a region where Caldicott Guardian approval does not apply. In this report, the majority of centres were in England (129) with four centres in Wales, and one centre from Guernsey. This report includes 113 currently EMR enabled centres and 21 centres using an in-house or bespoke data collection system. Of the 115 eligible NHS organisations in England and Wales, 78 (67.8%) are represented, plus data from eight independent sector treatment providers of NHS funded services (54 sites), one centre from Guernsey and one private provider. Results for 134 centres are reported.

5. Methodology

5.1 Context of the data collection

The audit data derive from routine data collection in ophthalmology departments providing NHS or publicly funded independent cataract surgery. The majority of contributing centres collect this data with no additional effort required by staff due to the integration of EMR systems into the hospital eye service, while some centres without an EMR collect data that does require additional effort from staff. Our approach aligns directly with, and powerfully supports the NHS digital agenda, and has catalysed a major shift towards electronic working in cataract services. For the third successive year the audit has received data from >100 centres, this contrasts with 56 centres with sufficient data for inclusion in the first prospective audit report. Complication's data depend on surgeons recording these faithfully. Unlike mortality figures, there is no external validation of the reported complications, although cross-checks are undertaken within the extracted data.

The EMR requires the surgeon recording the operation note to specifically indicate a 'Yes / No' response to whether a surgical complication occurred. At all centres the EMR record (or its printed copy for the paper notes) constitutes the medicolegal document of the patient's operation record.

Data completeness for other aspects of care varies between centres for several reasons. Some centres only use the electronic data collection system in theatre, which limits data completeness for items normally collected in the outpatient department at pre- and postoperative visits. Accurate follow up data on VA and refraction mostly depend on patients attending their optometrist for updating of spectacles following surgery and for this information to then be returned to the hospital EMR system. Although some centres have good alternative systems to an EMR in place for optometrists to return postoperative VA and refraction measurements, and for staff at the hospital to enter the data electronically, it is to be expected that this VA outcome will be incomplete in many centres. The RCOphth NOD audit team has taken steps to enhance returns from optometrists through encouraging proactive local engagement with community optometrists, an active programme of engagement with national optometric professional bodies, and provision of a web-based data return tool for the National Cataract Audit. Centres which have newly adopted an EMR can have a 'time lag' affecting complete implementation of the software across their hospital eye service, for example due to computer availability in theatres and implementation of electronic data recording in the eye service. This can affect the data in their first submission to the audit. Another factor affecting results for the 2020 NHS year is service disruption from the COVID 19 pandemic during which cataract surgery was cancelled for periods of time, and in some areas NHS Trusts have still not re-opened cataract services, but transferred their cataract patients to a neighbouring independent sector treatment centre (ISTC) which may not submit data to the audit.

5.2 Case ascertainment

An estimate of the percentage of cataract operations submitted to the audit is based on the number reported centrally to NHS Digital or Digital Health and Care Wales (DHCW). This is calculated pro rata for recent joiners, as reported in Appendix 6 (page 69).

As the National Cataract Audit has exclusion criteria, the estimate of case ascertainment is calculated using the number of operations performed using phacoemulsification submitted to the audit before the exclusion criteria are applied.

5.3 Data quality and completeness

Among the advantages of EMR data collection are compulsory collection of key data items (e.g. operative complications) and automatic range checking of variables (e.g. axial length) at the time of data entry. This improves data completeness and accuracy. In addition, the richness of EMR data provides a more complete picture of the patient and their state of health making it possible to infer important information through cross-checking.

Completeness of preoperative VA and postoperative VA outcome remain variable and an area for improvement in many centres. The audit tools include a web-based data return tool for use by community optometrists which is intended to facilitate return of postoperative data. This works best when optometrists are commissioned to undertake postoperative follow up in the community as contracting can make payment contingent upon data having been received by the surgical centre.

5.4 Small numbers policy

Centres with <50 eligible operations have not been included in this report. Results for individual surgeon will likewise not include data for surgeons who have undertaken <50 eligible procedures. For estimates of vision, data from centres with <50 eligible operations with a visual acuity measurement are not included, and for postoperative data no results are produced for centres with <50 eligible operations within the postoperative time period.

5.5 Outliers policy

The audit outliers' policy is available on the RCOphth NOD Audit website. An outlying centre or surgeon is identified where the risk-adjusted adverse event rate is above the national threshold set by the mean rate plus approximately three Standard Deviations (3SD).

5.6 Limitations of the data

The RCOphth NOD includes data for cataract surgery to the first treated eye, the second treated eye and in some cases immediate sequential bilateral surgery, but for some patients the record for the first treated eye may be missing. This may arise for example if the first eye operation was performed prior to the centre adopting electronic data collection, or the first treated eye operation could have been performed in a different centre. At present the RCOphth NOD cannot link patients' data if collected at different centres.

Patient's age, and the calculation of the index of multiple deprivation data rely on data entered directly onto the Hospital's Patient Administration System (PAS), which links into EMR systems, hence if this data is not recorded in the PAS it is not present in the data extract for EMR enabled centres with PAS connections. Centres using in-house databases can supply this data if they match their clinical data to the national indices before submitting to the audit. Deprivation data was available for most operations recorded on the Medisoft EMR system and one centre using an in-house database, but not for the other sources of data. The RCOphth NOD is working with providers of EMR systems to facilitate the inclusion of deprivation data during extraction, and the audit has provided information to non-EMR centres on how they can submit deprivation data without transferring the patients' postcode.

6. Data Extraction, Cleaning and Statistical Methods

Centre participation is confirmed by agreement from the institution's Caldicott Guardian or Governance equivalent and Clinical Lead / Medical Director for Ophthalmology. There are 11 sources of data included in the prospective fifth year of the National Cataract Audit, 105 centres used the Medisoft EMR, six centres used the OpenEyes EMR, one NHS Trust used both the Medisoft and the OpenEyes EMR systems, one centre used the Epic patient record system, and 21 centres used in-house or bespoke data collection systems. Supplementary extractions/submissions were undertaken as necessary. Full details regarding eligibility and analysis criteria are on the RCOphth NOD Audit website following registration.

7. Definitions

7.1 Dataset

A minimum cataract dataset has been defined for purposes of the audit. These variables include those required for case complexity adjustment of outcomes.

7.2 Surgeon grade

The grade of surgeon was categorised as consultant surgeons, career grade non-consultant surgeons (associate specialists, staff grade and trust doctors), experienced trainee surgeons (fellows, registrars, speciality registrars years 3 – 7 and specialty trainees years 3 – 7) and less experienced trainee surgeons (SHO, specialty registrars years 1 – 2, specialty trainees years 1 – 2 and foundation doctors years 1 – 2).

7.3 Posterior Capsule Rupture (PCR)

Posterior capsular rupture (PCR) is defined for the purposes of the National Audit as *"posterior capsule rupture with or without vitreous prolapse or zonule rupture with vitreous prolapse"* and abbreviated as PCR. It should be noted that the definition excludes zonule dehiscence where no vitreous prolapse has occurred. PCR is thus intended to capture significant breach of the lens-zonule barrier. Detailed criteria for case definitions is in Appendix 4 (page 64) and on the audit website.

7.4 Visual Acuity (VA)

VA definitions used were designed to maximise the usefulness of the available data with specified 'time windows' for pre- and postoperative measurements and criteria for preferred choices in terms of corrected VA, unaided VA and pin hole corrected VA. The detailed criteria is in Appendix 4 (page 64) and on the audit website along with interpretations for levels of VA. The percentage of eyes with VA data for each centre and different time windows are given in Appendix 16 (page 119).

7.5 Mixed effects modelling of PCR and Visual Acuity Loss

The categorisation of each covariate under investigation in the PCR and VA Loss mixed effects logistic regression models are detailed for registered users on The RCOphth NOD Audit website with operations performed in the four-year period 2011-12 to 2014-15 NHS years used to develop the current models.

The risk adjustment model equations for PCR and Visual Acuity Loss respectively were applied to the audit data for the respective results in this report where the case mix adjusted graphs have 95% and 99.8% error lines displayed which are created from consultant based means of 1.1% for PCR and 0.9% for Visual Acuity Loss. These percentages reflect the unadjusted adverse event rates for consultants performing surgery. They are slightly lower than the overall rate for all surgeons and have been used because the consultant results appear in the public domain and as such, it would be inappropriate for the average consultant rate to be artificially inflated to reflect the slightly higher overall average rate. The audit stipulates that at least 50 eligible operations are required for a centre or surgeon result, and at least 60% of operations with both pre- and postoperative VA data are required to report a result for VA Loss. On the centre level case mix adjusted funnel plots, data for all surgeons is included (i.e. including trainee surgeons whose results are risk adjusted accordingly), while on the surgeon level case-mix funnel plots, data for trainee surgeons is not included.

7.6 Case complexity index

Based on the risk prediction models a case complexity index is provided for each centre. This is taken as the overall predicted probability of an adverse outcome based on the reported case complexity for the centre. Separate complexity indices are provided for PCR and VA Loss.

8. Results

8.1 Case ascertainment

In total, 182,606 operations were submitted to the audit by 140 centres, of which 181,307 (99.3%) were performed using phacoemulsification. The estimate of case ascertainment is made by comparison with data from NHS Digital and DHCW. Six centres were excluded from the cataract audit analyses due to supplying <50 eligible operations, two centres are not subject to reporting to either NHS Digital or DHCW and six centres did not have any data available from NHS Digital.

The overall case ascertainment for the 126 centres eligible and where case ascertainment could be estimated was 100% due to 91 centres supplying data for more operations than reported by NHS Digital / DHCW. The case ascertainment rate was >90% for 104 (82.5%) centres. The range in the percentage of cases submitted to the audit was 11.0% to 100%, Appendix 6 (page 69), and the case ascertainment for centres for the 2016 – 2020 NHS years is in Appendix 12 (page 97).

Of the 182,606 operations submitted for the 2020 NHS year (01 April 2020 to 31 March 2021), 10,080 (5.5%) operations are excluded from analysis and a further 206 operations from 6 centres are excluded due to these centres submitting data for <50 eligible operations; the eligibility information is on the RCOphth NOD Audit website: NOD Audit Eligibility Criteria. This left 172,320 operations performed in 134 participating centres eligible for analysis. The operations were performed on 84,654 (49.1%) left eyes and 87,666 (50.9%) right eyes from 142,241 patients.

8.2 Surgeons

The 172,320 eligible operations were performed by 1,920 surgeons where;

- 1,056 consultant surgeons performed 141,267 (82.0%) operations.
- 140 career grade non-consultant surgeons performed 7,181 (4.2%) operations.
- 671 more experienced trainee surgeons performed 20,806 (12.1%) operations.
- 133 less experienced trainee surgeons performed 3,066 (1.8%) operations.

The percentage of operations performed by each grade of surgeon varied between contributing centres reflecting catchment area, NHS trust differences and training opportunities for junior trainee surgeons within England and Wales, Appendix 6 (page 69) and Figures 1 and 2 (page 22).

The median number of operations each surgeon had performed was 33 operations (IQR; 12 – 75: range; 1 – 3,692). For comparison, the median number of operations per surgeon was 58, 64, 65 and 66 in the 2016, 2017, 2018 and 2019 NHS years respectively. In the 2020 NHS year, 23 surgeons had data for >1,000 operations, 13 surgeons had all their data from ISTC sites and 12 surgeons' data from both NHS Trusts and independent sector treatment provider sites. In the 2020 NHS year, 721 (37.6%) surgeons performed ≥50 eligible operations, for comparison these percentages were 55.1%, 58.1%, 57.9% and 58.9% for the 2016, 2017, 2018 and 2019 NHS years respectively. Of the 1,199 (62.4%) surgeons with <50 operations, 586 (48.9%) were consultants or independent non-consultant surgeons, 599 (50.0%) were trainee surgeons and 14 (1.1%) had data as both a trainee and a consultant or independent non-consultant surgeon.

Of the 1,920 surgeons, 1,243 (64.7%) surgeons were male, 645 (33.6%) surgeons were female and the gender was unknown for 32 (1.7%) surgeons. 255 (13.3%) surgeons had data for operations performed in two participating centres, 34 (1.8%) in three participating centres and 39 (2.0%) in four or more centres, with two surgeons having data for >10 centres and one surgeon data for 15 centres.

The percentage of operations performed by consultant surgeons was higher in the 2020 NHS year (82.0%) than in the previous 2016 – 2019 NHS years (range; 68.5% to 72.8%). This increase is partly due to higher representation from the ISTC who did not provide training during these time periods. Consequently, the percentage of operations performed by trainee surgeons has decreased. The proportion of operations performed by male and female surgeons was consistent across the 2016 – 2020 NHS years. The number of surgeons with <50 eligible operations increased across the 2016 – 2020 NHS years, partly influenced by new joining centres in their first year of participation without data for the complete NHS year. The number of surgeons with data for >1,000 operations increased from 7 in the 2016 NHS year to 23 in the 2020 NHS year, Appendix 10 (page 94).

8.3 Patient characteristics – age and gender

Summary details of the 142,241 patients undergoing cataract surgery in the 2020 NHS year were as follows:

- 60,127 (42.3%) patients were men.
- 79,072 (55.6%) patients were women.
- The gender was not recorded for 3,041 (2.1%) patients.
- One patient's gender was recorded as indeterminate / anticipated sex change.
- The ethnicity was not recorded for 67,234 (47.3%) patients.
- Patient characteristics were very similar for first treated and second treated eyes.

Figure 1: The number of eligible operations supplied to the national cataract audit for each contributing centre – Ordered by the number of operations

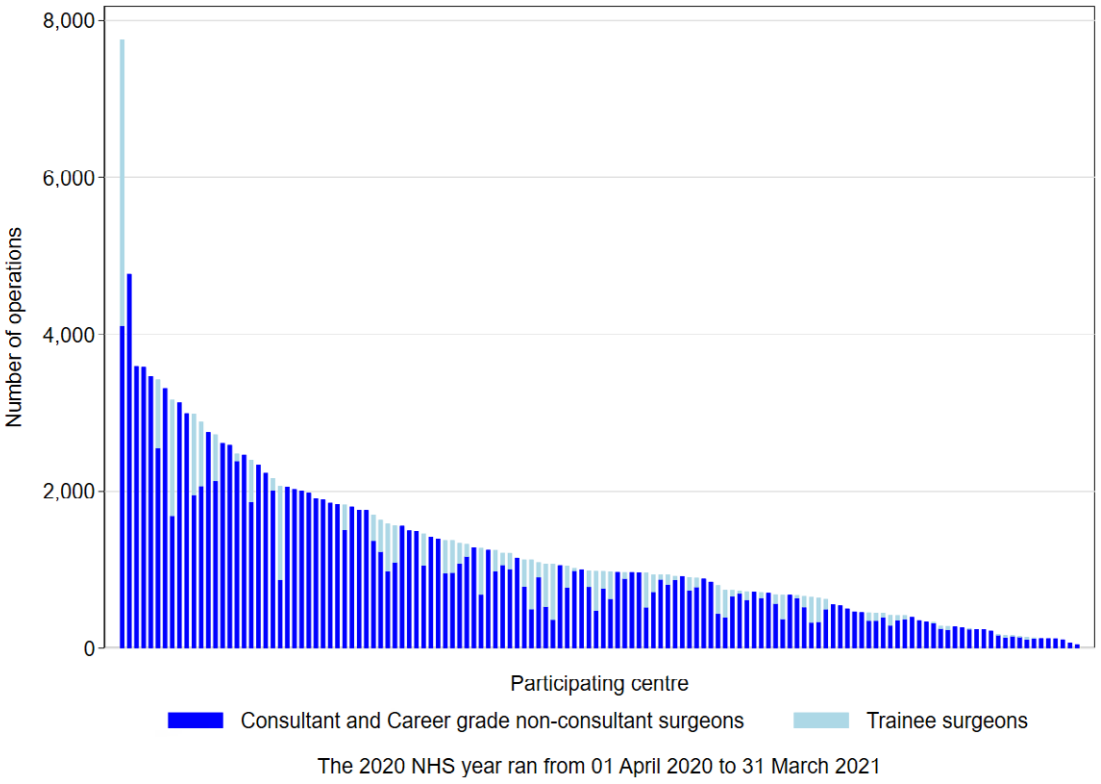
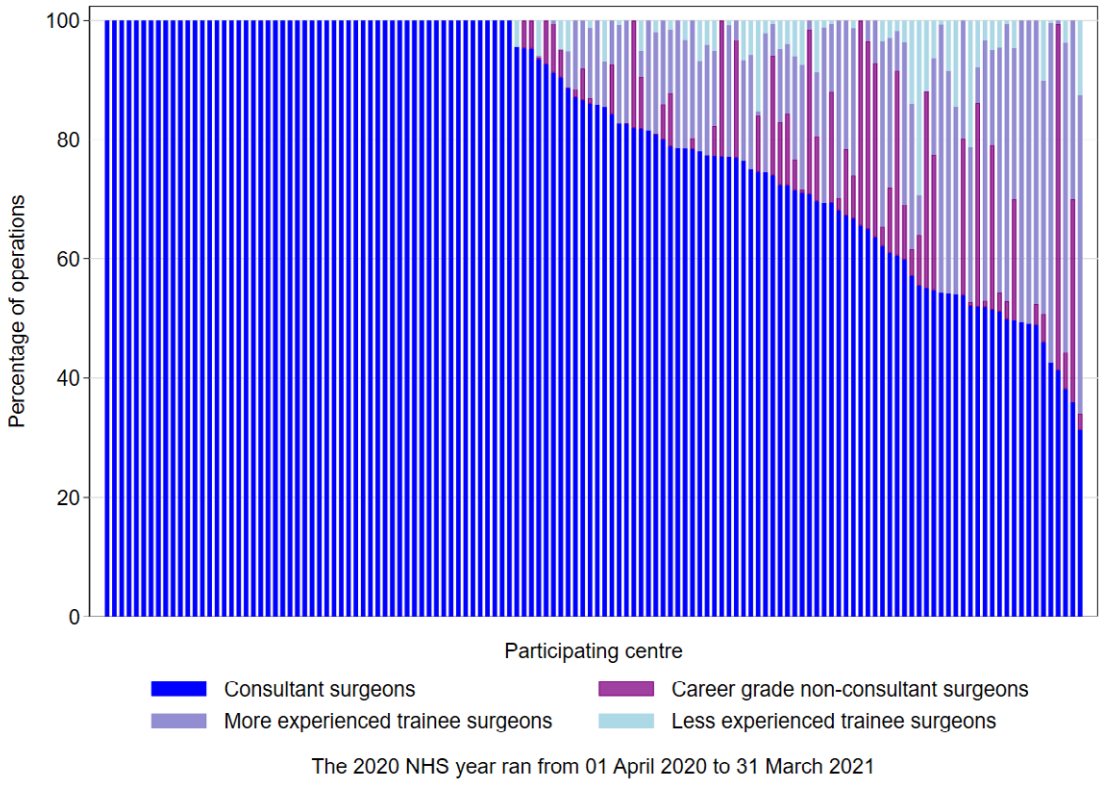


Figure 2: The percentage of eligible operations performed by each grade of surgeon for each contributing centre – Ordered by the percentage of operations performed by consultant surgeons



8.4 First eye, second eye and immediate sequential bilateral cataract surgery

All cataract operations performed could be in either the patient's first or second treated eye unless immediate sequential bilateral cataract surgery was performed. The RCOphth NOD Audit may not have the record for both operations or the first treated eye could have had the operation at another centre or prior to electronic data collection within the centre. For these reasons, no results on time between operations are provided in this report.

Results for first treated, second treated and immediate sequential bilateral operations are described below.

First treated eye cataract surgery;

- First eye cataract surgery was performed for 104,218 (61.4%) operations.
- The median age at first treated eye surgery was 75.2 years (IQR; 68.4 – 81.3).
- 11,313 (10.9%) patients were recorded as having diabetes mellitus at the time of their first cataract operation.
- 1,434 (1.4%) patients were recorded as unable to lie flat.
- 2,035 (2.0%) patients were recorded as unable to cooperate during the operation.
- 2,381 (2.3%) patients were operated on under general anaesthesia, combined with local and/or topical for 2,144 patients.

Second treated eye cataract surgery;

- Second eye cataract surgery was performed for 65,616 (38.6%) operations.
- The median age at second treated eye surgery was 76.2 years (IQR; 70.1 – 82.0).
- 8,429 (12.8%) patients were recorded as having diabetes mellitus at the time of their second treated eye surgery.
- 693 (1.1%) patients were recorded as being unable to lie flat.
- 1,253 (1.9%) patients were recorded as being unable to cooperate during the operation.
- 1,549 (2.4%) patients were operated on under general anaesthesia, combined with local and/or topical for 1,397 patients.

Immediate sequential bilateral cataract surgery;

- Immediate sequential bilateral cataract surgery was performed for 1,243 patients by 278 surgeons from 66 centres.
- The same surgeon performed the operation to both eyes for 1,169 (94.0%) patients.
- The median age was 73.5 years (IQR; 65.9 – 79.7), with no difference between male or female patients (mean age in years; 71.7 for males vs. 72.1 for females, p = 0.5080).
- 513 (41.3%) patients were male, 696 (56.0%) were female and the gender was not recorded for 34 (2.7%) patients.
- 122 (9.8%) patients were recorded as having diabetes mellitus.
- 62 (5.0%) patients were recorded as being unable to lie flat.

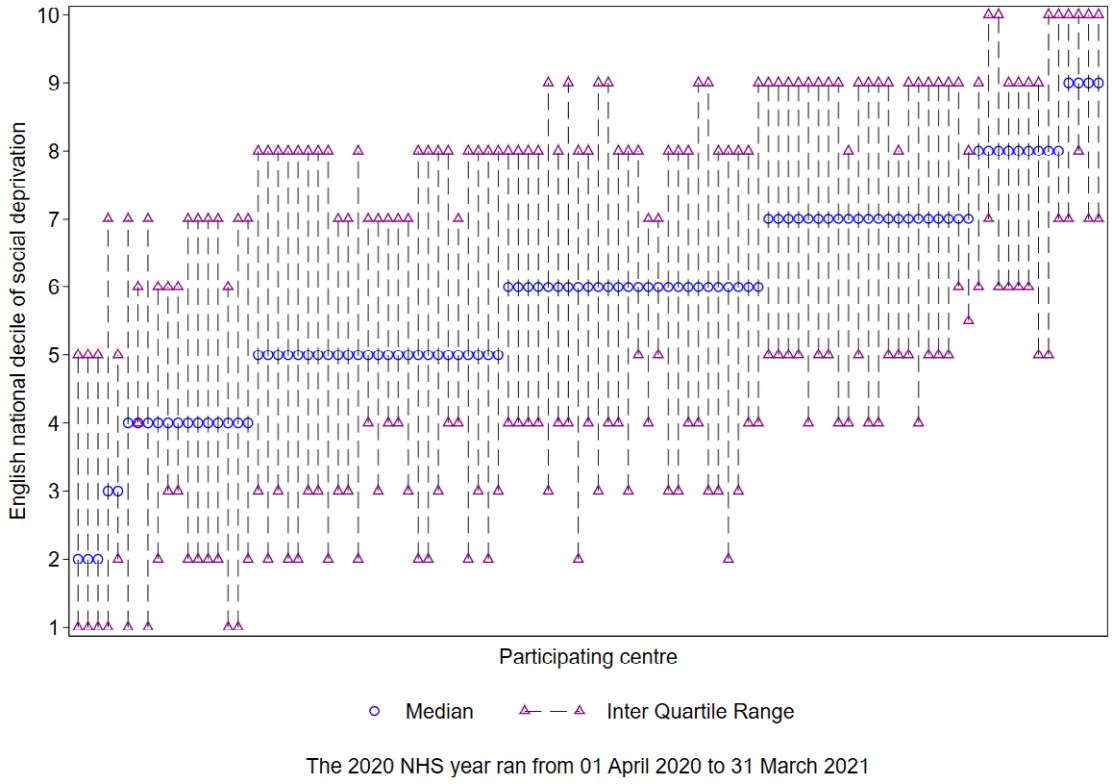
- 31 (2.5%) patients were recorded as being unable to cooperate during the operation.
- 160 (12.9%) patients were operated on under general anaesthesia, 136 combined with local or topical anaesthesia.

The patient's age, proportions for gender, those who could lie flat and cooperate with surgery were similar in each NHS year for first eye surgery patients and second eye surgery patients. Differences were observed for the proportion of patients with diabetes mellitus which has been decreasing over the NHS years and the proportion of patients having surgery under general anaesthesia which was lower in the 2020 NHS year. There were differences for immediate sequential bilateral surgery patients across the NHS years for the proportion of patients who could lie flat and cooperate with surgery which have both reduced from around 9% in the 2016 NHS year to 5.0% for those unable to lie flat and 2.5% for those unable to cooperate with surgery. The largest difference for ISBCS patients across the NHS years was for the use of general anaesthesia which was used in 45.8% of ISBCS patients in the 2016 NHS year compared to 12.9% of ISBCS patients in the 2020 NHS year, Appendix 11 (pages 95).

8.5 Index of multiple deprivation

The English index of multiple deprivation was calculated for 112,027 (99.3%) patients from 103 participating English centres with data recorded on the Medisoft EMR, or one of the contributing in-house databases. All bar six centres performed cataract surgery on patients in the most deprived national decile of social deprivation (decile 1) and all bar three centres performed cataract surgery on patients in the least deprived national decile of social deprivation (decile 10). The median English national decile of social deprivation for patients undergoing cataract surgery varied significantly between centres, confirming that there was variation between the participating centres in the social deprivation status of patients undergoing cataract surgery, Figure 3 (page 25). The index of multiple deprivation was not calculable for operations from the other contributing data collection systems or from the contributing Welsh and Channel Island centres where different indices are used.

Figure 3: Median and IQR national deciles of social deprivation by participating centre – Ordered by median national decile within each centre



8.6 Preoperative Visual Acuity (VA)

From the 172,320 eligible cataract operations a preoperative VA was recorded for 122,335 (71.0%) operations and missing for 49,985 (29.0%) operations, of which 718 (0.4% of all operations) had a Pin Hole VA (PHVA) measurement and no Corrected Distance VA (CDVA) or Uncorrected Distance VA (UDVA) operations.

There was wide variation in the percentage of eyes with a preoperative VA by contributing centre, where 32 (23.9%) centres had <50% of eyes with preoperative VA data (including 3 centres with no preoperative VA data), for 61 (45.5%) centres more than 80% of eyes had a preoperative VA and for 29 (21.6%) centres more than 95% of eyes had a preoperative VA, Figure 4 (page 27).

For comparison, the overall percentages of eyes with a preoperative VA were 92.5%, 91.6%, 89.9% and 85.6% for the 2016, 2017, 2018 and 2019 NHS years respectively. The percentage of eligible operations with a preoperative VA for contributing centres and NHS years is in Appendix 14 (page 105).

From the 122,335 eyes with a preoperative VA measurement, data for 13 operations from one centre are excluded from the estimate of preoperative vision due to the centres having <50 eligible operations with a preoperative VA measurement.

Available for assessment of preoperative vision are 122,322 eligible operations from 130 centres. The VA measurement was CDVA in 86,959 (71.1%) eyes, UDVA in 33,506 (27.4%) eyes and in 1,857 (1.5%) eyes the CDVA measurement was the same as the UDVA measurement.

The median preoperative VA was 0.50 LogMAR units (range; -0.30 – NPL) (6/19 Snellen Equivalent); where 4,488 (3.7%) eyes were CF, 3,648 (3.0%) eyes were HM, 970 (0.8%) eyes were PL and 75 (<0.1%) eyes were NPL. The median preoperative VA was 0.50 LogMAR units for each grade of surgeon.

The preoperative VA was 0.30 LogMAR units (6/12) or better for 44,112 (36.1%) eyes, 0.60 LogMAR units (6/24) or better for 86,389 (70.6%) eyes and 1.0 LogMAR units (6/60) or better for 107,679 (88.0%) eyes.

There was variability in the preoperative VA between contributing centres, where for 46 (35.4%) centres the median preoperative VA was 0.50 LogMAR and the range in the centres median preoperative VA was 0.30 – 1.00 LogMAR, Figure 5 (page 27). For 117 (90%) centres, the median preoperative VA was between 0.40 and 0.60 LogMAR.

Deprivation is recognised as an influential factor on the ability of individuals to access care for a variety of conditions. Here we have used preoperative VA as a proxy for cataract severity to assess whether deprivation is (or is not) related to timely access to surgery before symptoms of vision loss become advanced. On this basis variation is observed across the Index of Multiple Deprivation (IMD) as demonstrated on Figure 6 (page 28) and Table 2 (page 28), where there is a statistically significant association ($p < 0.001$) between higher levels of deprivation and worse preoperative VA, for example 24.5% of the patients in the most deprived decile (decile 1) had a preoperative VA of ≥1.00 LogMAR, compared to 13.4% of patients in the least deprived decile (decile 10).

For 20,113 patients who had both eyes undergo cataract surgery during the 2020 NHS year with a preoperative VA measurement for both eyes (excluding immediate sequential bilateral cataract surgery), the mean presenting VA was 0.15 LogMAR units worse (95% CI: 0.14 to 0.16 LogMAR) for the first treated eye than for the second treated eye (means = 0.59 (6/23) and 0.44 LogMAR (6/17) respectively, $p < 0.001$). This confirms that first eye surgery is generally undertaken at a more advanced stage of cataract than second eye surgery.

Of the 1,243 patients who had immediate sequential bilateral cataract surgery, 1,045 (84.1%) had a preoperative VA measurement for both eyes where the median difference in the VA between right and left eyes was 0.00 LogMAR units and the inter quartile range was -0.12 to +12 LogMAR units.

Figure 4: The percentage of cataract operations supplied to the audit with a valid preoperative VA by participating centre – Ordered by the percentage of operations with preoperative VA data

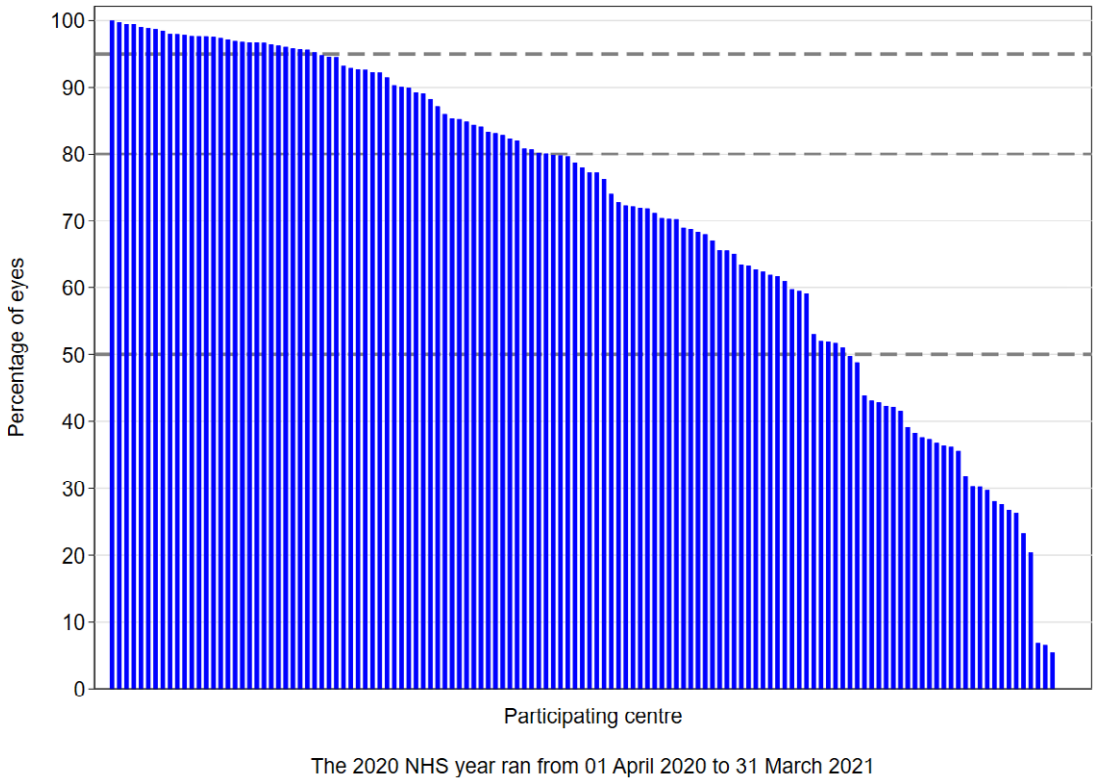


Figure 5: Median and IQR for preoperative VA by participating centre – Ordered by median preoperative VA

Figure 6: Box and whisker plots of preoperative VA by national deciles of social deprivation

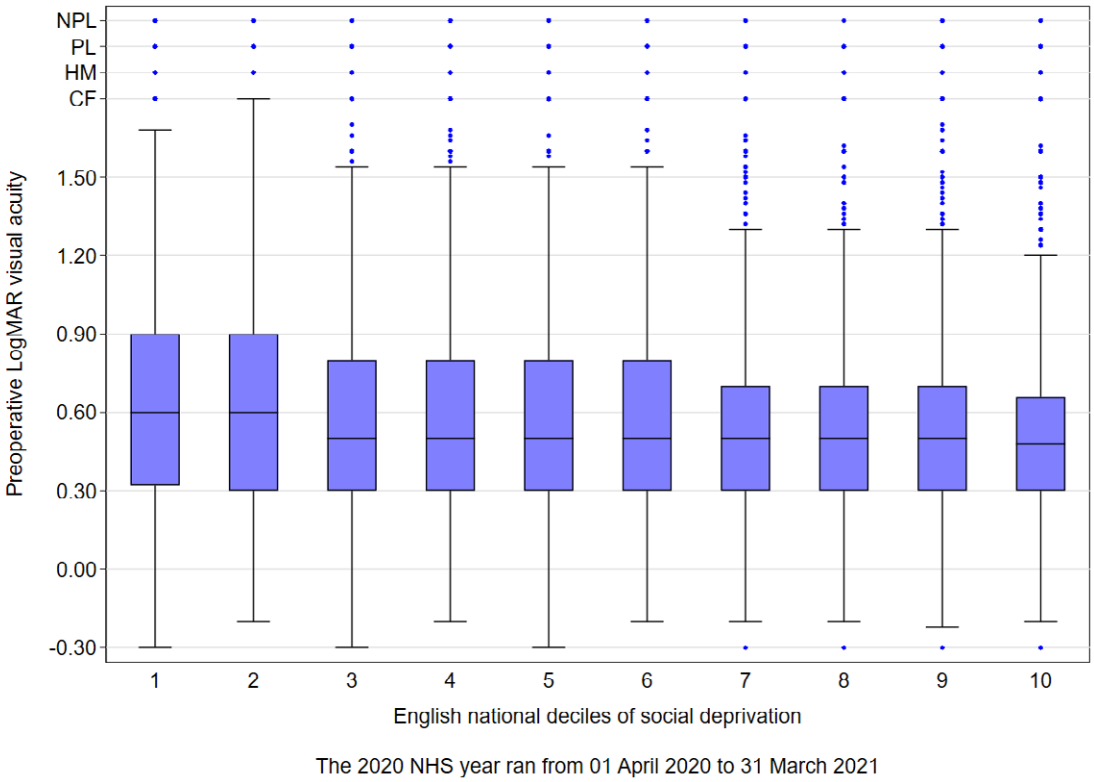


Table 2: Preoperative visual acuity and social deprivation where decile 1 is the most deprived decile and decile 10 the least deprived

		Preoperative LogMAR visual acuity			
Decile of social deprivation	N	<0.30	0.30 – <0.60	0.60 – <1.00	≥1.00
1 (most deprived)	7,469	10.9	37.0	27.6	24.5
2	7,105	12.2	37.5	26.3	24.0
3	7,322	14.0	40.3	25.1	20.6
4	8,137	14.0	40.1	25.7	20.2
5	8,487	15.0	40.9	25.7	18.4
6	8,892	15.0	42.8	24.7	17.5
7	9,329	16.4	43.6	24.2	15.8
8	9,652	16.1	44.1	24.3	15.5
9	9,630	16.1	45.9	23.3	14.7
10 (least deprived)	9,638	17.8	47.4	21.4	13.4
Overall	**85,661**	**14.9**	**42.3**	**24.7**	**18.1**

8.7 Ocular co-pathologies and risk indicators

The presence or absence of an ocular co-pathology or known risk indicator was recorded for 90.9% of operated eyes and was not recorded for 9.1% of eyes. Assuming that the not recorded ocular co-pathology or known risk indicators are 'none', then an ocular co-pathology or known risk indicator was present in 67,272 (39.0%) eyes and recorded as absent (or not recorded) for 105,048 (61.0%) eyes.

The percentage of eyes with ocular co-pathology or known risk indicator data recorded (any, none or not recorded) varied between centres, where the percentage of eyes reported to have any ocular co-pathology ranged between centres from 0.0% to 81.2%, and 51 (38.1%) centres had >50% of operated eyes with an ocular co-pathology, Figure 7 (page 29). Three centres had all operations submitted with a not recorded ocular co-pathology.

The most commonly recorded ocular co-pathologies were Corneal pathology, age-related macular degeneration, glaucoma and unspecified 'other', which were recorded for 8.7%, 8.1%, 5.9% and 5.8% of operations respectively, Figure 8 (page 30). Consultant surgeons performed >60% of operations with each individual co-pathology, Figure 9 (page 30).

Variation between centres in the percentage of eyes with any ocular co-pathology or known risk indicator exists in each NHS year, Appendix 12 (page 97). The percentage of eyes with each of the individual ocular co-pathology or known risk indicators has been fairly consistent for some co-pathologies and variable for others across the 2016 – 2020 NHS years, with distinct differences between 2016-2018 and the 2019 and 2020 NHS years, Appendix 13 (page 104).

Figure 7: The percentage of cataract operations supplied to the audit according to recorded ocular co-pathology or known risk indicator data by participating centre – Ordered by the percentage of operations with a recorded ocular co-pathology or know risk factor

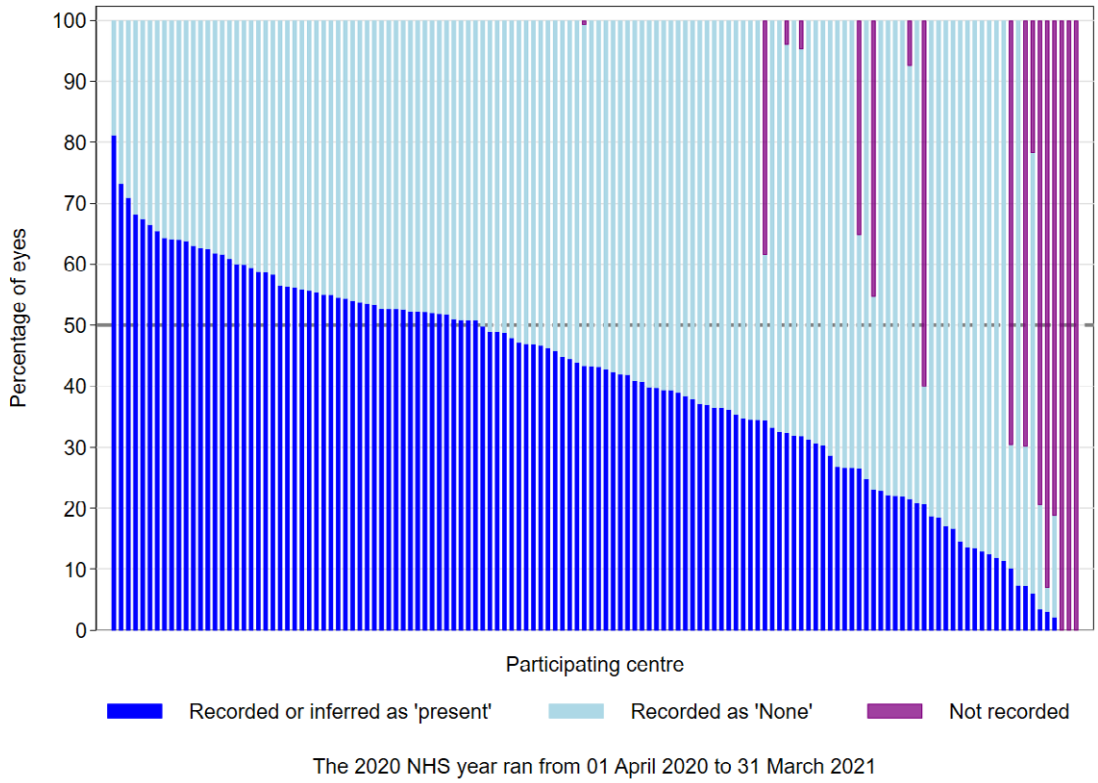


Figure 8: The percentage of cataract operations supplied to the audit with individual ocular co-pathologies or known risk indicator

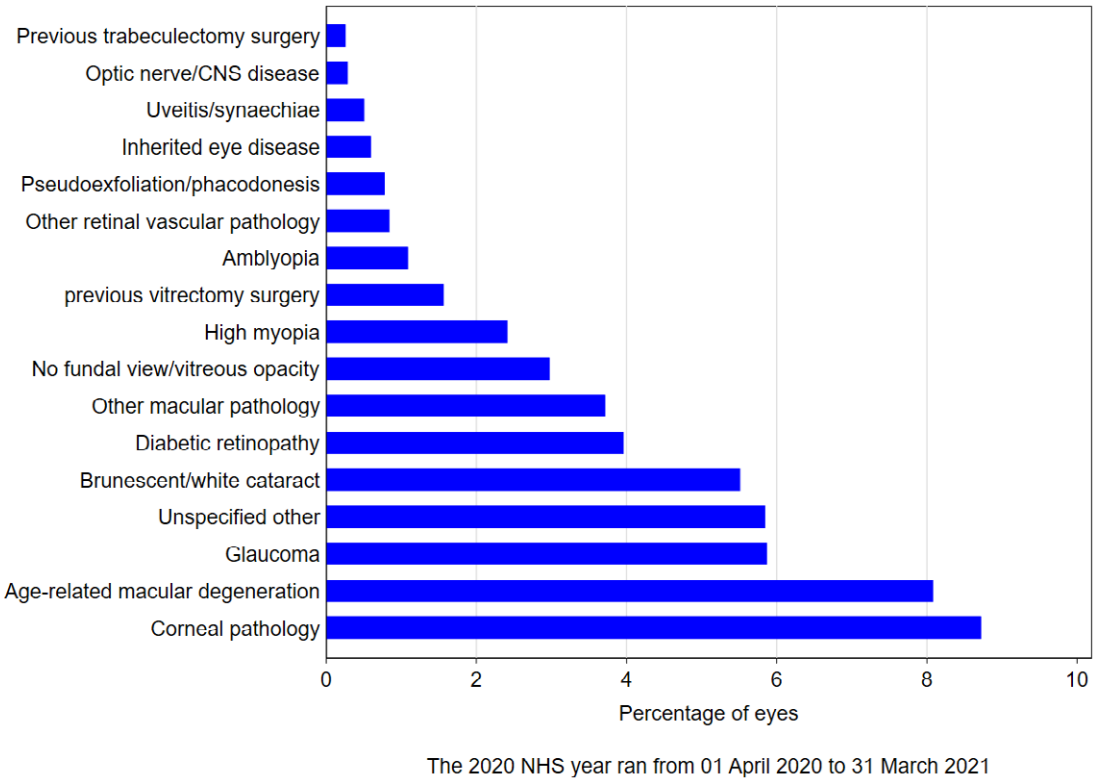


Figure 9: The percentage of cataract operations supplied to the audit with individual ocular co-pathologies or known risk indicator by grade of surgeon

8.8 Operation characteristics

Phacoemulsification ± IOL was performed in all eligible cataract operations and for 162,422 (94.3%) operations was the only operative procedure performed. Phacoemulsification ± IOL was combined with one other procedure in 8,902 (5.2%) operations, with ≥2 other procedures in 996 (0.6%) operations.

The most frequently performed operative procedures combined with phacoemulsification ± IOL were insertion of pupil ring expander, insertion of iris hooks and anterior vitrectomy, which were performed in 1.5%, 0.6% and 0.6% of operations respectively. A full list of operative procedures combined with phacoemulsification ± IOL is in Appendix 17 (page 125).

8.9 Operative complications

One or more intraoperative complication was recorded for 3,268 (1.9%) operations, with the most frequently recorded being PCR which was reported for 1,567 (0.9%) operations. The 'any' intraoperative complication rates were higher for the less experienced grade of surgeons, while the rates for individual intraoperative complications were similar across the grades of surgeon except for PCR, which were higher for the less experienced grades, Table 3 (page 32).

Table 3: Recorded Intraoperative complications for cataract operations for the 2020 NHS year by grade of surgeon

Intraoperative complications N (column %)	Consultant surgeons (N = 141,267)	Career grade non-consultant surgeons (N = 7,181)	More experienced trainee surgeons (N = 20,806)	Less experienced trainee surgeons (N = 3,066)	Total (N = 172,320)
Eyes with no complications	139,227 (98.6)	6,989 (97.3)	19,937 (95.8)	2,899 (94.6)	169,052 (98.1)
Eyes with ≥1 complication	2,040 (1.4)	192 (2.7)	869 (4.2)	167 (5.4)	3,268 (1.9)
Recorded intraoperative complications*					
Posterior capsular rupture	954 (0.7)	71 (1.0)	435 (2.1)	107 (3.5)	1,567 (0.9)
Zonule rupture – no vitreous loss	243 (0.2)	19 (0.3)	103 (0.5)	12 (0.4)	377 (0.2)
Corneal epithelial abrasion	139 (0.1)	31 (0.4)	45 (0.2)	5 (0.2)	220 (0.1)
Torn iris / damage from the phaco	121 (<0.1)	8 (0.1)	45 (0.2)	8 (0.3)	182 (0.1)
Anterior capsular tear	88 (<0.1)	9 (0.1)	59 (0.3)	3 (0.1)	159 (0.1)
Endothelial damage / Descemet's tear	64 (<0.1)	10 (0.1)	22 (0.1)	4 (0.1)	100 (<0.1)
Lens exchange required / other IOL problems	62 (<0.1)	5 (<0.1)	19 (0.1)	4 (0.1)	90 (<0.1)
Iris prolapse	44 (<0.1)	5 (<0.1)	36 (0.2)	0 (0.0)	85 (<0.1)
Iris trauma	40 (<0.1)	10 (0.1)	18 (<0.1)	4 (0.1)	72 (<0.1)
Corneal oedema	38 (<0.1)	4 (<0.1)	27 (0.1)	2 (<0.1)	71 (<0.1)
Hyphaema	37 (<0.1)	4 (<0.1)	11 (<0.1)	3 (0.1)	55 (<0.1)
Choroidal / suprachoroidal haemorrhage	26 (<0.1)	2 (<0.1)	9 (<0.1)	0 (0.0)	37 (<0.1)
Phaco burn / wound problems	17 (<0.1)	0 (0.0)	3 (<0.1)	3 (0.1)	23 (<0.1)
Unspecified other**	359 (0.3)	35 (0.5)	124 (0.6)	28 (0.9)	546 (0.3)

Posterior capsular rupture (PCR) is defined for the purposes of the National Cataract Audit as "posterior capsule rupture with or without vitreous prolapse or zonule rupture with vitreous prolapse" and abbreviated simply as PCR. Retained lens fragments in the vitreous implies PCR. *Each operation can have more than one intraoperative complication recorded. **The unspecified other included two vitreous haemorrhages, 19 instances when the operation was cancelled and 19 decentred IOLs.

8.10 Postoperative complications

In order to submit postoperative complication data to the audit there needs to be enough time after the operation for patients to receive postoperative follow-up. Therefore, the audit reports on operations performed in the first 10 months of the NHS year (before 31 January). This allows the potential for two months' follow-up.

Of the 172,320 eligible cataract operations submitted to the audit, 132,415 (76.8%) operations from 132 centres were performed before 31 January 2021 and had the potential for two months' follow-up. Two centres had no operations in the postoperative qualifying time period and data from four centres (93 operations) are excluded due to these centres having <50 eligible operations in the postoperative qualifying time period. This left 132,322 eligible operations from 128 centres available for postoperative complication results. No postoperative complication data was recorded for 91,598 (69.2%) operations, for 35,457 (26.8%) operations 'none' was recorded as the postoperative complication, and 5,267 (4.0%) operations had at least one postoperative complication recorded. The variation in data likely reflects differences in cataract surgery patient pathways across centres.

The percentage of operations with a postoperative complication record (none or a complication), or no postoperative complication record, varied significantly between the participating centres, with 15 centres having no records of any specific postoperative complications, Figure 10 (page 34).

The most frequently recorded postoperative complications were postoperative cystoid macular oedema, uveitis and corneal oedema / striae / haze which were the only individual postoperative complications recorded for >0.5% of operations, Figure 11 (page 34).

Figure 10: The percentage of cataract operations supplied to the audit with and without postoperative complication data by participating centre – Ordered by the percentage of operations with an actual postoperative complication

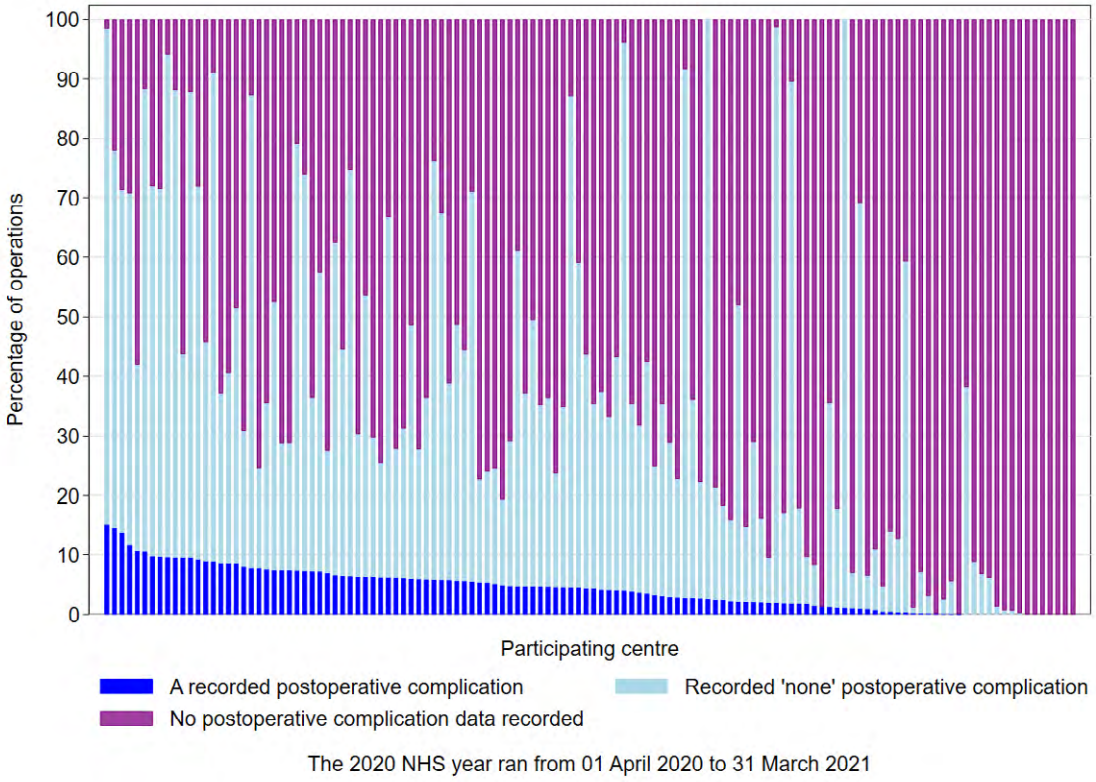
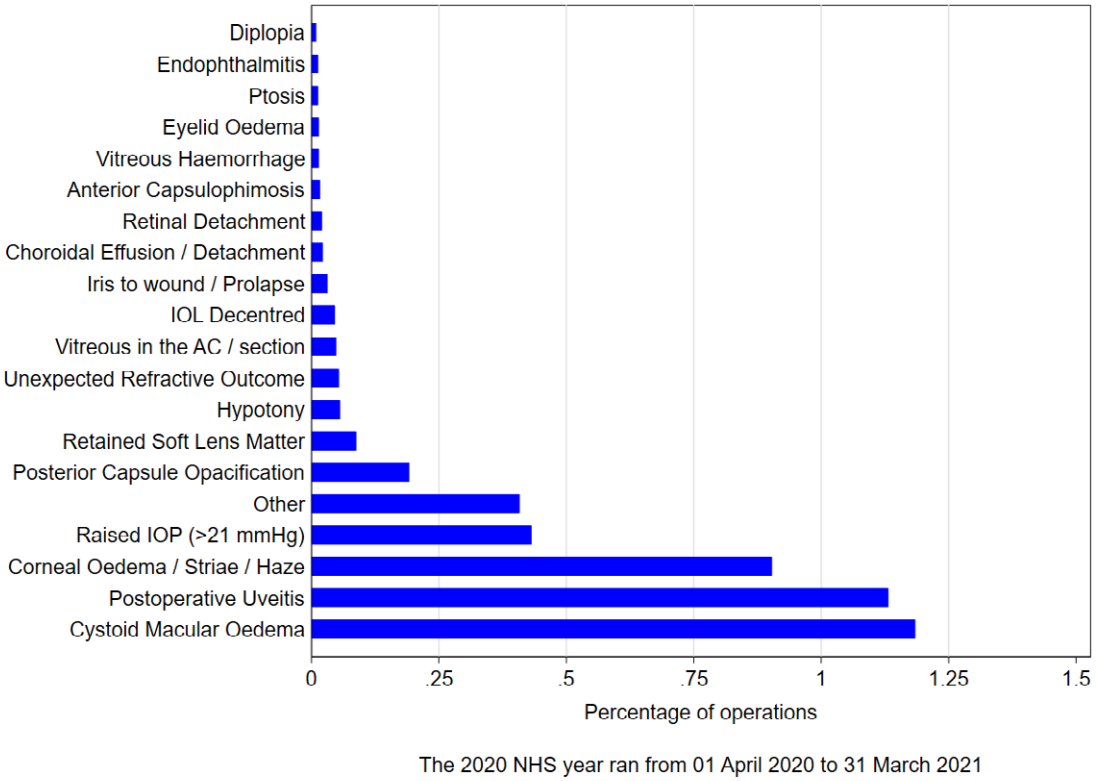


Figure 11: The percentage of cataract operations supplied to the audit with each individual postoperative complication



8.11 Postoperative visual acuity

From the 172,320 eligible operations from 134 centres, 132,415 (76.8%) operations were performed before 31 January 2021 and had the potential for two months' follow-up. Two centres had no operations in the postoperative qualifying time period and data from four centres (93 operations) are excluded due to these centres having <50 eligible operations in the postoperative qualifying time period. This left 132,322 eligible operations from 128 centres available for the assessment of the percentage of eyes with a postoperative VA measurement. Of these, a postoperative visual acuity was recorded for 79,174 (59.8%) eyes and missing for 53,148 (40.2%) eyes. For comparison the percentage of eyes with a postoperative VA were 76.4%, 76.8%, 75.7% and 72.6% for the 2016, 2017, 2018 and 2019 NHS years respectively. The percentage of eyes with a postoperative VA for contributing centres and each audit year is in Appendix 14 (page 105).

There was wide variation in the percentage of eyes with postoperative VA by contributing centre; for 38 (29.7%) centres <50% of eyes had a postoperative VA, for 41 (32.0%) centres >80% of eyes had a postoperative VA and for 7 (5.5%) centres >95% of eyes had a postoperative VA, Figure 12 (page 36) and Appendix 7 (page 76). Influencing this result are operations performed in the latter part of the audit period where not all patients could have sufficient follow-up for all postoperative results to be available. Another factor is the move to patient initiated follow-up (PIFU) as a routine practice following cataract surgery with patients then attending community optometrists under the General Ophthalmic Services (GOS) contract, or more constructed arrangements which still involve discharge to the community for a commissioned follow up assessment. In either case, post-operative measurements are not always sent back to the hospitals for recording on the hospitals' EMR system.

Overall, the percentage of eyes with postoperative VA data was 61.3% for first treated eyes and 57.4% for second treated eyes. The percentage of first and second treated eyes with postoperative VA data varied between centres, where 104 (81.3%) centres had a higher percentage of first treated eyes with postoperative VA data than second treated eyes, for 31 (24.2%) centres this difference was >10% points and for five centres >25% points, Appendix 8 (page 82).

From the 79,174 eyes with a postoperative VA measurement, data from eight centres (196 operations) are excluded from the estimate of postoperative vision due to the centres having <50 eligible operations with a postoperative VA measurement. Eligible for assessing postoperative vision are 78,978 operations from 118 contributing centres.

For the 78,978 eyes eligible for postoperative VA assessment, the best measurement was CDVA in 31,601 (40.0%) eyes, UDVA in 19,961 (25.3%) eyes, PHVA in 12,474 (15.8%) eyes; the best measurement was the same for two of the assessment methods for 14,156 (17.9%) eyes and the same for all three methods in 786 (1.0%) eyes.

The median postoperative VA was 0.10 LogMAR units (range; -0.30 – NPL) (6/7.5 Snellen equivalent); where 261 (0.3%) eyes were CF, 161 (0.2%) eyes were HM, 25 (<0.1%) eyes were PL and 17 (<0.1%) eyes were NPL.

The postoperative VA was 0.30 LogMAR units (6/12) or better for 71,852 (91.0%) eyes, 0.60 LogMAR units (6/24) or better for 76,340 (96.7%) eyes and 1.0 LogMAR units (6/60) or better for 78,053 (98.8%) eyes.

The postoperative VA was stable across participating centres, although there was some variation where the median postoperative VA was 0.00 LogMAR for 35 (29.7%) centres, 0.10 LogMAR for 47 (39.8%) centres and 0.20 LogMAR for 13 (11.0%) centres. The overall median postoperative VA for centres was 0.10 LogMAR with a range in the centres median postoperative VA of 0.00 – 0.30 LogMAR, Figure 13 (page 36).

Overall, VA outcomes were as expected, though data completeness remains an area for improvement and results for centres with small numbers will be subject to significant statistical uncertainty and potential bias.

Figure 12: The percentage of cataract operations supplied to the audit with a valid postoperative VA by participating centre – Ordered by the percentage of eligible operations with a postoperative VA measurement

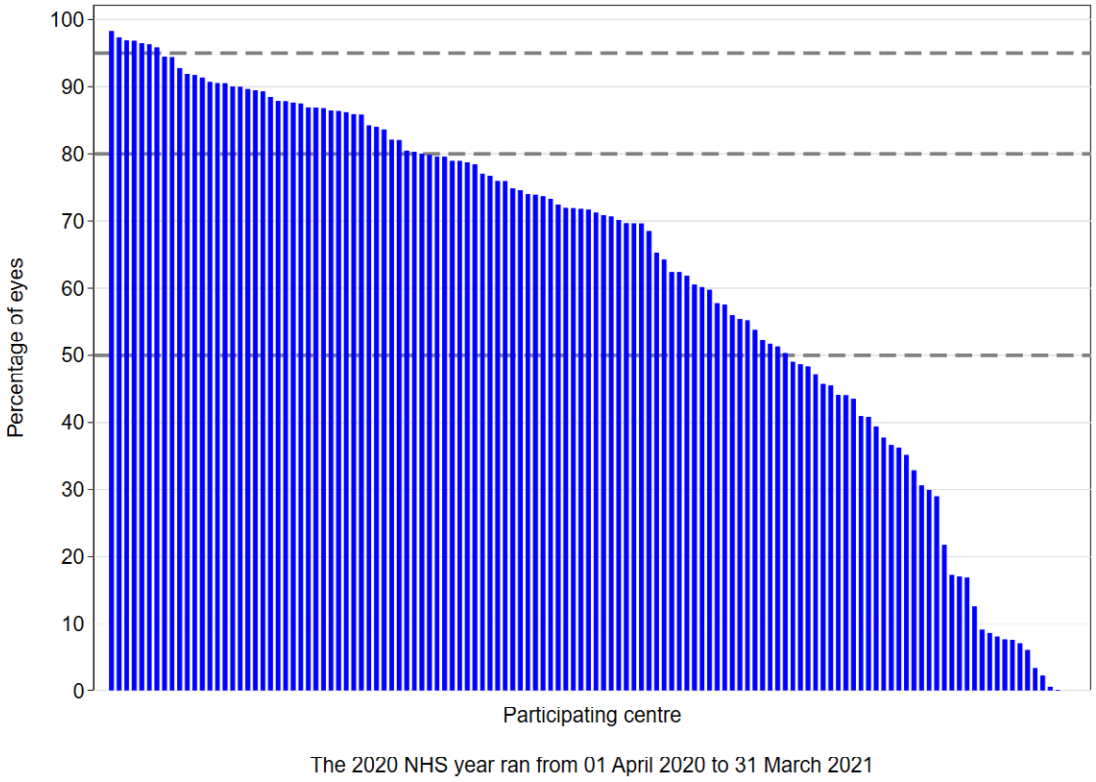
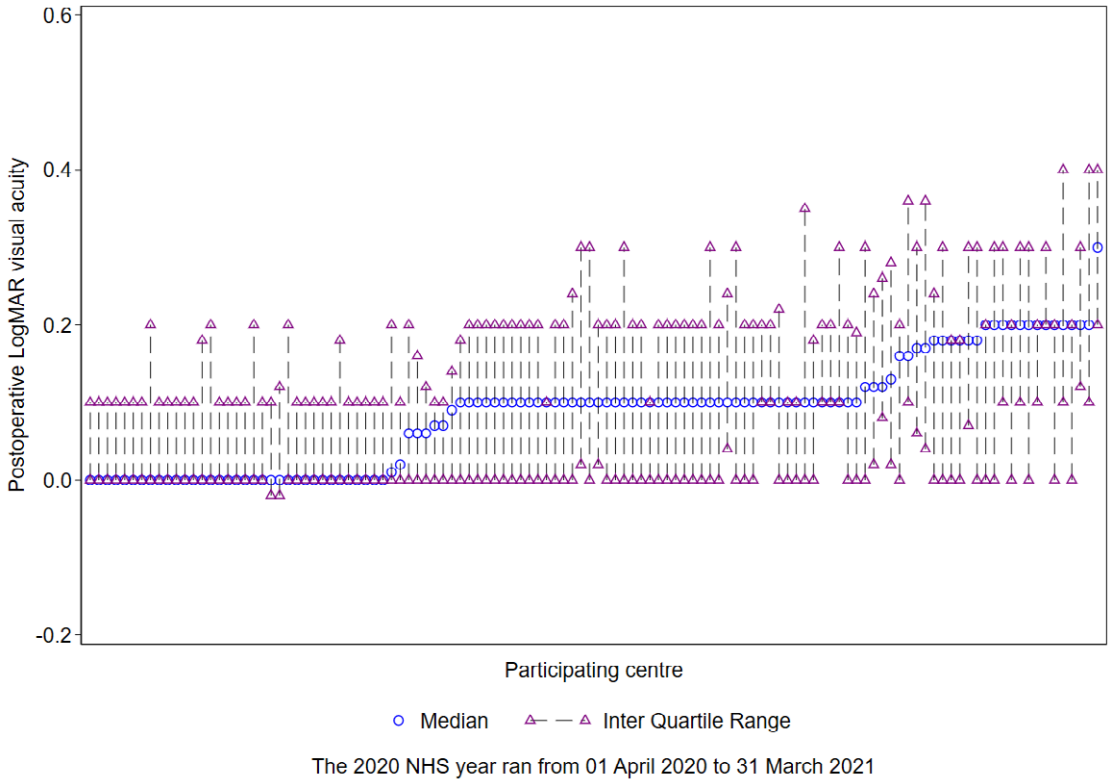


Figure 13: Median and IQR for postoperative VA by participating centre – Ordered by median postoperative VA



8.12 Change in visual acuity

Of the 132,415 eligible cataract operations submitted to the audit performed before 31 January 2021. Two centres had no operations in the postoperative qualifying time period and data from four centres (93 operations) are excluded from change in VA results due these centres having <50 eligible operations in the qualifying time period. This left 132,322 eligible operations from 128 centres considered for the reporting of the percentage of eyes with change in VA data, where 62,697 (47.4%) eyes had both a preoperative VA and a postoperative VA measurement. Four centres had no eyes with both a postoperative and preoperative VA, 65 (50.8%) centres had <50% of eligible eyes with both VA measurements and 20 (15.6%) centres had >80% of eyes with both VA measurements, Figure 14 (page 38). For comparison, the percentages of eyes with change in VA data were 73.1%, 72.6%, 70.9% and 67.5% for the 2016, 2017, 2018 and 2019 NHS years respectively. Data completeness for this measure has decreased and was probably severely affected by service disruption during the 2020 NHS year. The audit will continue to encourage centres to collect and record both preoperative and postoperative VA to allow for determination of this measure.

From the 62,697 eyes with both a preoperative and postoperative VA measurement, data from 13 centres (333 operations) are excluded from the change in VA analysis due to the centres having <50 eligible operations with both a preoperative and a postoperative VA measurement. Eligible for change in VA analysis are 62,364 operations from 111 participating centres.

The median change in VA from baseline was a 0.40 LogMAR gain (IQR; 0.20 – 0.60 gain). A loss of >0.10 LogMAR (-1 line) was experienced by 1,795 (2.9%) eyes, a change of ±0.10 LogMAR (±1 line) by 4,553 (7.3%) eyes and a gain of >0.10 LogMAR (+1 line) by 56,016 (89.8%) eyes. The change in VA was stable between the participating centres, Figure 15 (page 38). Overall, the majority of cataract surgery operations resulted in a significant improvement in visual acuity for patients, as illustrated in Figure 16 (page 39) where for all 111 centres assessed for change in VA, the median postoperative VA was better than the median preoperative VA.

76.5% of eyes with a preoperative VA of 0.00 LogMAR or better had a postoperative VA of 0.00 LogMAR or better and 97.9% of eyes with a preoperative VA of 0.30 LogMAR or better had a postoperative VA of 0.30 LogMAR or better.

Eyes that had an ocular co-pathology or experienced an intraoperative complication or PCR during surgery had worse postoperative VA than eyes that did not have any of these problems. >90% of eyes without these problems had a postoperative VA of 0.30 LogMAR (6/12 Snellen) or better, Table 4 (page 40).

The percentage of operations from each participating centre with preoperative VA, postoperative VA and both pre- and postoperative VA data varied between participating centres, Appendix 7 (page 76).

participating centres and fully qualified surgeons (consultants and career grade non-consultants) with at least 50 eligible operations. The case complexity adjusted PCR graph for the surgeons whose result will be available on the audit website is in Figure 19 (page 50) for 136,524 operations performed in 129 participating centres by 576 surgeons. No surgeons were outliers in the 2020 NHS year and results for trainee surgeons are not displayed publicly.

Figure 14: The percentage of eligible operations with both a preoperative and a postoperative VA measurement by participating centre – Ordered by the percentage of operations with both VA measurements

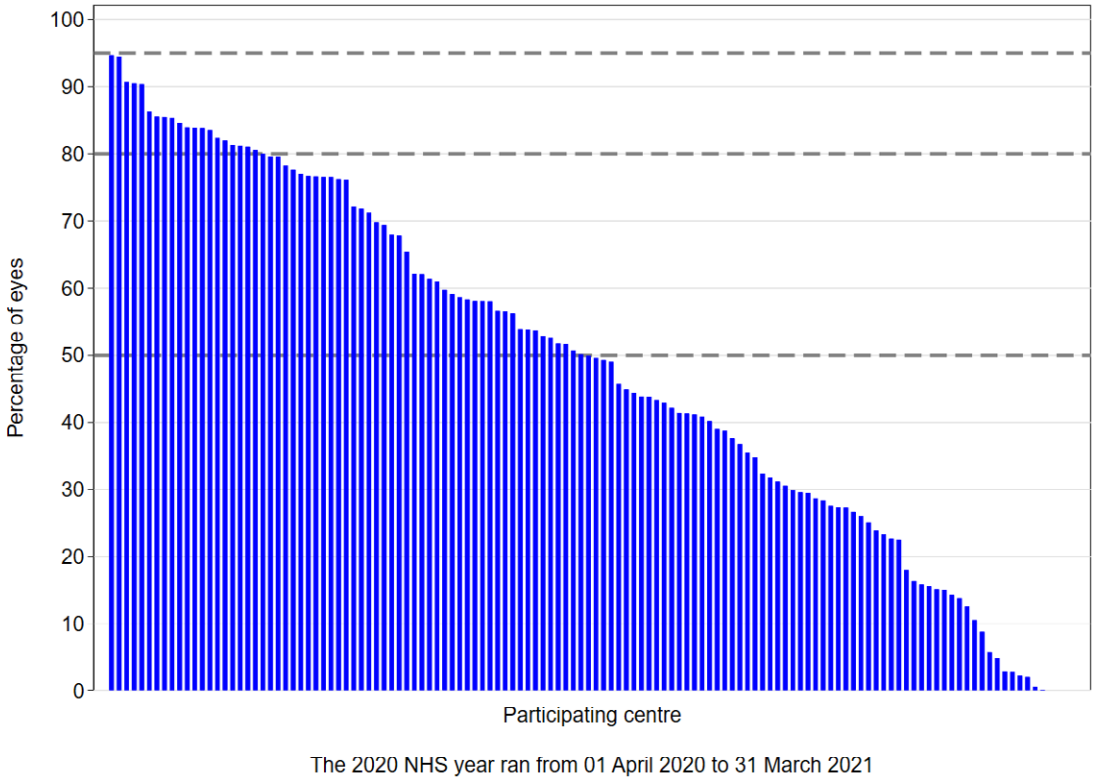


Figure 15: Median and IQR for change in VA by participating centre – Ordered by median change in VA

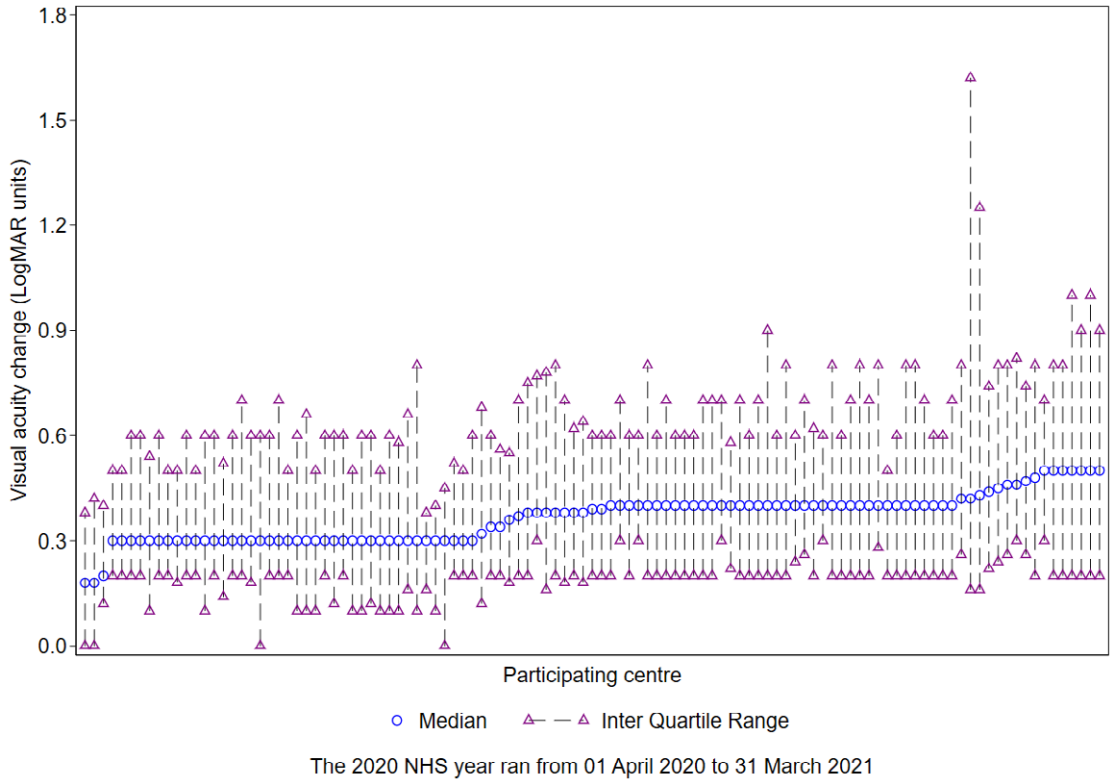


Figure 16: Median preoperative and postoperative VA by participating centre – Ordered by median postoperative VA

Table 4: Postoperative VA by preoperative VA, ocular co-pathology / known risk indicator and intraoperative complications

	Postoperative LogMAR visual acuity				
Percentages are row % (Approximate Snellen)	≤0.00 (6/6 or better)	≤0.18 (6/9 or better)	≤0.30 (6/12 or better)	≤0.60 (6/24 or better)	≤1.00 (6/60 or better)
All eyes (N = 62,364)	47.2	72.1	91.3	96.8	98.9
Preoperative LogMAR VA (Snellen)					
≤0.00 (N = 1,379)	76.5	90.3	99.2	99.7	99.8
≤0.18 (N = 4,738)	65.2	90.7	98.9	99.9	99.9
≤0.30 (N = 22,208)	55.9	81.8	97.9	99.7	99.9
≤0.60 (N = 43,826)	50.2	76.5	95.5	99.4	99.9
≤1.00 (N = 54,753)	48.7	74.2	93.5	98.4	99.7
Ocular co-pathology / risk indicator					
No (N = 32,457)	55.5	80.5	96.1	99.0	99.7
Yes (N = 29,907)	38.1	62.9	86.1	94.4	97.9
Intraoperative complications					
No (N = 61,080)	47.6	72.6	91.7	97.0	99.0
Yes (N = 1,284)	27.4	48.0	73.8	86.9	94.2
PCR					
No (N = 61,696)	47.4	72.4	91.6	96.9	98.9
Yes (N = 668)	24.1	42.4	69.3	83.4	92.1

8.13 Case complexity adjusted PCR results

Unadjusted for case complexity PCR rates for the 134 participating centres are shown in Figure 17 (page 41) and an adjusted for case complexity graph in Figure 18 (page 42). No participating centres were outliers in the 2020 NHS year. Details of the unadjusted and adjusted for case complexity PCR results for the 134 participating centres is in Appendix 9 (page 88), along with a case complexity index which is the overall predicted probability of PCR for all the cases reported for each centre. The case complexity adjusted PCR rate for contributing centres in the 2016 – 2020 NHS years is in Appendix 15 (page 112).

Displayed on the public section of the audit website will be case complexity adjusted PCR results for participating centres and fully qualified surgeons (consultants and career grade non-consultants) with at least 50 eligible operations. The case complexity adjusted PCR graph for the surgeons whose result will be available on the audit website is in Figure 19 (page 42) for 136,524 operations performed in 129 participating centres by 576 surgeons. No surgeons were outliers in the 2020 NHS year and results for trainee surgeons are not displayed publicly.

Figure 17: Unadjusted for case complexity PCR funnel plot for participating

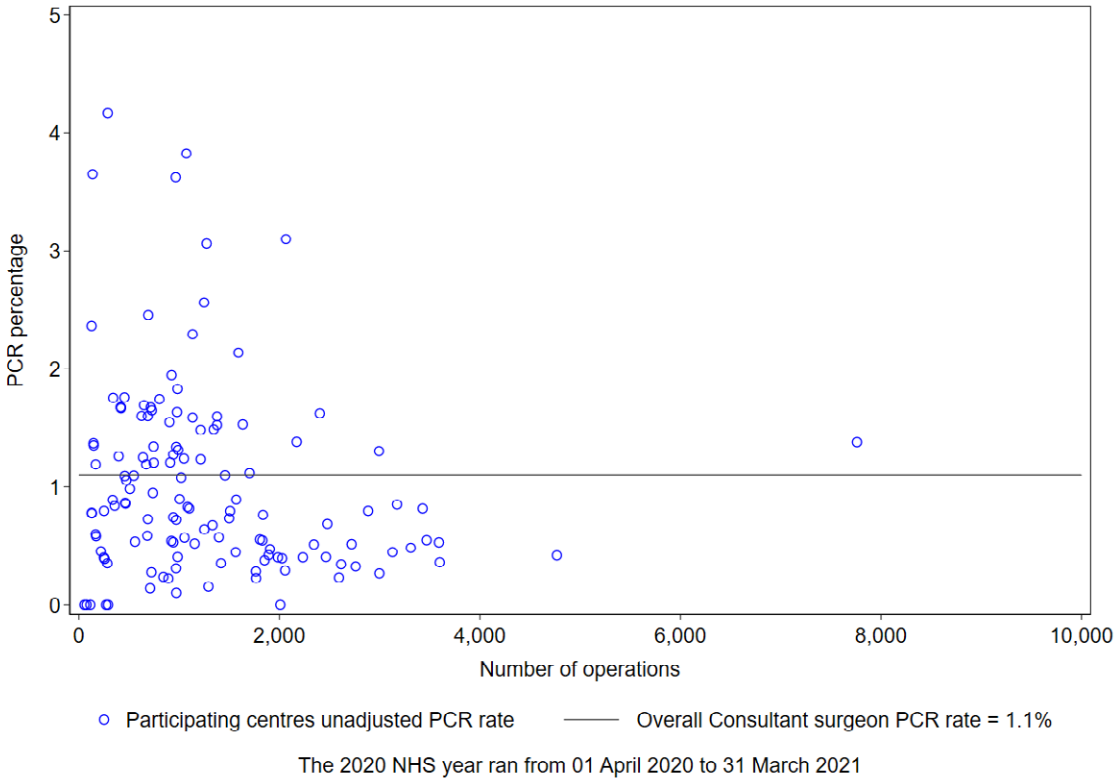


Figure 18: Adjusted for case complexity PCR funnel plot for participating centres with confidence intervals (CI)

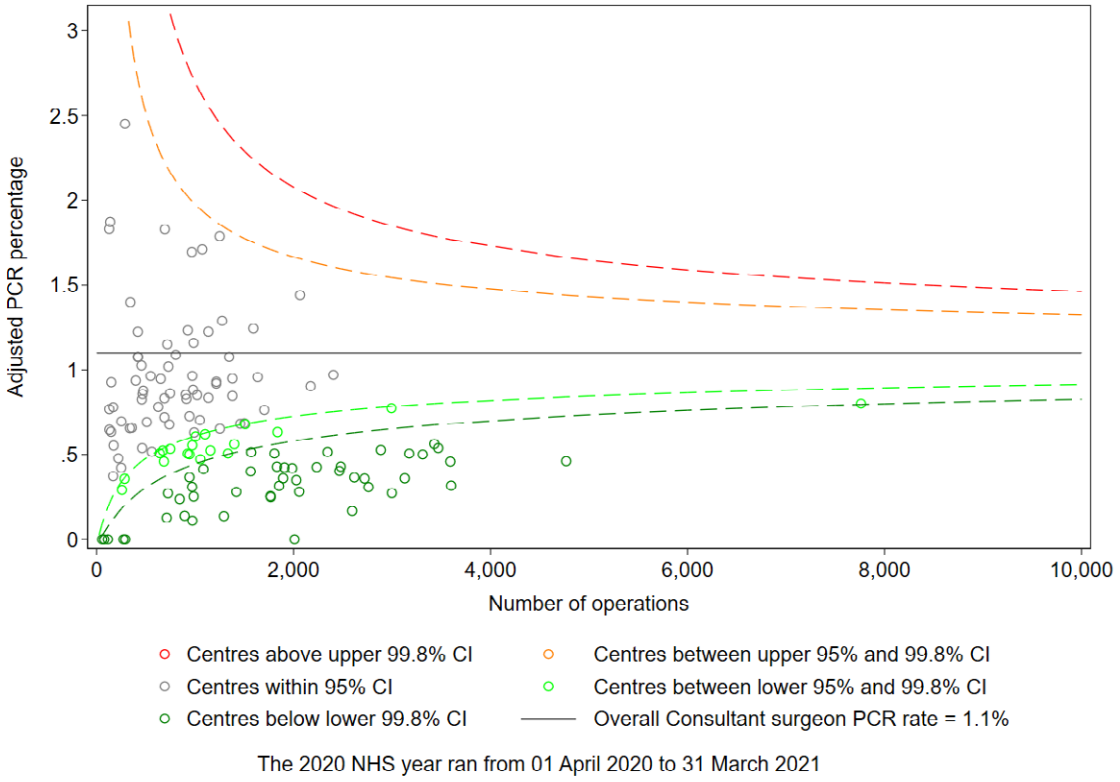
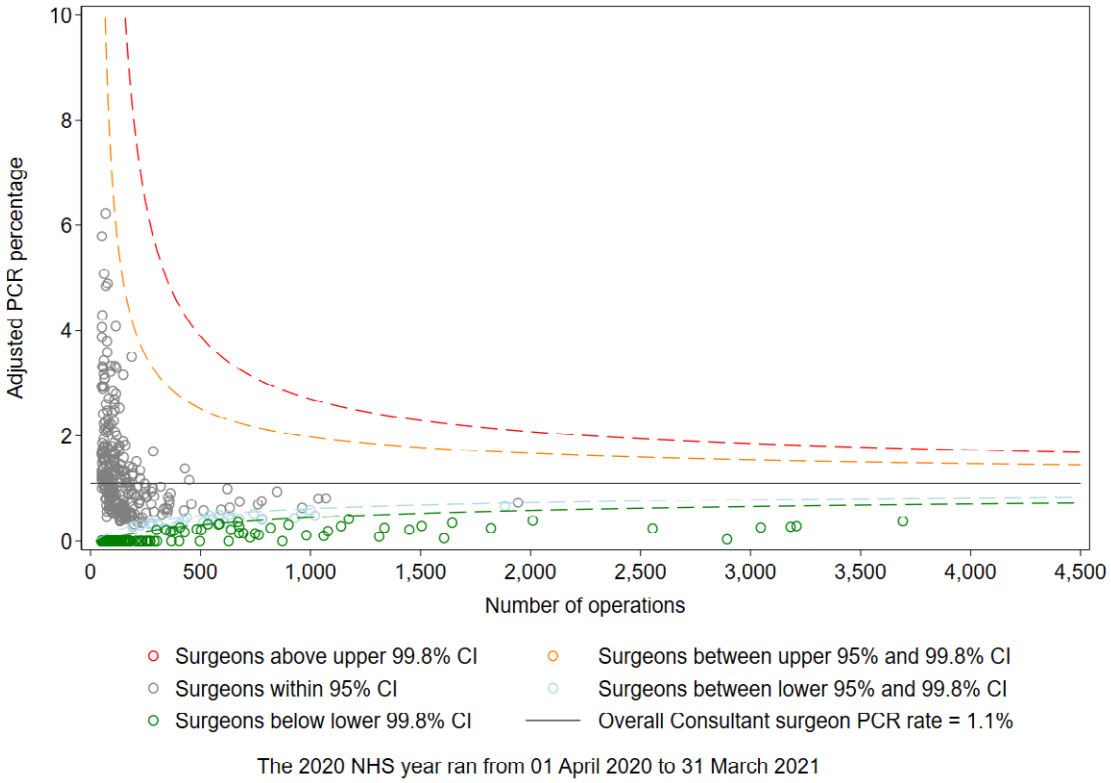


Figure 19: Adjusted for case complexity PCR funnel plot for fully qualified surgeons with confidence intervals (CI)



8.14 Case complexity adjusted visual loss results

Of the 172,320 eligible operations, 132,415 operations were performed up to 31 January 2021 and had the potential for two months' follow-up. Two centres had no operations in the postoperative qualifying time period and data from four centres (93 operations) are excluded from the postoperative VA Loss results due these centres having <50 eligible operations in the qualifying time period. This left 132,322 eligible operations from 128 centres with at least 50 eligible operations in the postoperative qualifying time period. From these, 35,262 (26.6%) operations from 44 centres were performed in centres were a preoperative and postoperative VA was recorded for at least 60% of the operations and in at least 50 operations per centre.

An unadjusted for case complexity funnel plot of VA Loss is shown in Figure 20 (page 44) and an adjusted for case complexity funnel plot in Figure 21 (page 44). Details of the unadjusted and adjusted for case complexity VA Loss results is in Appendix 9 (page 88), along with a case complexity index which is the overall predicted probability of VA Loss for the cases reported by each centre. The case complexity adjusted VA Loss rate for contributing centres for the 2016 – 2020 NHS years is in Appendix 15 (page 112). Centres with >40% operations without VA measurements and centres with <50 operations with both a preoperative and postoperative VA have not been reported as the estimates would be too unreliable.

Displayed on the public section of the audit website will be case complexity adjusted VA Loss results for participating centres and fully qualified surgeons (consultants and career grade non-consultants) with sufficient data for a result to be produced. The case complexity adjusted VA Loss graph for the surgeons whose result will be available on the audit website is in Figure 22 (page 45) for 32,502 operations performed in 75 participating centres by 119 surgeons. No surgeons were outliers in audit year four and results for trainee surgeons are not displayed publicly.

The actual observed VA Loss rate for the year four VA Loss sample was 0.42%, which is lower than the percentage rate used for complexity adjustment. This is not an unexpected finding, as there is variation between centres in the percentage of reported operations, percentage of operations with both preoperative postoperative VA, and service disruptions due during the 2020 NHS year all of which are necessary for visual loss estimation.

Figure 20: Unadjusted for case complexity VA Loss funnel plot for participating centres

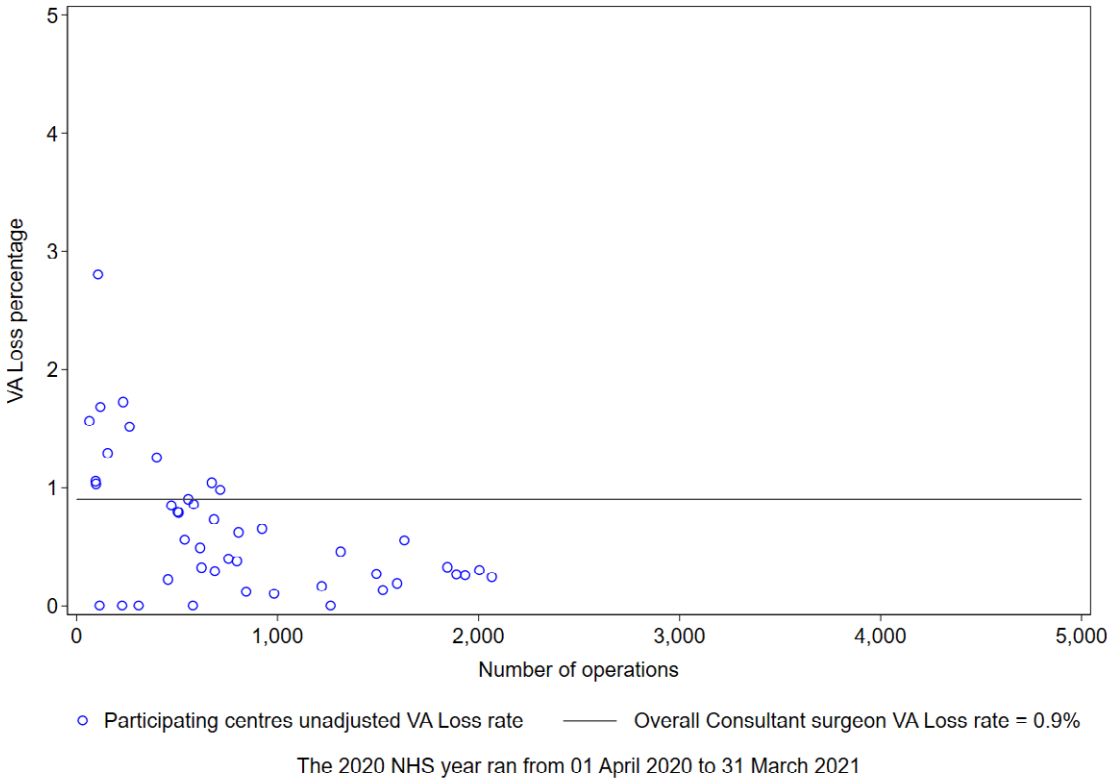


Figure 21: Adjusted for case complexity VA Loss funnel plot for participating centres with confidence intervals (CI)

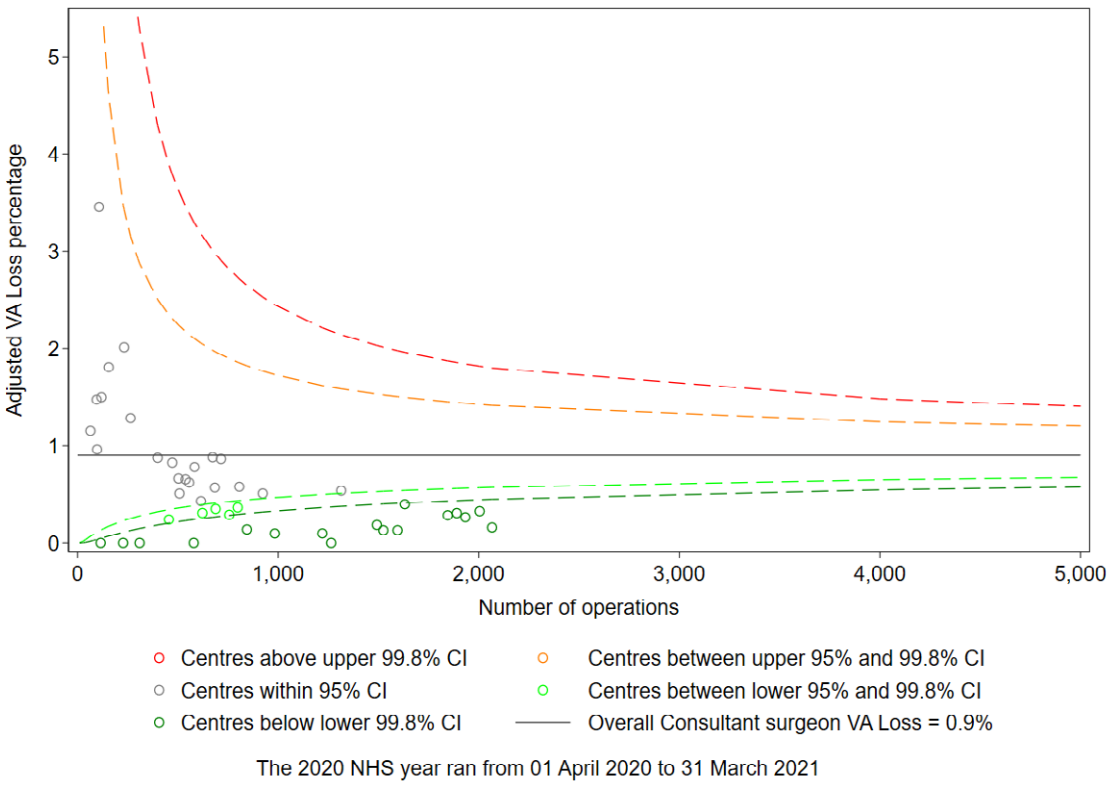
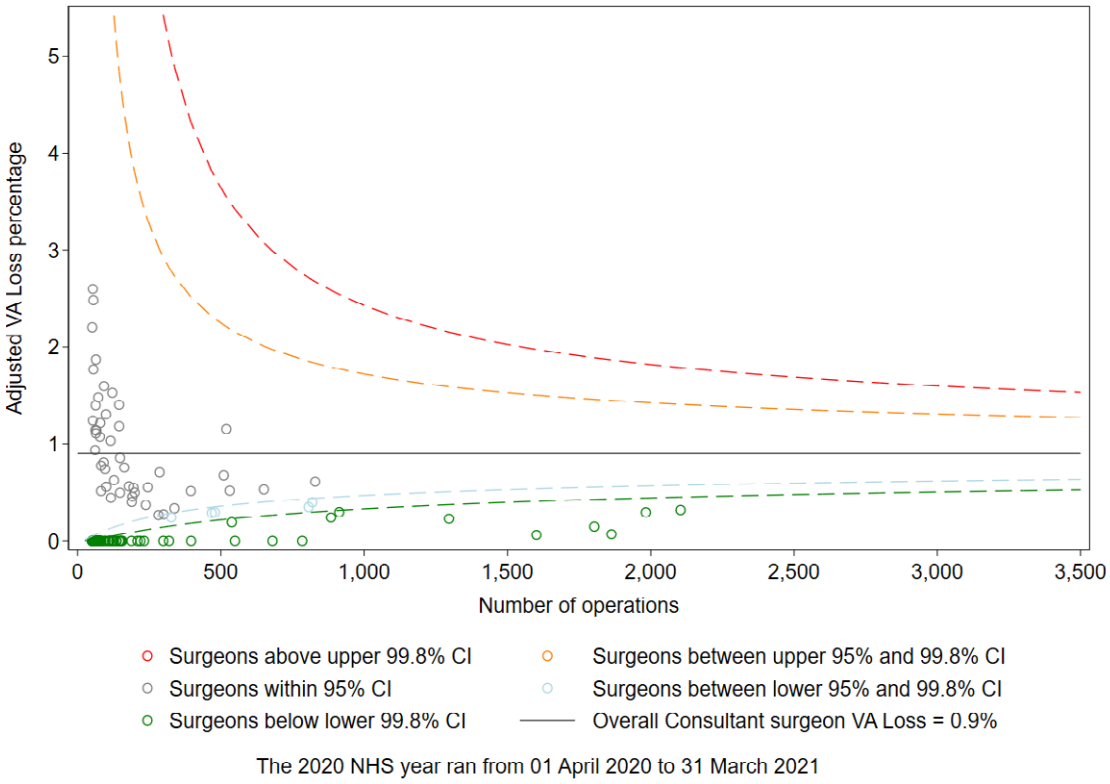


Figure 22: Adjusted for case complexity VA Loss funnel plot for fully qualified surgeons with confidence intervals (CI)



9. Summary of Key Points

This is the fifth annual report from The Royal College of Ophthalmologists' National Ophthalmology Database Audit to report results for prospectively collected data on cataract surgery for a one-year period, and the first to do so for the NHS year (01 April to 31 March).

1. Over 72% of all cataract operations performed in England and Wales are now captured by the audit with strong interest in participation being expressed from both Northern Ireland and Scotland. Good progress has been made in terms of expanding the number of centres to above 100 centres in successive audit years, with 134 centres in this report, 74 English NHS trusts, four Welsh Local Health Boards, eight independent sector treatment providers reporting 54 sites, one centre from Guernsey and one private provider

2. Named surgeon and centre results are available on the NOD Audit website

3. Established markers of surgical quality – PCR and VA Loss – are used as metrics for risk-adjusted outcomes. PCR is the most frequent intraoperative complication and is associated with increased postoperative loss of vision. VA Loss is intended to capture all eyes where there has been an adverse outcome, whether or not associated with PCR

4. Overall, PCR has reduced by around 50% and VA Loss by 38% since 2010, Table 1 (page 9). The reduction in PCR complications in cataract surgery since 2010 equates to approximately 4,500 fewer complications annually across the NHS. Cost savings from avoided PCR complications are estimated at approximately £2.5 million per annum and the avoidance of VA Loss can have multiple benefits for a patient due to the importance of vision in daily life

5. This is the fifth prospective cataract audit report to include the reporting of named centre results for all submitted operations with results for named consultant surgeons appearing on the NOD website. For the centres included in this report, outcomes have been found to be within expectation, i.e. risk adjusted outcomes within 3SD of the consultant average. This reflects the high-quality outcomes for patients at participating centres

6. Case ascertainment overall, at most contributing centres, is high although there remain some notable exceptions (Appendix 6, page 69 and Appendix 12, page 97)

7. Data completeness of reported surgery is excellent for PCR (100%), though less so for VA, particularly for postoperative VA. This is an area where many centres could do better, with a few centres having poor VA data returns following surgery. The collection of this important postoperative data could generally be improved (Appendix 7, page 76)

8. Quality improvement drivers in this audit take the form of risk-adjusted results for surgical complications and vision loss from before to after surgery. These key measures are risk- adjusted, to acknowledge case complexity and provide credit to surgeons and centres undertaking complex work. Without conscientious completion of risk indicator data, surgeons and centres run the risk of not being given credit for the complexity of the work undertaken. An important message for participants to take on board both when planning surgery and when recoding their patient notes

9. The RCOphth NOD Audit is aligned to, and is driving, the NHS digital agenda in the move toward electronic working in ophthalmology. This is exemplified by the 152 centres who have submitted data for at least 50 eligible operations in one of five NHS years' results which are listed in appendices. Data from 127 of these centres was submitted from EMR systems and from in-house databases for the remaining 27 centres. In addition, a further four centres have submitted data for <50 eligible operations and indicated they will be submitting sufficient cases in future

audit years. From the centres that have not yet signed-up to participate, it is known that many have not yet adopted an EMR, and some are implementing one which will then enable national audit participation. Centres in Wales and Scotland are expecting to be provided with an EMR through national procurement projects, and EMR implementation is underway in Northern Ireland (Appendix 2, page 55). The majority of these centres collect their data as part of routine clinical activity with no additional effort required for submission of data to the audit. Furthermore, the EMR audit tools allow for real time tracking of adverse surgical events locally which facilitates monitoring of complications by centres and surgeons. In the event of an adverse signal becoming apparent, timely corrective action can be taken to avoid unnecessary harm to patients and avoid centres or surgeons being identified as outliers in national audit reports going forward.

10. Conclusions

- The current report provides assurance that delivery of NHS and publicly funded cataract surgery in the 134 participating centres is of overall good quality
- It is encouraging to note that since 2010, when this work feeding back cataract surgical results to centres and surgeons began, there has been around a 50% overall reduction in PCR complications and a 38% reduction in VA Loss. Progress with quality improvement thus far is providing obvious benefits to over 4,500 patients annually in terms of reduced morbidity as well as significant NHS cost savings from avoided complications of around £2.5 million annually
- In the forthcoming period, it is planned to further extend the audit coverage to include all traditional NHS centres, and more of the independent providers of cataract surgical care. All providers of NHS and publicly funded care are accountable to the public for the quality of services they provide. It is pleasing to note that eight independent sector treatment providers with 54 sites have joined the audit and are included in the current report
- Further outcomes are being considered in order to provide a broader, more patient focused and more easily interpreted assessment of NHS service quality in cataract care
- The results in this report for the 2020 NHS year were influenced by service disruptions and periods of cancelled practice due to the COVID 19 pandemic. This disruption lead to a reduced number of operations data was submitted for, with the majority of centres performing fewer operations in the 2020 NHS than the 2019 NHS year due to the COVID 19 pandemic, as illustrated for the 118 centres who have provided data for at least 50 eligible operations in both NHS years, Figure 23 (page 49)
- The service disruption during the 2020 NHS year affected different months of the 2020 NHS year, with April and May most affected, Figure 24 (page 49). Another difference observed in the 2020 NHS year was a higher than previous percentage of eligible cataract operations performed in the months of September to December than in the 2016, 2017, 2018 and 2019 NHS years, Table 5 (page 50)

Figure 23: The number of eligible operations submitted by 118 centres for the 2019 and 2020 NHS years

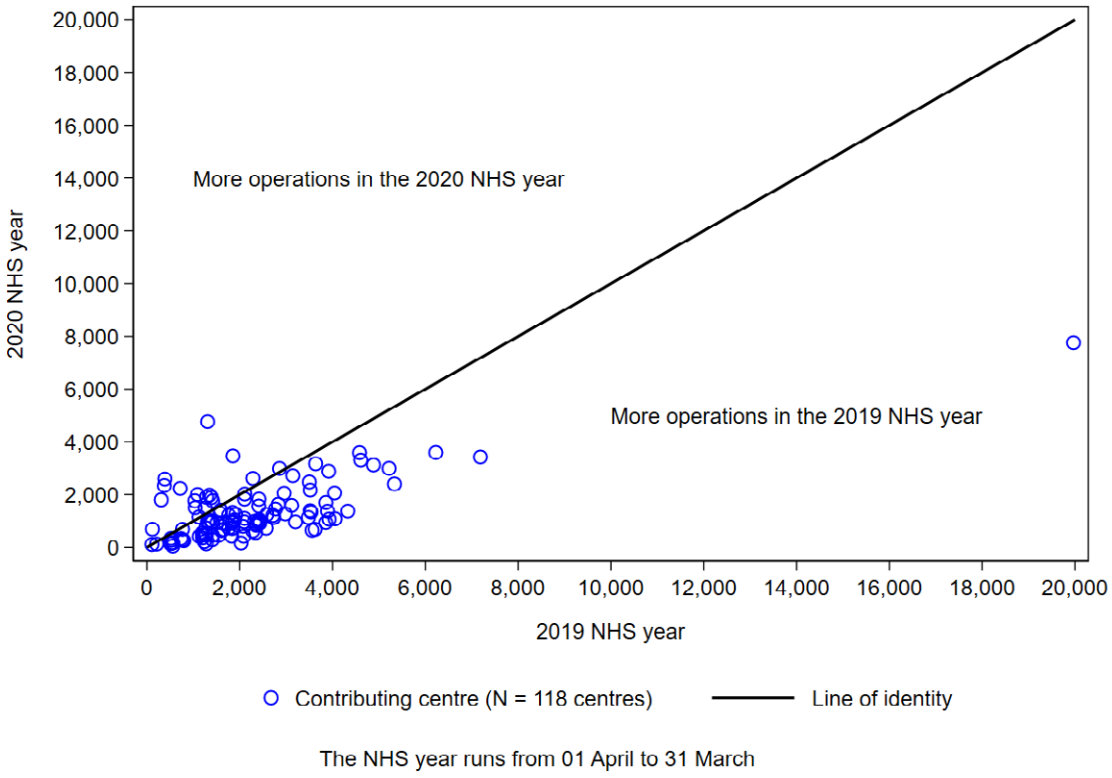


Figure 24: The percentage of eligible cataract operations performed in each month of the 2020 NHS year

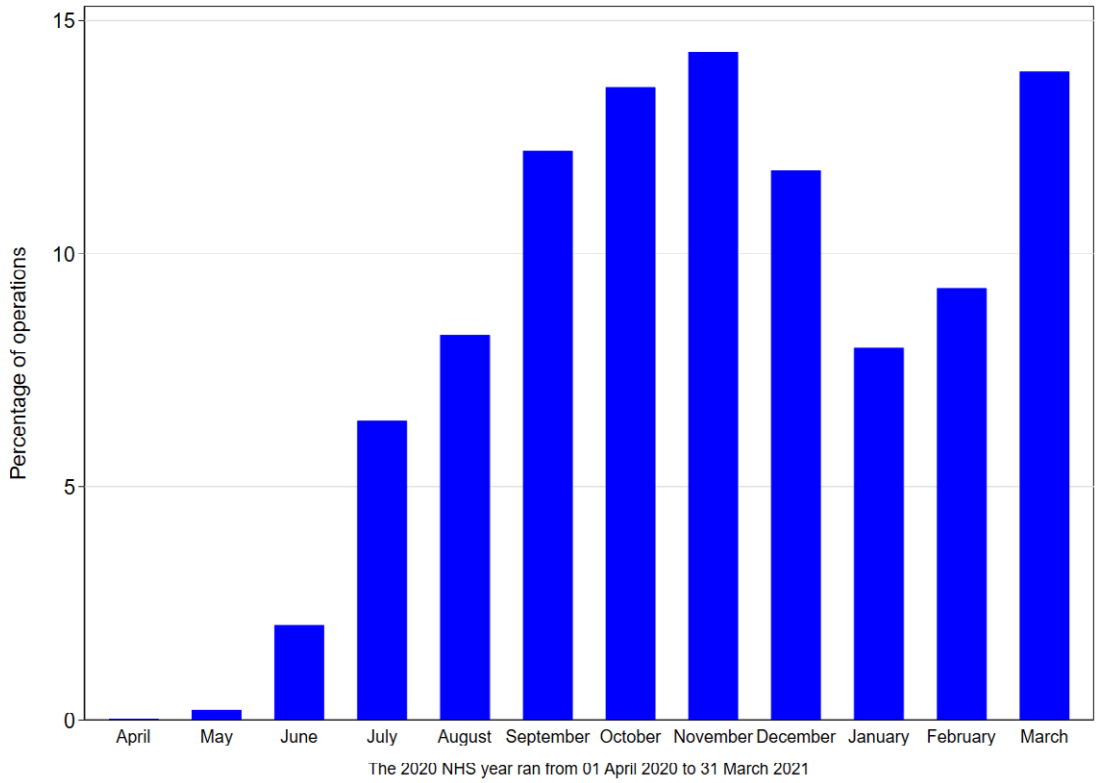


Table 5: The percentage of eligible operations performed in each month of the NHS year for the 2016 to 2020 NHS years

	NHS year (01 April to 31 March)				
	2016	2017	2018	2019	2020
Number of operations	194,562	219,077	247,535	277,749	172,320
Month					
April	7.1	7.1	7.7	7.5	0.0
May	7.0	8.1	8.1	8.0	0.2
June	8.0	8.5	8.3	7.9	2.0
July	7.6	7.9	8.2	8.8	6.4
August	7.7	8.1	7.9	7.7	8.3
September	8.9	8.4	7.8	8.7	12.2
October	8.6	9.1	9.1	9.6	13.6
November	9.5	9.4	9.1	9.5	14.3
December	7.5	7.1	7.0	7.6	11.8
January	9.0	9.2	9.2	9.7	8.0
February	9.0	8.5	8.6	8.9	9.2
March	10.1	8.8	9.1	6.0	13.9

11. Future of the audit

- The audit relies on the contribution of data and funding from participating centres augmented by donations from industry, and while this continues the RCOphth plan to continue to run the national cataract audit
- The next data extraction planned for May 2022 will form the basis of the sixth prospective annual NOD report, and this will include data from the second NHS year affected by the COVID 19 pandemic. We anticipate that centres who did not participate due to resource issues and service disruption from the COVID 19 pandemic will once again participate
- Electronic data collection for cataract surgery is being implemented in Northern Ireland with participation in the audit from Northern Irish centres commencing once EMR implementation is complete
- National procurement projects are in place in Wales and Scotland to provide centres with an EMR. This will allow participation in the RCOphth NOD audits for all centres in Wales and Scotland
- The RCOphth NOD is committed to further developing the existing patient reported outcome measure (PROM) for cataract surgery, with a feasibility study for PROM integration in the audit being conducted later in 2022
- The RCOphth NOD has launched a national audit for wet age-related macular degeneration with the first submission aligned with the next national cataract audit submission in May 2022.
- The RCOphth NOD have applied for section 251 exemption to allow submission of the patients NHS number which would enable linkage of data from patients treated in multiple centres
- The models used in case complexity adjustment in the audit will be re-fitted during 2022 with the aim to implement these for the data submitted in 2023

12. Acknowledgements

We would like to acknowledge the support and guidance we have received from the RCOphth NOD Cataract Audit Advisory Group members, the NOD Steering Group members, the RCOphth Executive Committee, Professional Standards Committee, Informatics and Audit Subcommittee and the Lay Advisory Group. Their guidance has helped us to ensure that the audit has relevance for not only the professional readership but also patients, their relatives and carers. We thank all the members for reviewing this report.

We also acknowledge the support of the hospitals that are participating in the prospective audit and thank our medical and non-medical colleagues for the considerable time and effort devoted to conscientious electronic data collection as they go about caring for their patients. All participating centres are acknowledged in Appendix 2 (page 55) and on the RCOphth NOD audit website.

We acknowledge with thanks the contribution of Professor John Sparrow who provided diligent clinical and academic oversight and leadership of the NOD over many years to bring it to its current stature. It is with gratitude that we remember our friend and colleague Robert Johnston, who sadly died in September 2016. Without his inspirational vision, determination and career long commitment to quality improvement in ophthalmology this work would not have been possible.

13. Funding

The RCOphth NOD National Cataract Audit is currently funded through participation fees from centres as well as unrestricted contributions from Alcon and Bausch + Lomb. We are grateful for the donations received from these organisations.

14. The RCOphth NOD Cataract Audit Team

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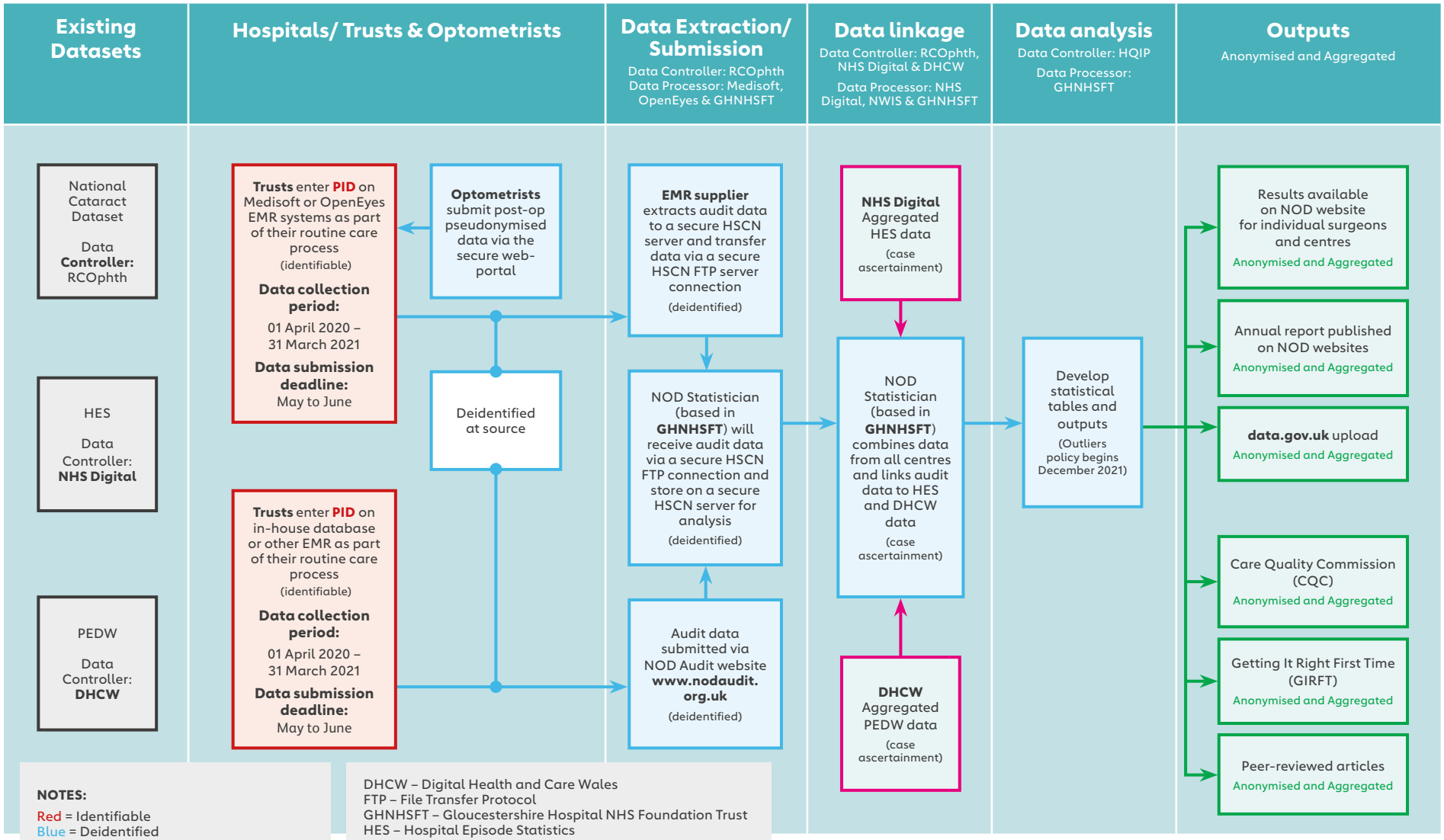
Appendix 1: Data Flow

National Ophthalmology Database Cataract Audit – Data Flow



Appendix 2: Cataract surgical centres

Category	Organisation name	Data collection system	Notes
Centres first included in the Year 1 report	Barking, Havering and Redbridge University Hospitals NHS Trust	Medisoft	
	Barnsley Hospital NHS Foundation Trust	In-house	Chose not to participate in audit year 5 citing resource constraints and service disruption from the COVID 19 pandemic.
	Barts Health NHS Trust	Medisoft	
	Bedfordshire Hospitals NHS Foundation Trust – Moorfields	Medisoft	Data combined and reported as Moorfields Eye Hospital NHS Foundation Trust. Note Bedfordshire Hospitals NHS Foundation Trust was formed from a merger of Bedford Hospital NHS Trust with Luton and Dunstable University Hospital NHS Foundation Trust, where the ophthalmology service for the former Bedford Hospital NHS Trust is run by Moorfields Eye Hospital NHS Foundation Trust which supplies data to the audit, while the ophthalmology service for the former Luton and Dunstable University Hospital NHS Foundation Trust is not run by Moorfields Eye Hospital NHS Trust and does not submit data to the audit.
	Blackpool Teaching Hospitals NHS Foundation Trust	Medisoft	This centre had sufficient eligible cases for inclusion in the year 1 report but did not submit ≥50 eligible operations for year 2 and has not contributed data to audit years 3, 4 or 5.
	Bradford Teaching Hospitals NHS Foundation Trust	Medisoft	Includes patients from Airedale NHS Foundation Trust.
	Calderdale and Huddersfield NHS Foundation Trust	Medisoft	Contributed to the national audit when funded by The Healthcare Quality Improvement Partnership (years 1 – 3) but choose not to participate in the audit for years 4 or 5. Some centres informed the audit they would participate once they have acquired and EMR.
	Cardiff and Vale University Local Health Board	Medisoft	
	Chesterfield Royal Hospital NHS Foundation Trust	Medisoft	
	Croydon Health Services NHS Trust – Moorfields	Medisoft	Data combined and reported as Moorfields Eye Hospital NHS Foundation Trust. Note Bedfordshire Hospitals NHS Foundation Trust was formed from a merger of Bedford Hospital NHS Trust with Luton and Dunstable University Hospital NHS Foundation Trust, where the ophthalmology service for the former Bedford Hospital NHS Trust is run by Moorfields Eye Hospital NHS Foundation Trust which supplies data to the audit, while the ophthalmology service for the former Luton and Dunstable University Hospital NHS Foundation Trust is not run by Moorfields Eye Hospital NHS Trust and does not submit data to the audit.
	Epsom and St Helier University Hospitals NHS Trust	Medisoft	
	Frimley Health NHS Foundation Trust	Medisoft	
	Gloucestershire Hospitals NHS Foundation Trust	Medisoft	
	Hampshire Hospitals NHS Foundation Trust	Medisoft	
	Harrogate and District NHS Foundation Trust	Medisoft	
	Isle of Wight NHS Trust	Medisoft	
	King's College Hospital NHS Foundation Trust	Medisoft	
	Leeds Teaching Hospitals NHS Trust	Medisoft	
	Liverpool University Hospitals NHS Foundation Trust	Medisoft	NHS Trust formed from a merger of two NHS Trusts, Aintree University Hospital NHS Foundation Trust who have contributed data since audit year 1 and Royal Liverpool and Broadgreen University Hospitals NHS
	London North West University Healthcare NHS Trust	In-house	Contributed to the national audit when funded by The Healthcare Quality Improvement Partnership (years 1 – 3) but choose not to participate in the audit for years 4 or 5. Some centres informed the audit they would participate once they have acquired and EMR.

Appendix 2 table continued: Cataract surgical centres

Category	Organisation name	Data collection system	Notes
Centres first included in the Year 1 report	Manchester University NHS Foundation Trust	Medisoft	
	Mid Cheshire Hospitals NHS Foundation Trust	Medisoft	
	Mid and South Essex NHS Foundation Trust	Medisoft	NHS Trust formed from a merger of two participating NHS Trusts, Mid Essex Hospital Services NHS Trust who first contributed data to audit year 1 and Southend University Hospital NHS Foundation Trust who first contributed data to audit year 4.
	Moorfields Eye Hospital NHS Foundation Trust	OpenEyes	Data combined and reported as Moorfields Eye Hospital NHS Foundation Trust. Note Bedfordshire Hospitals NHS Foundation Trust was formed from a merger of Bedford Hospital NHS Trust with Luton and Dunstable University Hospital NHS Foundation Trust, where the ophthalmology service for the former Bedford Hospital NHS Trust is run by Moorfields Eye Hospital NHS Foundation Trust which supplies data to the audit, while the ophthalmology service for the former Luton and Dunstable University Hospital NHS Foundation Trust is not run by Moorfields Eye Hospital NHS Trust and does not submit data to the audit.
	Norfolk and Norwich University Hospitals NHS Foundation Trust	Medisoft	
	Northern Devon Healthcare NHS Trust	Medisoft	
	North West Anglia NHS Foundation Trust	Medisoft	NHS Trust formed from a merger of two participating NHS Trusts that both had data in the year 1 prospective report, these NHS Trusts were Peterborough and Stamford Hospitals NHS Foundation Trust and Hinchingbrooke Health Care NHS Trust.
	Nottingham University Hospitals NHS Trust	Medisoft	
	Oxford University Hospitals NHS Trust	Medisoft	
	Royal Berkshire NHS Foundation Trust	Medisoft	Contributed to the national audit when funded by The Healthcare Quality Improvement Partnership (years 1 – 3), but choose not to participate in the audit for years 4 or 5. Some centres informed the audit they would participate once they have acquired and EMR.
	Royal Cornwall Hospitals NHS Trust	Medisoft	
	Royal Free London NHS Foundation Trust	Medisoft	
	Royal United Hospital Bath NHS Trust	Medisoft	Chose not to participate in audit year 4 and began participation again in audit year 5.
	Salisbury NHS Foundation Trust	Medisoft	
	Sandwell and West Birmingham Hospitals NHS Trust	Medisoft	
	Sheffield Teaching Hospitals NHS Foundation Trust	Medisoft	Chose not to participate in audit year 5 citing resource constraints and service disruption from the COVID 19 pandemic.
	South Tees Hospitals NHS Foundation Trust	Medisoft	
	South Warwickshire NHS Foundation Trust	Medisoft	
	St Helens and Knowsley Hospitals NHS Trust	Medisoft	
	The Hillingdon Hospitals NHS Foundation Trust	Medisoft	
	The Mid Yorkshire Hospitals NHS Trust	Medisoft	
	The Newcastle Upon Tyne Hospitals NHS Foundation Trust	Medisoft	
	The Shrewsbury and Telford Hospital NHS Trust	Medisoft	Chose not to participate in audit year 4 and began participation again in audit year 5.
	University Hospital Southampton NHS Foundation Trust	Medisoft	

Appendix 2 table continued: Cataract surgical centres

Category	Organisation name	Data collection system	Notes
Centres first included in the Year 1 report	University Hospitals Birmingham NHS Foundation Trust	Medisoft	NHS Trust formed from a merger of two participating NHS Trusts, University Hospitals Birmingham NHS Foundation Trust who have contributed to the audit since year 1 and Heart of England NHS Foundation Trust who first contributed in year 2.
	University Hospitals Bristol and Weston NHS Foundation Trust	Medisoft	
	University Hospitals Coventry and Warwickshire NHS Trust	Medisoft	
	University Hospitals Dorset NHS Foundation Trust	Medisoft	NHS Trust formed from a merger of The Royal Bournemouth and Christchurch Hospitals NHS Foundation Trust who first contributed data in audit year 1 and a non-cataract providing NHS Trust.
	University Hospitals of Morecambe Bay NHS Foundation Trust	Medisoft	This centre had sufficient eligible cases for inclusion in both the year 1 and 2 report, and has not contributed to subsequent audit years 3, 4 or 5.
	University Hospitals Plymouth NHS Trust	Medisoft	
	Warrington and Halton Teaching Hospitals NHS Foundation Trust	Medisoft	
	Wirral University Teaching Hospital NHS Foundation Trust	Medisoft	
	Wrightington, Wigan and Leigh NHS Foundation Trust	Medisoft	
	Yeovil District Hospital NHS Foundation Trust	Medisoft	
	York and Scarborough Teaching Hospitals NHS Foundation Trust	In-house	
Centres first included in the Year 2 report	Bolton NHS Foundation Trust	OpenEyes	
	Cambridge University Hospitals NHS Foundation Trust	Epic	
	County Durham and Darlington NHS Foundation Trust	Medisoft	
	Cwm Taf Morgannwg University Local Health Board	Medisoft	
	East Kent Hospitals University NHS Foundation Trust	OpenEyes	
	East Lancashire Hospitals NHS Trust	Medisoft	This centre had sufficient eligible cases for inclusion in the year 2 report, and did not contribute to audit years 3 or 4. They had their data extracted for audit year 5, but with no data for surgery since audit year 2.
	East Sussex Healthcare NHS Trust	Medisoft	This centre participated in the year 1 prospective audit, but due to a data extraction problem the data from this centre could not be included in the year 1 report.
	Great Western Hospitals NHS Foundation Trust	Medisoft	
	Imperial College Healthcare NHS Trust	Medisoft	
	James Paget University Hospitals NHS Foundation Trust	Medisoft	
	Kingston Hospital NHS Trust	Medisoft	
	Northampton General Hospital NHS Trust	In-house	
	Northern Lincolnshire and Goole Hospitals NHS Foundation Trust	In-house	Contributed to the national audit when funded by The Healthcare Quality Improvement Partnership (years 1 – 3), but choose not to participate in the audit for years 4 or 5. Some centres informed the audit they would participate once they have acquired and EMR.
	Portsmouth Hospitals University NHS Trust	Medisoft	
	Royal Surrey County Hospital NHS Foundation Trust	In-house	
	Sherwood Forest Hospitals NHS Foundation Trust	Medisoft	

Appendix 2 table continued: Cataract surgical centres

Category	Organisation name	Data collection system	Notes
Centres first included in the Year 2 report	Sherwood Forest Hospitals NHS Foundation Trust	Medisoft	
	Southport and Ormskirk Hospital NHS Trust	Medisoft	
	SpaMedica – Bolton	Medisoft	
	SpaMedica – Liverpool	Medisoft	
	SpaMedica – Manchester	Medisoft	
	SpaMedica – Newton-le-willows	Medisoft	
	SpaMedica – Wakefield	Medisoft	
	SpaMedica – Birkenhead	Medisoft	
	Stockport NHS Foundation Trust	Medisoft	Contributed to the national audit when funded by The Healthcare Quality Improvement Partnership (years 1 – 3), but choose not to participate in the audit for years 4 or 5. Some centres informed the audit they would participate once they have acquired and EMR.
	East Suffolk and North Essex NHS Foundation Trust	Medisoft	NHS Trust formed from a merger of two NHS Trusts, The Ipswich Hospital NHS Trust who first contributed to year 2 and Colchester Hospital University NHS Foundation Trust who did not contribute data while a separate entity.
	The Princess Alexandra Hospital NHS Trust	Medisoft	Contributed to the national audit when funded by The Healthcare Quality Improvement Partnership (years 1 – 3) but choose not to participate in the audit for years 4 or 5. Some centres informed the audit they would participate once they have acquired and EMR.
	The Rotherham NHS Foundation Trust	In-house	Contributed to the national audit when funded by The Healthcare Quality Improvement Partnership (years 1 – 3) but choose not to participate in the audit for years 4 or 5. Some centres informed the audit they would participate once they have acquired and EMR.
	Torbay and South Devon NHS Foundation Trust	Medisoft	
	United Lincolnshire Hospitals NHS Trust	Medisoft	This NHS Trust has contributed data to audit years 2, 3 and 4 from an in-house data collection system, and from audit year 5 onwards from the Medisoft EMR.
	Wye Valley NHS Trust	Medisoft	Contributed to the national audit when funded by The Healthcare Quality Improvement Partnership (years 1 – 3) but choose not to participate in the audit for years 4 or 5. Some centres informed the audit they would participate once they have acquired and EMR.
Centres first included in the Year 3 report	Aneurin Bevan University Local Health Board	In-house	
	Practice Plus Group Hospital, Emersons Green	Medisoft	Practice Plus Group was founded as Care UK in 1982, and rebranded in 2020.
	Practice Plus Group Hospital, Ilford	Medisoft	Practice Plus Group was founded as Care UK in 1982, and rebranded in 2020.
	Practice Plus Group Hospital, Plymouth	Medisoft	Practice Plus Group was founded as Care UK in 1982, and rebranded in 2020.
	Practice Plus Group Ophthalmology, Rochdale	Medisoft	Practice Plus Group was founded as Care UK in 1982, and rebranded in 2020.
	Practice Plus Group Surgical Centre, Devizes	Medisoft	Practice Plus Group was founded as Care UK in 1982, and rebranded in 2020.
	Practice Plus Group Hospital, Shepton Mallet	Medisoft	Practice Plus Group was founded as Care UK in 1982, and rebranded in 2020.
	Practice Plus Group Hospital, Southampton	Medisoft	Practice Plus Group was founded as Care UK in 1982, and rebranded in 2020.
	Practice Plus Group Surgical Centre, St Mary's Portsmouth	Medisoft	Practice Plus Group was founded as Care UK in 1982, and rebranded in 2020.

Appendix 2 table continued: Cataract surgical centres

Category	Organisation name	Data collection system	Notes
Centres first included in the Year 3 report	Practice Plus Group Surgical Centre, Gillingham	Medisoft	Practice Plus Group was founded as Care UK in 1982, and rebranded in 2020.
	East Cheshire NHS Trust	Medisoft	
	North Cumbria Integrated Care NHS Foundation Trust	Medisoft	This is a new NHS Trust formed by a merger of North Cumbria University Hospital NHS Trust who first contributed data to audit year 3 and a non-cataract providing NHS Trust. Chose not to participate in audit year 5 citing resource constraints and service disruption from the COVID 19 pandemic.
	North Middlesex University Hospital NHS Trust	Medisoft	
	SpaMedica – Birmingham	Medisoft	
	SpaMedica – Sheffield	Medisoft	
	St Stephens Gate Medical Practice	In-house	
	Surrey and Sussex Healthcare NHS Trust	Medisoft	Chose not to participate in audit year 4 and began participation again in audit year 5.
	Swansea Bay University Local Health Board	OpenEyes	Contributed to the national audit when funded by The Healthcare Quality Improvement Partnership (years 1 – 3) but choose not to participate in the audit for years 4 or 5. Some centres informed the audit they would participate once they have acquired and EMR.
	The Dudley Group NHS Foundation Trust	Medisoft	
	University Hospitals Sussex NHS Foundation Trust	Medisoft	NHS Trust formed from a merger of two participating NHS Trusts, Brighton and Sussex University Hospitals NHS Trust who first contributed data in audit year 3 and Western Sussex Hospitals NHS Foundation Trust who first contributed data in audit year 4.
Centres first included in the Year 4 report	Buckinghamshire Healthcare NHS Trust	Medisoft	
	George Eliot Hospital NHS Trust	Medisoft	
	Guy's and St Thomas' NHS Foundation Trust	OpenEyes	
	Hywel Dda University Local Health Board	Medisoft	
	Kettering General Hospital NHS Foundation Trust	Medisoft	
	Medical Specialist Group Guernsey	Medisoft	Based in Guernsey and provides NHS equivalent care; they first contributed data to the RCOphth NOD in audit year 3 but were not included in the year 3 report due to not being located in either England or Wales.
	Somerset NHS Foundation Trust	Medisoft	This NHS Trust merged with of Taunton and Somerset NHS Foundation Trust with a non-cataract providing NHS Trust to form Somerset NHS Foundation Trust. The merger occurred after the completion of the audit year 4 data collection period and the RCOphth NOD were asked to report the Trust's results for audit year 4 under the name of the former cataract providing NHS Trust as that institution was responsible for the provision of care.
	SpaMedica – Bradford	Medisoft	
	SpaMedica – Chelmsford	Medisoft	
	SpaMedica – Newcastle Under Lyme	Medisoft	
	SpaMedica – West Lancashire	Medisoft	This institution first supplied data for audit year 3, but were not included in the year 3 report due to supplying data for <50 eligible operations.
	SpaMedica – Widnes	Medisoft	

Appendix 2 table continued: Cataract surgical centres

Category	Organisation name	Data collection system	Notes
	Community Health and Eyecare Ltd (Blackpool)	In-house	
	Community Health and Eyecare Ltd (Face and Eye)	In-house	Submitted data, but for <50 eligible cases
	Community Health and Eyecare Ltd (Grange Medical Centre)	In-house	Submitted data, but for <50 eligible cases
	Community Health and Eyecare Ltd (Preston)	In-house	
	Community Health and Eyecare Ltd (Stoke)	In-house	
	Community Health and Eyecare Ltd (Watford)	In-house	
	Exeter Eye	Medisoft	
	Newmedica Community Ophthalmology (Barlborough)	In-house	
	Newmedica Community Ophthalmology (Brigg)	In-house	
	Newmedica Community Ophthalmology (Bristol)	In-house	
	Newmedica Community Ophthalmology (Exeter)	In-house	
	Newmedica Community Ophthalmology (Frome)	In-house	
	Newmedica Community Ophthalmology (Gloucester – Aspen)	In-house	
	Newmedica Community Ophthalmology (Gloucester – Brighouse)	In-house	Submitted data, but for <50 eligible cases
	Newmedica Community Ophthalmology (Grimsby)	In-house	
	Newmedica Community Ophthalmology (Ipswich)	In-house	
	Newmedica Community Ophthalmology (Leeds)	In-house	
Centres first included in the Year 5 report	Newmedica Community Ophthalmology (Teesside)	In-house	
	Newmedica Community Ophthalmology (Wakefield)	In-house	
	Northern Care Alliance NHS Foundation Trust	OpenEyes	
	Optegra Eye Health Care (Birmingham Eye Hospital)	Medisoft	
	Optegra Eye Health Care (Central London Eye Hospital)	Medisoft	This centre first submitted data in year 5 including data for historic time periods allowing inclusion in all NHS year results, and no result for the 2020 NHS year due to <50 eligible operations for the 2020 NHS year.
	Optegra Eye Health Care (Hampshire Eye Hospital)	Medisoft	
	Optegra Eye Health Care (Manchester Eye Hospital)	Medisoft	
	Optegra Eye Health Care (North London Eye Hospital)	Medisoft	
	Optegra Eye Health Care (Surrey Eye Hospital)	Medisoft	
	Optegra Eye Health Care (Yorkshire Eye Hospital)	Medisoft	
	SpaMedica – Bedford	Medisoft	
	SpaMedica – Bristol	Medisoft	Submitted data, but for <50 eligible cases
	SpaMedica – Bromley	Medisoft	
	SpaMedica – Coventry	Medisoft	
	SpaMedica – Derby	Medisoft	
	SpaMedica – Hull	Medisoft	This centres first contributed data for audit year 4, but were not included in the audit year 4 report due to submitting data for <50 eligible operations.
	SpaMedica – Preston	Medisoft	
	SpaMedica – Stockton-on-Tees	Medisoft	
	SpaMedica – Wokingham	Medisoft	

Appendix 2 table continued: Cataract surgical centres

Category	Organisation name	Data collection system	Notes
Centres first included in the Year 5 report	SpaMedica – Wolverhampton	Medisoft	
	Tetbury Hospital	In-house	
	The Stoneygate Eye Hospital	In-house	
	West Suffolk NHS Foundation Trust	OpenEyes	
	Worcestershire Acute Hospitals NHS Trust	OpenEyes	
Signed up to participate in the future	Belfast Health and Social Care Trust	Medisoft	
	Northern Health and Social Care Trust	Medisoft	
	South Eastern Health and Social Care Trust	Medisoft	
	Southern Health and Social Care Trust	Medisoft	
	Western Health and Social Care Trust	Medisoft	

Appendix 3: Interpreting the graphs and tables

Among the results there are five types of graphs;

1. Bar charts – these are either horizontally or vertically aligned depending on the data being plotted. One axis displays the categorical element, usually contributing centre and when bar charts are sub-divided by another category, the length of each bar indicates the quantity of interest for the sub-category as read from the numeric axis. Some vertically aligned bar charts have horizontal dashed reference lines at specific points on the y-axis, these relate to cut-off points used in the reporting of results, for example 50%. Each bar chart is ordered (sorted) by a quantity being plotted, i.e. percentage. Figure 4 (page 27) is an example of a bar chart.

2. Box and Whisker plots – the spread for the variable of interest is shown where the central line is the median or 'middle' value. The box outlines the inter quartile range (25% and 75% centiles), and the horizontal lines above and below the inter quartile range display either the position of the furthest value or a value at a 'reasonable' stretch from the middle. Extreme values are the dots beyond that. Figure 6 (page 28) is an example of a Box and Whisker plot.

3. Funnel plots – The spread of dots on these looks like a funnel going from left to right. Each dot represents a result for a centre or surgeon as read off the vertical axis (proportion or rate). The funnel effect results from increasing statistical precision as the numbers get higher going along the horizontal axis, for example Figure 17 (page 41). Some of the plots have lines on them showing what is expected. A result above the top line (three standard deviations) would be deemed unacceptably high, for example Figure 18 (page 42).

4. Median and IQR plots – These display for each contributing centre, the median and IQR for a numeric quantity as read from the vertical axis. These estimates indicate variation between centres and by not including the range these graphs allow magnification on the y-axis and a clearer view of the distribution of the median and IQR across contributing centres. Each of these graphs are ordered (sorted) by a quantity being plotted, i.e. the median. Figure 5 (page 27) is an example of a Median and IQR graph.

5. Scatter plots – The display for each contributing centre an estimate of interest which can be read from the y-axis. Each scatter plot is ordered (sorted) by a quantity of interest. Figure 16 (page 39) is an example of a scatter plot.

Appendix tables with results for named centres;

On all tables that display results for contributing centres, the centres are ordered by the number allocated to them in the RCOphth NOD database, where a number is created for a centre in the first audit year they submit at least 50 eligible operations. This number is equivalent to a ranking within the audit year of first submission, based on the total number of eligible operations contributed by each centre, where the lowest number is allocated to the centre with the most operations.

Centres 1 – 56 are the centres that were included in the first audit year report, where centre 1 had the most operations and centre 56 the fewest. Centres 57 – 87 are the centres first appearing in the second audit year report, where centre 57 had the most operations and centre 87 the fewest. Centres 88 – 108 are the centres first appearing in the third audit year report, where centre 88 had the most operations and centre 108 the fewest. Centres 109 – 122 are the centres first appearing in the fourth audit year report, where centre 109 has the most operations and centre 122 the fewest. Centres 124 – 159 are the centres first appearing in the fifth audit year, where centre 124 has the most operations and centre 159 for the 2020 NHS year. Centre 160 is the centre first contributing data in audit year 5 with data for historic time periods, and no results for the 2020 NHS year due to <50 eligible operations for the 2020

NHS year. This numbering system allows a reader to see which audit year a centre first submitted at least 50 eligible operations.

On tables that include equivalent results for previous NHS years, the centres who have a result for an NHS year before they first contributed sufficient data are the centres who have submitted historic data for time periods before the first audit year they contributed to. Some centre numbers have become redundant due to mergers of NHS Trusts or one NHS Trust taking over the ophthalmology service in another NHS Trust and some centres have contributed data to an audit year and not done so in subsequent audit years.

Appendix 4: Case Definitions

Eligible Cataract Surgery Criteria

- Operation performed between 1st April 2020 – 31st March 2021.
- Operation performed in adults (aged 18 or above).
- Operation included a phacoemulsification procedure.
- Operative data includes a surgeon identifier and valid surgeon grade.
- Operation included a "cataract" indication for surgery (see the RCOphth NOD audit website for details).
- Operation without any of the ineligible indications for surgery (see RCOphth NOD audit website for details).
- Operation did not include certain operative procedures (see the RCOphth NOD audit website for details).
- Operations that included a pars plana vitrectomy with no vitreoretinal indication for surgery and no other vitreoretinal procedures except for sponge and scissor vitrectomy or automated anterior vitrectomy.
- Operation not for a traumatic injury.
- Operations in eyes with certain current or historic diagnosis (see the RCOphth NOD audit website for details).
- A minimum of 50 eligible cataract operations for each participated centre.

For comparisons against previous NHS years, all the above apply except for the date period criteria which is as follows;

- 2016 NHS year – 1st April 2016 – 31st March 2017
- 2017 NHS year – 1st April 2017 – 31st March 2018
- 2018 NHS year – 1st April 2018 – 31st March 2019
- 2019 NHS year – 1st April 2019 – 31st March 2020

PCR – Posterior Capsule Rupture or Vitreous Prolapse or both

- PCR was deemed to have occurred if any of the following intra-operative complications are recorded during surgery; Zonule rupture – vitreous loss, PC rupture ± vitreous loss, Vitreous to the section at end of surgery, Vitreous loss, Nuclear/ epinuclear fragment into vitreous, intra-ocular lens (IOL) into the vitreous, lens fragments into vitreous, or if any of the following occurred.
- The operation includes any of 'Sponge and scissors vitrectomy', 'Automated anterior vitrectomy' or 'Scleral fixed IOL'.
- The operative procedure includes 'Fragmatome lensectomy ± IOL' with a previous or concurrent phacoemulsification procedure.
- The operative procedure includes 'Removal of retained lens fragments' combined with a pars plana vitrectomy.
- If either of 'vitreous to the section' or 'vitreous in the anterior chamber' were recorded within eight weeks of cataract surgery, this includes the day of cataract surgery in the time frame. It is recognised that vitreous egress is possible in rare cases, despite the absence of compromise of the capsule or zonules. This still represents a complication of surgery, however EMR providers may offer a diagnosis of post-operative complication that identifies such cases of vitreous in the anterior chamber unrelated to intra-operative complication.
- If there is a record of a dropped nucleus operation with 90 days of cataract surgery, this includes the day of cataract surgery in the time frame.

Visual Acuity (VA)

- Visual acuity measurements are reported using the LogMAR scale with numeric substitutions of 2.10, 2.40, 2.70 and 3.00 for the ability to count fingers (CF), the ability to distinguish hand movements (HM), perception of light (PL) and no perception of light (NPL) respectively.
- Preoperative VA was defined as the better of corrected distance visual acuity (CDVA) and uncorrected distance visual acuity (UDVA) recorded within a six month 'time window' prior to surgery. Where there are multiple occasions of measurement the VA measurement closest to the date of surgery is used and measurements recorded on the same day as cataract surgery are considered as preoperative measurements.
- Postoperative VA was defined as the best measurement of CDVA or UDVA or pinhole visual acuity (PHVA) within the 'time window' of between eight days and six months of cataract surgery (inclusive).
- At least 50 eligible operations with VA data are required for a VA result to be produced. Postoperative VA results were restricted to operations performed in the first 10 months of an NHS year to allow for at least two months potential follow up. At least 50 eligible operations within the postoperative time period are required for a result to be produced. For VA Loss results, only centres with <40% missing pre- and post-operative VA data were included.

VA Loss was defined as

- For eyes with a preoperative VA of <1.00 LogMAR, a loss of ≥0.30 LogMAR (doubling or worse of the visual angle) between the preoperative and postoperative VA measurements.
- For eyes with a preoperative VA of ≥1.00 LogMAR and <CF, VA Loss is designated if the postoperative VA is HM, PL or NPL.
- For eyes with a preoperative VA of CF, VA Loss is designated if the postoperative VA is PL or NPL.
- For eyes with a preoperative VA of HM, VA Loss is designated if the postoperative VA is NPL.
- For eyes with a preoperative VA of PL or NPL no VA Loss is considered.

LogMAR VA is a continuous scale conversion for Snellen fractions that allows arithmetic calculations to be employed in the analysis. Conversion between LogMAR and approximate Snellen scores, and their interpretations, are as follows:

Approximate Snellen to LogMAR Conversion		
LogMAR	Snellen	VA Interpretation
-0.1	6/5	Excellent
0.0	6/6	Very Good
0.2	6/9	Good
0.3	6/12	Reasonably Good
0.5	6/18	Moderate
0.6	6/24	Moderate Sight Impairment
0.8	6/36	Sight Impairment
0.9	6/48	Sight Impairment
1.0	6/60	UK Severe Sight Impairment
1.1	5/60	UK Severe Sight Impairment
1.2	4/60	UK Severe Sight Impairment
1.3	3/60	WHO Severe Sight Impairment
2.1	Count Fingers (CF)	WHO Severe Sight Impairment
2.4	Hand Movements (HM)	WHO Severe Sight Impairment
2.7	Perception of Light (PL)	WHO Severe Sight Impairment
3.0	No Perception of Light (NPL)	WHO Severe Sight Impairment

Appendix 5: Glossary

Abbreviation	Description
CDVA	Corrected distance visual acuity
CF	The ability to count fingers
CI	Confidence Interval
COVID 19	Coronavirus Disease 2019
CQC	Care Quality Commission
DHCW	Digital Health and Care Wales
EMR	Electronic Medical Record
GOS	General Ophthalmic Services
HM	The ability to distinguish hand movements
IOL	Intra-ocular lens is an artificial lens generally inserted into the capsule of the lens after cataract removal
ICHOM	International Consortium for Health Outcomes Measurement
IQR	Inter Quartile Range
LogMAR	Logarithm of the Minimum Angle of Resolution
N/A	Not Applicable
NHS	National Health Service
NICE	National Institute for Health and Care Excellence
NOD	National Ophthalmology Database
NPL	No perception of light
PAS	Patient Administration System
PCR	Posterior capsule rupture is a break in the posterior capsule of the lens, usually as a complication of cataract surgery. It may allow vitreous to move forward into the anterior chamber of the eye.
PHVA	Pin hole visual acuity – The pinhole is an eye shield with several small holes which allow light rays to reach the retina without the interference of optical problems of the eye. It is used to test visual acuity.
PIFU	Patient initiated follow-up
PL	Perception of light
PROM	Patient Reported Outcome Measures
RCOphth	The Royal College of Ophthalmologists
RNIB	Royal National Institute of Blind People
SD	Standard Deviation

Appendix 5 continued: Glossary

Abbreviation	Description
UDVA	Uncorrected distance visual acuity
UK	United Kingdom
VA	Visual acuity is the sharpness of vision, measured by the ability to distinguish letters or numbers at a given distance according to a fixed standard. We have reported VA using the LogMAR scale (base 10 Log of the reciprocal of the visual angle). A normal LogMAR VA is 0.0 and the number increases as vision gets worse. LogMAR=0.3 would be at the boundary for driving a car and 1.0 would be at the level of registrable severe sight impairment. A postoperative VA of 0.3 or better is often used as a measure of a favourable outcome from surgery.
WHO	World Health Organisation

Appendix 6: Eligible operations and the proportion performed by each grade of surgeon

Appendix 6 table: The number of eligible operations with the percentage performed by each grade of surgeon for the participating centres

						The percentage of operations performed by			
Centre name	Centre number	Date of first cataract operation during the audit period	Number of eligible operations	Estimate of cases submitted to the audit (%)*	Number of surgeons	Consultant surgeons	Career grade non-consultant surgeons	More experienced trainee surgeons	Less experienced trainee surgeons
Moorfields Eye Hospital NHS Foundation Trust	1	01/04/2020	7,760	82.4	186	49.9	3.0	46.3	0.7
The Newcastle upon Tyne Hospitals NHS Foundation Trust	2	06/04/2020	3,428	100.0	55	74.6	0.0	23.3	2.1
Norfolk and Norwich University Hospitals NHS Foundation Trust	3	01/04/2020	942	97.4	25	71.4	5.2	17.4	5.9
Leeds Teaching Hospitals NHS Trust	4	01/04/2020	688	94.7	38	54.1	0.0	31.5	14.4
York and Scarborough Teaching Hospitals NHS Foundation Trust	5	13/05/2020	2,720	100.0	34	78.6	0.0	21.4	0.0
Oxford University Hospitals NHS Foundation Trust	6	02/04/2020	2,065	99.0	50	42.6	0.0	57.0	0.4
University Hospitals Bristol and Weston NHS Foundation Trust	7	16/04/2020	1,084	100.0	51	49.1	0.0	50.9	0.0
Gloucestershire Hospitals NHS Foundation Trust	8	01/04/2020	1,214	96.6	31	72.4	10.6	12.2	4.8
Sandwell and West Birmingham Hospitals NHS Trust	10	03/04/2020	966	96.8	61	51.1	3.2	41.1	4.6
University Hospital Southampton NHS Foundation Trust	11	30/04/2020	1,458	100.0	45	61.0	11.0	25.1	2.9
Mid Cheshire Hospitals NHS Foundation Trust	14	29/04/2020	984	100.0	22	54.7	22.9	16.1	6.4
The Mid Yorkshire Hospitals NHS Trust	15	21/07/2020	942	100.0	13	93.4	0.3	0.4	5.8
Cardiff & Vale University Local Health Board	16	21/05/2020	803	100.0	33	54.3	0.0	45.0	0.7
Epsom and St Helier University Hospitals NHS Trust	17	02/04/2020	1,635	100.0	25	75.1	0.0	19.1	5.7
Barts Health NHS Trust	18	01/04/2020	1,134	98.5	43	59.8	9.3	27.2	3.7
Frimley Health NHS Foundation Trust	19	14/05/2020	1,702	100.0	21	69.7	10.9	10.8	8.6
Bradford Teaching Hospitals NHS Foundation Trust	20	14/04/2020	418	100.0	17	85.4	0.0	7.7	6.9
University Hospitals Plymouth NHS Trust	22	05/05/2020	1,569	100.0	23	49.6	20.5	25.3	4.7
University Hospitals Birmingham NHS Foundation Trust	23	09/04/2020	1,378	100.0	46	69.4	0.0	29.3	1.2

Appendix 6 table continued: The number of eligible operations with the percentage performed by each grade of surgeon for the participating centres

						The percentage of operations performed by			
Centre name	Centre number	Date of first cataract operation during the audit period	Number of eligible operations	Estimate of cases submitted to the audit (%)*	Number of surgeons	Consultant surgeons	Career grade non-consultant surgeons	More experienced trainee surgeons	Less experienced trainee surgeons
Hampshire Hospitals NHS Foundation Trust	24	21/04/2020	1,830	91.3	18	82.5	0.2	17.3	0.0
Royal Cornwall Hospitals NHS Trust	25	21/04/2020	2,478	100.0	16	65.0	31.4	3.6	0.0
Manchester University NHS Foundation Trust	26	04/06/2020	650	38.4	38	46.0	4.8	39.1	10.2
King's College Hospital NHS Foundation Trust	27	03/04/2020	2,403	89.4	57	77.4	0.0	18.4	4.1
The Shrewsbury and Telford Hospital NHS Trust	28	22/04/2020	728	100.0	22	72.4	12.0	11.7	4.0
The Hillingdon Hospitals NHS Foundation Trust	30	07/07/2020	640	100.0	20	52.0	0.8	25.9	21.3
Liverpool University Hospitals NHS Foundation Trust	31	02/04/2020	1,072	96.1	58	31.3	2.7	53.4	12.6
Royal United Hospitals Bath NHS Foundation Trust	32	08/06/2020	979	100.0	12	55.6	8.5	6.6	29.3
Chesterfield Royal Hospital NHS Foundation Trust	33	24/07/2020	509	100.0	5	100.0	0.0	0.0	0.0
Mid and South Essex NHS Foundation Trust	34	03/04/2020	1,378	79.0	34	35.8	34.2	30.0	0.0
Harrogate and District NHS Foundation Trust	35	30/06/2020	291	100.0	9	69.4	18.6	11.3	0.7
North West Anglia NHS Foundation Trust	36	02/04/2020	625	91.7	18	78.4	1.9	19.7	0.0
Northern Devon Healthcare NHS Trust	37	20/05/2020	942	100.0	11	80.0	5.9	14.0	0.0
Wirral University Teaching Hospital NHS Foundation Trust	39	29/05/2020	462	100.0	15	76.4	0.0	16.9	6.7
South Warwickshire NHS Foundation Trust	40	13/05/2020	1,004	100.0	10	77.1	22.9	0.0	0.0
Isle of Wight NHS Trust	41	01/06/2020	1,020	100.0	8	76.9	19.9	3.2	0.0
St Helens and Knowsley Teaching Hospitals NHS Trust	42	18/05/2020	745	84.9	13	55.0	33.0	0.0	11.9
Wrightington, Wigan and Leigh NHS Foundation Trust	43	10/08/2020	357	100.0	11	95.2	4.8	0.0	0.0
Warrington and Halton Teaching Hospitals NHS Foundation Trust	44	29/06/2020	458	100.0	16	77.1	0.0	22.1	0.9
South Tees Hospitals NHS Foundation Trust	45	01/04/2020	1,249	70.9	34	78.5	0.0	18.3	3.2
University Hospitals Dorset NHS Foundation Trust	46	01/04/2020	2,885	89.8	27	71.0	0.5	21.0	7.5
Barking, Havering and Redbridge University Hospitals NHS Trust	47	25/06/2020	717	100.0	18	88.7	0.1	6.0	5.2

Appendix 6 table continued: The number of eligible operations with the percentage performed by each grade of surgeon for the participating centres

						The percentage of operations performed by			
Centre name	Centre number	Date of first cataract operation during the audit period	Number of eligible operations	Estimate of cases submitted to the audit (%)*	Number of surgeons	Consultant surgeons	Career grade non-consultant surgeons	More experienced trainee surgeons	Less experienced trainee surgeons
Royal Free London NHS Foundation Trust	48	01/04/2020	1,591	94.0	42	57.1	4.6	24.4	14.0
University Hospitals Coventry and Warwickshire NHS Trust	49	30/04/2020	990	100.0	31	51.4	27.7	16.0	4.9
Salisbury NHS Foundation Trust	51	12/05/2020	455	100.0	8	85.9	0.0	14.1	0.0
Nottingham University Hospitals NHS Trust	55	09/04/2020	1,134	87.7	43	38.1	6.3	51.9	3.8
Yeovil District Hospital NHS Foundation Trust	56	09/04/2020	971	100.0	9	86.6	5.4	8.0	0.0
SpaMedica – Manchester	57	26/06/2020	3,591	100.0	13	100.0	0.0	0.0	0.0
SpaMedica – Wakefield	58	01/07/2020	3,310	100.0	9	100.0	0.0	0.0	0.0
East Sussex Healthcare NHS Trust	59	10/06/2020	2,172	100.0	19	84.3	8.4	7.4	0.0
Imperial College Healthcare NHS Trust	60	15/04/2020	1,274	100.0	64	54.2	0.0	37.4	8.4
Portsmouth Hospitals University NHS Trust	61	10/06/2020	911	100.0	24	80.9	0.1	17.0	2.0
Cambridge University Hospitals NHS Foundation Trust	63	30/07/2020	985	100.0	36	49.3	0.0	50.7	0.0
East Kent Hospitals University NHS Foundation Trust	64	03/04/2020	167	30.0	20	60.5	31.1	6.6	1.8
East Suffolk and North Essex NHS Foundation Trust	65	01/04/2020	2,993	84.8	30	62.1	3.2	31.1	3.5
SpaMedica – Birkenhead	66	01/07/2020	2,057	100.0	9	100.0	0.0	0.0	0.0
County Durham and Darlington NHS Foundation Trust	67	01/04/2020	925	100.0	18	73.9	20.2	5.3	0.5
United Lincolnshire Hospitals NHS Trust	68	18/09/2020	337	88.6	9	95.5	0.0	0.0	4.5
Northampton General Hospital NHS Trust	70	13/06/2020	420	57.6	24	68.1	2.1	29.8	0.0
SpaMedica – Liverpool	71	20/07/2020	1,292	100.0	11	100.0	0.0	0.0	0.0
James Paget University Hospitals NHS Foundation Trust	72	27/05/2020	1,333	100.0	17	78.8	8.9	10.7	1.6
Bolton NHS Foundation Trust	73	02/06/2020	904	100.0	18	51.9	34.3	6.0	7.9
Kingston Hospital NHS Foundation Trust	74	18/06/2020	1,215	100.0	19	86.1	0.9	11.7	1.3
Torbay and South Devon NHS Foundation Trust	77	09/04/2020	1,048	100.0	23	66.8	7.2	24.7	1.3
Great Western Hospitals NHS Foundation Trust	78	02/04/2020	738	94.9	10	90.4	4.7	0.0	4.9

Appendix 6 table continued: The number of eligible operations with the percentage performed by each grade of surgeon for the participating centres

						The percentage of operations performed by			
Centre name	Centre number	Date of first cataract operation during the audit period	Number of eligible operations	Estimate of cases submitted to the audit (%)*	Number of surgeons	Consultant surgeons	Career grade non-consultant surgeons	More experienced trainee surgeons	Less experienced trainee surgeons
SpaMedica – Bolton	79	01/07/2020	2,997	100.0	9	100.0	0.0	0.0	0.0
Cwm Taf Morgannwg University Local Health Board	82	12/08/2020	137	28.4	9	81.8	8.8	4.4	5.1
Sherwood Forest Hospitals NHS Foundation Trust	83	17/06/2020	672	100.0	13	67.3	11.2	21.6	0.0
Southport and Ormskirk Hospital NHS Trust	86	02/04/2020	257	82.7	8	70.8	27.6	1.6	0.0
Practice Plus Group Hospital, Shepton Mallet	88	07/08/2020	923	100.0	5	100.0	0.0	0.0	0.0
Practice Plus Group Surgical Centre, St. Mary's Portsmouth	89	16/06/2020	1,397	100.0	10	100.0	0.0	0.0	0.0
Practice Plus Group Hospital, Emersons Green	90	25/07/2020	893	100.0	3	100.0	0.0	0.0	0.0
Practice Plus Group Surgical Centre, Gillingham	91	15/08/2020	1,053	100.0	7	100.0	0.0	0.0	0.0
SpaMedica – Sheffield	92	21/07/2020	3,128	100.0	15	100.0	0.0	0.0	0.0
Practice Plus Group Hospital, Plymouth	93	27/09/2020	560	100.0	3	100.0	0.0	0.0	0.0
Practice Plus Group Ophthalmology, Rochdale	95	09/07/2020	971	100.0	5	100.0	0.0	0.0	0.0
Practice Plus Group Hospital, Ilford	97	15/08/2020	466	100.0	4	100.0	0.0	0.0	0.0
North Middlesex University Hospital NHS Trust	98	30/06/2020	418	100.0	10	87.1	1.4	11.5	0.0
University Hospitals Sussex NHS Foundation Trust	99	06/04/2020	1,345	33.4	25	53.9	26.3	19.8	0.0
Practice Plus Group Surgical Centre, Devizes	100	14/09/2020	272	100.0	2	100.0	0.0	0.0	0.0
Surrey and Sussex Healthcare NHS Trust	101	02/11/2020	692	100.0	18	77.2	5.1	12.7	5.1
Aneurin Bevan University Local Health Board	102	09/06/2020	146	19.3	17	78.1	0.0	15.1	6.8
Practice Plus Group Hospital, Southampton	103	31/07/2020	220	100.0	1	100.0	0.0	0.0	0.0
SpaMedica – Birmingham	104	23/06/2020	3,599	100.0	5	100.0	0.0	0.0	0.0
St. Stephens Gate Medical Practice	105	20/07/2020	129	**	3	100.0	0.0	0.0	0.0
The Dudley Group NHS Foundation Trust	106	17/07/2020	288	100.0	18	74.7	9.4	0.7	15.3
East Cheshire NHS Trust	108	29/04/2020	683	99.4	6	63.7	29.1	7.2	0.0
Guy's and St Thomas' NHS Foundation Trust	110	05/05/2020	747	69.4	37	48.9	3.5	47.7	0.0

Appendix 6 table continued: The number of eligible operations with the percentage performed by each grade of surgeon for the participating centres

						The percentage of operations performed by			
Centre name	Centre number	Date of first cataract operation during the audit period	Number of eligible operations	Estimate of cases submitted to the audit (%)*	Number of surgeons	Consultant surgeons	Career grade non-consultant surgeons	More experienced trainee surgeons	Less experienced trainee surgeons
Buckinghamshire Healthcare NHS Trust	111	16/04/2020	3,173	100.0	36	51.8	1.2	43.7	3.3
SpaMedica – Bradford	112	10/07/2020	1,251	100.0	8	100.0	0.0	0.0	0.0
SpaMedica – West Lancashire	113	05/08/2020	843	100.0	11	100.0	0.0	0.0	0.0
Somerset NHS Foundation Trust	114	24/06/2020	1,101	100.0	21	82.7	0.0	16.5	0.8
Medical specialists group Guernsey	115	02/06/2020	342	***	4	100.0	0.0	0.0	0.0
Hywel Dda University Local Health Board	116	16/07/2020	56	37.5	2	100.0	0.0	0.0	0.0
George Eliot Hospital NHS Trust	117	03/10/2020	548	100.0	7	100.0	0.0	0.0	0.0
SpaMedica – Newcastle Under Lyme	118	01/07/2020	1,893	100.0	16	100.0	0.0	0.0	0.0
SpaMedica – Widnes	119	21/07/2020	1,499	100.0	9	100.0	0.0	0.0	0.0
Kettering General Hospital NHS Foundation Trust	120	15/06/2020	172	88.7	16	91.3	8.1	0.6	0.0
SpaMedica – Chelmsford	121	01/07/2020	3,468	100.0	8	100.0	0.0	0.0	0.0
Newmedica Community Ophthalmology (Teesside)	124	17/05/2020	4,767	100.0	12	100.0	0.0	0.0	0.0
SpaMedica – Preston	125	02/07/2020	2,760	100.0	18	100.0	0.0	0.0	0.0
Newmedica Community Ophthalmology (Gloucester – Aspen)	126	28/05/2020	2,616	100.0	12	100.0	0.0	0.0	0.0
SpaMedica – Wolverhampton	127	20/07/2020	2,594	100.0	7	100.0	0.0	0.0	0.0
Community Health and Eyecare Ltd (Blackpool)	128	06/06/2020	2,464	**	11	92.6	7.4	0.0	0.0
Community Health and Eyecare Ltd (Watford)	129	05/06/2020	2,344	**	7	100.0	0.0	0.0	0.0
SpaMedica – Hull	130	01/07/2020	2,234	100.0	11	100.0	0.0	0.0	0.0
Optegra Eye Health Care (Manchester Eye Hospital)	131	11/06/2020	2,027	100.0	9	100.0	0.0	0.0	0.0
Newmedica Community Ophthalmology (Grimsby)	132	27/05/2020	2,009	100.0	6	100.0	0.0	0.0	0.0
Newmedica Community Ophthalmology (Bristol)	133	03/06/2020	1,985	100.0	8	100.0	0.0	0.0	0.0
Optegra Eye Health Care (Yorkshire Eye Hospital)	134	28/04/2020	1,906	100.0	12	100.0	0.0	0.0	0.0
Worcestershire Acute Hospitals NHS Trust	135	14/07/2020	1,852	100.0	14	95.3	4.7	0.0	0.0

Appendix 6 table continued: The number of eligible operations with the percentage performed by each grade of surgeon for the participating centres

						The percentage of operations performed by			
Centre name	Centre number	Date of first cataract operation during the audit period	Number of eligible operations	Estimate of cases submitted to the audit (%)*	Number of surgeons	Consultant surgeons	Career grade non-consultant surgeons	More experienced trainee surgeons	Less experienced trainee surgeons
Community Health and Eyecare Ltd (Stoke)	136	13/06/2020	1,836	**	10	65.5	34.5	0.0	0.0
SpaMedica – Bedford	137	22/07/2020	1,805	100.0	17	100.0	0.0	0.0	0.0
Newmedica Community Ophthalmology (Leeds)	138	08/07/2020	1,767	100.0	3	100.0	0.0	0.0	0.0
Optegra Eye Health Care (Surrey Eye Hospital)	139	02/06/2020	1,765	100.0	13	100.0	0.0	0.0	0.0
SpaMedica – Coventry	140	19/08/2020	1,564	100.0	10	100.0	0.0	0.0	0.0
Optegra Eye Health Care (Hampshire Eye Hospital)	141	04/06/2020	1,508	100.0	11	100.0	0.0	0.0	0.0
Optegra Eye Health Care (North London Eye Hospital)	142	04/06/2020	1,418	**	8	100.0	0.0	0.0	0.0
Optegra Eye Health Care (Birmingham Eye Hospital)	143	05/06/2020	1,155	100.0	6	100.0	0.0	0.0	0.0
Newmedica Community Ophthalmology (Ipswich)	144	05/09/2020	972	100.0	4	100.0	0.0	0.0	0.0
Newmedica Community Ophthalmology (Barlborough)	145	11/08/2020	969	100.0	3	100.0	0.0	0.0	0.0
Newmedica Community Ophthalmology (Exeter)	146	07/09/2020	724	100.0	5	100.0	0.0	0.0	0.0
SpaMedica – Derby	147	10/11/2020	711	100.0	8	100.0	0.0	0.0	0.0
Exeter Eye	148	06/07/2020	688	***	5	100.0	0.0	0.0	0.0
SpaMedica – Bromley	149	11/12/2020	473	100.0	8	100.0	0.0	0.0	0.0
SpaMedica – Wokingham	150	25/11/2020	397	100.0	9	100.0	0.0	0.0	0.0
SpaMedica – Stockton-on-Tees	151	05/11/2020	284	100.0	2	100.0	0.0	0.0	0.0
Tetbury Hospital	152	11/09/2020	251	98.0	2	100.0	0.0	0.0	0.0
Newmedica Community Ophthalmology (Brigg)	153	06/02/2021	249	100.0	3	100.0	0.0	0.0	0.0
West Suffolk NHS Foundation Trust	154	12/08/2020	168	62.6	8	81.5	0.0	18.5	0.0
Northern Care Alliance NHS Foundation Trust	155	19/08/2020	148	22.5	13	41.2	58.1	0.7	0.0
Newmedica Community Ophthalmology (Frome)	156	17/12/2020	128	100.0	5	100.0	0.0	0.0	0.0
Community Health and Eyecare Ltd (Preston)	157	26/02/2021	127	**	4	81.9	18.1	0.0	0.0

Appendix 6 table continued: The number of eligible operations with the percentage performed by each grade of surgeon for the participating centres

						The percentage of operations performed by			
Centre name	Centre number	Date of first cataract operation during the audit period	Number of eligible operations	Estimate of cases submitted to the audit (%)*	Number of surgeons	Consultant surgeons	Career grade non-consultant surgeons	More experienced trainee surgeons	Less experienced trainee surgeons
The Stoneygate Eye Hospital	158	16/06/2020	114	11.0	4	100.0	0.0	0.0	0.0
Newmedica Community Ophthalmology (Wakefield)	159	16/01/2021	77	100.0	2	100.0	0.0	0.0	0.0
Overall for all centres	**N/A**	**01/04/2020**	**172,320**	**100.0**	**1,920**	**82.0**	**4.2**	**12.1**	**1.8**

*The estimate of the proportion of cases submitted to the audit is derived from the number of completed cataract operations supplied to NHS digital or DHCW for the 2020 NHS year. This estimation uses a pro-rata calculation for a centre's denominator where the proportion of time during the NHS year that a centre had been recording cataract operations was multiplied by the number of cataract operations supplied to NHS digital or DHCW. The numerator was the number of operations a centre supplied to the audit. Centre's that had more operations submitted to the national audit than in the NHS digital or DHCW data were all assumed to have a complete submission rate as the actual rate was not possible to estimate. **These centres had no data in the NHS digital data. ***These centres do not have to report to either NHS Digital or DHCW.

Appendix 7: Preoperative, postoperative and change in VA percentages

Appendix 7 table: The percentage of eyes with preoperative VA, postoperative VA and change in VA data for participating centres in the 2020 NHS year

Centre name	Centre number	Estimate of cases submitted to the audit (%)*	Number of eligible operations	% with preoperative VA data	Number of operations eligible for postoperative VA results	% with postoperative VA data	% with change in VA data
Moorfields Eye Hospital NHS Foundation Trust	1	82.4	7,760	70.3	6,337	71.8	49.9
The Newcastle upon Tyne Hospitals NHS Foundation Trust	2	100.0	3,428	36.8	3,142	44.0	18.0
Norfolk and Norwich University Hospitals NHS Foundation Trust	3	97.4	942	77.2	891	17.2	14.3
Leeds Teaching Hospitals NHS Trust	4	94.7	688	83.1	610	78.9	65.4
York and Scarborough Teaching Hospitals NHS Foundation Trust	5	100.0	2,720	36.3	2,091	32.9	15.0
Oxford University Hospitals NHS Foundation Trust	6	99.0	2,065	62.8	1,834	39.3	27.6
University Hospitals Bristol and Weston NHS Foundation Trust	7	100.0	1,084	62.4	996	64.2	42.1
Gloucestershire Hospitals NHS Foundation Trust	8	96.6	1,214	59.1	1,003	75.9	41.3
Sandwell and West Birmingham Hospitals NHS Trust	10	96.8	966	80.2	938	89.7	71.7
University Hospital Southampton NHS Foundation Trust	11	100.0	1,458	84.9	1,207	91.6	76.5
Mid Cheshire Hospitals NHS Foundation Trust	14	100.0	984	85.4	940	71.7	62.0
The Mid Yorkshire Hospitals NHS Trust	15	100.0	942	77.2	773	78.7	56.5
Cardiff & Vale University Local Health Board	16	100.0	803	84.1	605	43.5	36.7
Epsom and St Helier University Hospitals NHS Trust	17	100.0	1,635	79.9	1,551	61.8	50.2
Barts Health NHS Trust	18	98.5	1,134	61.9	1,106	68.4	41.1
Frimley Health NHS Foundation Trust	19	100.0	1,702	91.4	1,595	57.7	52.6
Bradford Teaching Hospitals NHS Foundation Trust	20	100.0	418	49.8	402	51.2	28.4
University Hospitals Plymouth NHS Trust	22	100.0	1,569	68.4	1,282	71.6	45.7
University Hospitals Birmingham NHS Foundation Trust	23	100.0	1,378	71.9	1,113	83.6	58.6
Hampshire Hospitals NHS Foundation Trust	24	91.3	1,830	72.2	1,401	44.0	30.5
Royal Cornwall Hospitals NHS Trust	25	100.0	2,478	80.8	1,892	57.6	42.9
Manchester University NHS Foundation Trust	26	38.4	650	84.3	650	28.9	26.0

Appendix 7 table continued: The percentage of eyes with preoperative VA, postoperative VA and change in VA data for participating centres in the 2020 NHS year

Centre name	Centre number	Estimate of cases submitted to the audit (%)*	Number of eligible operations	% with preoperative VA data	Number of operations eligible for postoperative VA results	% with postoperative VA data	% with change in VA data
King's College Hospital NHS Foundation Trust	27	89.4	2,403	89.2	2,129	86.8	76.6
The Shrewsbury and Telford Hospital NHS Trust	28	100.0	728	67.0	537	60.1	41.3
The Hillingdon Hospitals NHS Foundation Trust	30	100.0	640	76.3	533	40.9	31.7
Liverpool University Hospitals NHS Foundation Trust	31	96.1	1,072	39.2	992	79.8	31.1
Royal United Hospitals Bath NHS Foundation Trust	32	100.0	979	72.1	814	45.7	32.3
Chesterfield Royal Hospital NHS Foundation Trust	33	100.0	509	59.7	397	96.7	53.7
Mid and South Essex NHS Foundation Trust	34	79.0	1,378	36.4	1,199	7.0	2.9
Harrogate and District NHS Foundation Trust	35	100.0	291	79.7	277	17.0	15.2
North West Anglia NHS Foundation Trust	36	91.7	625	82.9	524	69.7	58.0
Northern Devon Healthcare NHS Trust	37	100.0	942	96.6	711	80.5	78.2
Wirral University Teaching Hospital NHS Foundation Trust	39	100.0	462	74.0	426	86.4	62.0
South Warwickshire NHS Foundation Trust	40	100.0	1,004	85.3	834	70.6	58.3
Isle of Wight NHS Trust	41	100.0	1,020	68.0	865	85.8	56.2
St Helens and Knowsley Teaching Hospitals NHS Trust	42	84.9	745	79.6	674	53.7	43.8
Wrightington, Wigan and Leigh NHS Foundation Trust	43	100.0	357	78.7	326	90.5	71.2
Warrington and Halton Teaching Hospitals NHS Foundation Trust	44	100.0	458	37.3	305	96.4	27.2
South Tees Hospitals NHS Foundation Trust	45	70.9	1,249	30.3	1,116	37.7	15.6
University Hospitals Dorset NHS Foundation Trust	46	89.8	2,885	82.0	2,415	60.5	51.7
Barking, Havering and Redbridge University Hospitals NHS Trust	47	100.0	717	92.9	559	47.0	43.3
Royal Free London NHS Foundation Trust	48	94.0	1,591	42.3	1,411	55.9	28.6
University Hospitals Coventry and Warwickshire NHS Trust	49	100.0	990	59.5	916	89.2	52.8
Salisbury NHS Foundation Trust	51	100.0	455	37.6	411	76.6	27.3
Nottingham University Hospitals NHS Trust	55	87.7	1,134	48.9	970	89.4	40.2
Yeovil District Hospital NHS Foundation Trust	56	100.0	971	98.7	757	91.8	90.4
SpaMedica – Manchester	57	100.0	3,591	95.7	2,618	80.3	76.5

Appendix 7 table continued: The percentage of eyes with preoperative VA, postoperative VA and change in VA data for participating centres in the 2020 NHS year

Centre name	Centre number	Estimate of cases submitted to the audit (%)*	Number of eligible operations	% with preoperative VA data	Number of operations eligible for postoperative VA results	% with postoperative VA data	% with change in VA data
SpaMedica – Wakefield	58	100.0	3,310	98.0	2,490	79.6	77.6
East Sussex Healthcare NHS Trust	59	100.0	2,172	71.8	1,781	73.8	51.6
Imperial College Healthcare NHS Trust	60	100.0	1,274	78.0	1,173	77.1	61.0
Portsmouth Hospitals University NHS Trust	61	100.0	911	93.2	573	91.3	82.4
Cambridge University Hospitals NHS Foundation Trust	63	100.0	985	70.4	701	75.9	44.9
East Kent Hospitals University NHS Foundation Trust	64	30.0	167	38.3	163	50.3	22.7
East Suffolk and North Essex NHS Foundation Trust	65	84.8	2,993	72.8	2,526	62.4	40.8
SpaMedica - Birkenhead	66	100.0	2,057	96.0	1,514	87.8	83.5
County Durham and Darlington NHS Foundation Trust	67	100.0	925	42.8	784	48.6	23.9
United Lincolnshire Hospitals NHS Trust	68	88.6	337	51.9	337	36.2	22.6
Northampton General Hospital NHS Trust	70	57.6	420	27.6	272	8.1	2.2
SpaMedica – Liverpool	71	100.0	1,292	96.4	707	85.9	81.9
James Paget University Hospitals NHS Foundation Trust	72	100.0	1,333	68.8	1,061	79.5	56.5
Bolton NHS Foundation Trust	73	100.0	904	95.8	620	86.1	81.1
Kingston Hospital NHS Foundation Trust	74	100.0	1,215	5.4	889	0.1	0.0
Torbay and South Devon NHS Foundation Trust	77	100.0	1,048	71.2	711	48.9	39.0
Great Western Hospitals NHS Foundation Trust	78	94.9	738	92.3	638	87.6	79.6
SpaMedica – Bolton	79	100.0	2,997	97.2	2,210	88.4	85.5
Cwm Taf Morgannwg University Local Health Board	82	28.4	137	51.1	109	52.3	26.6
Sherwood Forest Hospitals NHS Foundation Trust	83	100.0	672	61.0	584	48.3	29.8
Southport and Ormskirk Hospital NHS Trust	86	82.7	257	97.7	222	71.2	69.8
Practice Plus Group Hospital, Shepton Mallet	88	100.0	923	65.0	661	96.2	50.7
Practice Plus Group Surgical Centre, St. Mary's Portsmouth	89	100.0	1,397	63.5	1,189	29.9	23.3
Practice Plus Group Hospital, Emersons Green	90	100.0	893	82.3	634	70.8	49.2
Practice Plus Group Surgical Centre, Gillingham	91	100.0	1,053	70.5	648	65.3	37.7

Appendix 7 table continued: The percentage of eyes with preoperative VA, postoperative VA and change in VA data for participating centres in the 2020 NHS year

Centre name	Centre number	Estimate of cases submitted to the audit (%)*	Number of eligible operations	% with preoperative VA data	Number of operations eligible for postoperative VA results	% with postoperative VA data	% with change in VA data
SpaMedica – Sheffield	92	100.0	3,128	94.8	2,247	72.5	67.8
Practice Plus Group Hospital, Plymouth	93	100.0	560	35.5	351	16.8	10.5
Practice Plus Group Ophthalmology, Rochdale	95	100.0	971	97.8	642	86.3	83.8
Practice Plus Group Hospital, Ilford	97	100.0	466	65.7	392	21.7	16.3
North Middlesex University Hospital NHS Trust	98	100.0	418	53.1	386	92.7	43.8
University Hospitals Sussex NHS Foundation Trust	99	33.4	1,345	61.7	1,124	3.4	2.8
Practice Plus Group Surgical Centre, Devizes	100	100.0	272	88.2	151	97.4	76.2
Surrey and Sussex Healthcare NHS Trust	101	100.0	692	94.5	343	45.5	44.3
Aneurin Bevan University Local Health Board	102	19.3	146	97.9	126	96.8	94.4
Practice Plus Group Hospital, Southampton	103	100.0	220	26.4	202	35.1	15.8
SpaMedica – Birmingham	104	100.0	3,599	96.7	2,565	83.9	80.5
St. Stephens Gate Medical Practice	105	**	129	92.2	93	36.6	35.5
The Dudley Group NHS Foundation Trust	106	100.0	288	43.1	211	74.9	25.1
East Cheshire NHS Trust	108	99.4	683	69.0	576	55.4	38.7
Guy's and St Thomas' NHS Foundation Trust	110	69.4	747	89.0	735	94.3	84.6
Buckinghamshire Healthcare NHS Trust	111	100.0	3,173	31.8	2,477	8.6	4.8
SpaMedica – Bradford	112	100.0	1,251	96.6	852	74.5	72.2
SpaMedica – West Lancashire	113	100.0	843	92.6	560	90.0	81.3
Somerset NHS Foundation Trust	114	100.0	1,101	41.6	1,013	73.2	29.4
Medical specialists group Guernsey	115	***	342	80.1	310	69.7	58.1
Hywel Dda University Local Health Board	116	37.5	56	23.2	38	****	****
George Eliot Hospital NHS Trust	117	100.0	548	29.7	498	95.8	29.5
SpaMedica – Newcastle Under Lyme	118	100.0	1,893	96.2	1,415	90.0	86.2
SpaMedica – Widnes	119	100.0	1,499	97.4	1,062	82.1	79.5
Kettering General Hospital NHS Foundation Trust	120	88.7	172	30.2	156	7.7	5.8

Appendix 7 table continued: The percentage of eyes with preoperative VA, postoperative VA and change in VA data for participating centres in the 2020 NHS year

Centre name	Centre number	Estimate of cases submitted to the audit (%)*	Number of eligible operations	% with preoperative VA data	Number of operations eligible for postoperative VA results	% with postoperative VA data	% with change in VA data
SpaMedica – Chelmsford	121	100.0	3,468	97.6	2,413	78.9	76.5
Newmedica Community Ophthalmology (Teesside)	124	100.0	4,767	0.0	3,545	0.0	0.0
SpaMedica – Preston	125	100.0	2,760	94.4	1,969	86.7	81.0
Newmedica Community Ophthalmology (Gloucester – Aspen)	126	100.0	2,616	20.4	1,994	6.1	0.2
SpaMedica – Wolverhampton	127	100.0	2,594	97.6	1,746	87.8	85.5
Community Health and Eyecare Ltd (Blackpool)	128	**	2,464	97.6	1,821	55.2	53.8
Community Health and Eyecare Ltd (Watford)	129	**	2,344	80.7	1,608	40.8	34.8
SpaMedica – Hull	130	100.0	2,234	96.6	1,567	87.5	83.9
Optegra Eye Health Care (Manchester Eye Hospital)	131	100.0	2,027	96.8	1,447	70.1	67.9
Newmedica Community Ophthalmology (Grimsby)	132	100.0	2,009	6.6	1,545	2.2	0.0
Newmedica Community Ophthalmology (Bristol)	133	100.0	1,985	26.8	1,492	7.6	2.0
Optegra Eye Health Care (Yorkshire Eye Hospital)	134	100.0	1,906	90.1	1,188	59.8	49.5
Worcestershire Acute Hospitals NHS Trust	135	100.0	1,852	51.7	1,605	30.6	13.8
Community Health and Eyecare Ltd (Stoke)	136	**	1,836	90.3	1,412	9.1	8.8
SpaMedica – Bedford	137	100.0	1,805	95.2	1,049	82.1	76.1
Newmedica Community Ophthalmology (Leeds)	138	100.0	1,767	6.9	1,287	0.6	0.6
Optegra Eye Health Care (Surrey Eye Hospital)	139	100.0	1,765	92.7	1,163	71.8	69.3
SpaMedica – Coventry	140	100.0	1,564	98.8	886	86.8	85.3
Optegra Eye Health Care (Hampshire Eye Hospital)	141	100.0	1,508	98.9	893	78.4	77.0
Optegra Eye Health Care (North London Eye Hospital)	142	**	1,418	86.0	847	73.9	59.0
Optegra Eye Health Care (Birmingham Eye Hospital)	143	100.0	1,155	90.0	915	62.4	53.8
Newmedica Community Ophthalmology (Ipswich)	144	100.0	972	0.0	510	0.0	0.0
Newmedica Community Ophthalmology (Barlborough)	145	100.0	969	52.0	674	51.6	49.0
Newmedica Community Ophthalmology (Exeter)	146	100.0	724	28.0	444	12.6	12.6
SpaMedica – Derby	147	100.0	711	99.4	271	84.1	83.8

Appendix 7 table continued: The percentage of eyes with preoperative VA, postoperative VA and change in VA data for participating centres in the 2020 NHS year

Centre name	Centre number	Estimate of cases submitted to the audit (%)*	Number of eligible operations	% with preoperative VA data	Number of operations eligible for postoperative VA results	% with postoperative VA data	% with change in VA data
Exeter Eye	148	***	688	87.1	504	73.6	61.3
SpaMedica – Bromley	149	100.0	473	99.4	80	80.0	80.0
SpaMedica – Wokingham	150	100.0	397	99.7	107	90.7	90.7
SpaMedica – Stockton-on-Tees	151	100.0	284	100.0	105	90.5	90.5
Tetbury Hospital	152	98.0	251	63.3	251	94.4	59.8
Newmedica Community Ophthalmology (Brigg)	153	100.0	249	42.2	0	****	****
West Suffolk NHS Foundation Trust	154	62.6	168	83.3	112	69.6	58.0
Northern Care Alliance NHS Foundation Trust	155	22.5	148	43.9	12	****	****
Newmedica Community Ophthalmology (Frome)	156	100.0	128	65.6	33	****	****
Community Health and Eyecare Ltd (Preston)	157	**	127	98.4	0	****	****
The Stoneygate Eye Hospital	158	11.0	114	95.6	113	98.2	94.7
Newmedica Community Ophthalmology (Wakefield)	159	100.0	77	0.0	10	****	****
Overall for all centres	**N/A**	**100.0**	**172,320**	**71.0**	**132,322**	**59.8**	**47.4**

*The estimate of the proportion of cases submitted to the audit is derived from the number of completed cataract operations supplied to NHS Digital or DHCW for the NHS year. This estimation uses a pro rata calculation for a centre's denominator where the proportion of time during the NHS year that a centre had been recording cataract operations was multiplied by the number of cataract operations supplied to NHS Digital or DHCW. The numerator was the number of operations a centre had supplied to the audit. Centres that had more operations submitted to the national audit than in the NHS Digital or DHCW data were all assumed to have a complete submission rate as the actual rate was not possible to estimate.**These centres had no data in the NHS digital data. ***These centres do not have to report to either NHS Digital or DHCW. ****No estimate is produced for centres with <50 eligible operations in the postoperative qualifying time period.

Appendix 8: The percentage of first and second treated eyes with postoperative VA data

Appendix 8 table: The percentage of first and second treated eyes with postoperative VA data for participating centres in the 2020 NHS year

Centre name	Centre number	Number of operations eligible for postoperative VA results	% with postoperative VA data	Number of first treated eyes	% first treated eyes with postoperative VA data	Number of second treated eyes	% second treated eyes with postoperative VA data
Moorfields Eye Hospital NHS Foundation Trust	1	6,337	71.8	4,060	76.2	2,277	64.0
The Newcastle upon Tyne Hospitals NHS Foundation Trust	2	3,142	44.0	1,689	53.1	1,453	33.4
Norfolk and Norwich University Hospitals NHS Foundation Trust	3	891	17.2	509	20.6	382	12.6
Leeds Teaching Hospitals NHS Trust	4	610	78.9	329	86.0	281	70.5
York and Scarborough Teaching Hospitals NHS Foundation Trust	5	2,091	32.9	1,163	36.5	928	28.2
Oxford University Hospitals NHS Foundation Trust	6	1,834	39.3	1,145	39.6	689	38.9
University Hospitals Bristol and Weston NHS Foundation Trust	7	996	64.2	513	65.7	483	62.5
Gloucestershire Hospitals NHS Foundation Trust	8	1,003	75.9	570	90.5	433	56.6
Sandwell and West Birmingham Hospitals NHS Trust	10	938	89.7	574	90.9	364	87.6
University Hospital Southampton NHS Foundation Trust	11	1,207	91.6	650	93.7	557	89.2
Mid Cheshire Hospitals NHS Foundation Trust	14	940	71.7	576	76.0	364	64.8
The Mid Yorkshire Hospitals NHS Trust	15	773	78.7	445	83.4	328	72.3
Cardiff & Vale University Local Health Board	16	605	43.5	267	43.8	338	43.2
Epsom and St Helier University Hospitals NHS Trust	17	1,551	61.8	799	65.3	752	58.0
Barts Health NHS Trust	18	1,106	68.4	601	74.2	505	61.6
Frimley Health NHS Foundation Trust	19	1,595	57.7	943	59.8	652	54.8
Bradford Teaching Hospitals NHS Foundation Trust	20	402	51.2	238	52.5	164	49.4
University Hospitals Plymouth NHS Trust	22	1,282	71.6	649	65.2	633	78.2
University Hospitals Birmingham NHS Foundation Trust	23	1,113	83.6	597	89.4	516	76.7
Hampshire Hospitals NHS Foundation Trust	24	1,401	44.0	758	46.7	643	40.7
Royal Cornwall Hospitals NHS Trust	25	1,892	57.6	1,064	75.3	828	34.8
Manchester University NHS Foundation Trust	26	650	28.9	352	33.5	298	23.5

Appendix 8 table continued: The percentage of first and second treated eyes with postoperative VA data for participating centres in the 2020 NHS year

Centre name	Centre number	Number of operations eligible for postoperative VA results	% with postoperative VA data	Number of first treated eyes	% first treated eyes with postoperative VA data	Number of second treated eyes	% second treated eyes with postoperative VA data
King's College Hospital NHS Foundation Trust	27	2,129	86.8	1,139	89.4	990	83.8
The Shrewsbury and Telford Hospital NHS Trust	28	537	60.1	328	67.7	209	48.3
The Hillingdon Hospitals NHS Foundation Trust	30	533	40.9	320	49.1	213	28.6
Liverpool University Hospitals NHS Foundation Trust	31	992	79.8	653	79.0	339	81.4
Royal United Hospitals Bath NHS Foundation Trust	32	814	45.7	432	48.8	382	42.1
Chesterfield Royal Hospital NHS Foundation Trust	33	397	96.7	236	98.3	161	94.4
Mid and South Essex NHS Foundation Trust	34	1,199	7.0	792	7.2	407	6.6
Harrogate and District NHS Foundation Trust	35	277	17.0	120	24.2	157	11.5
North West Anglia NHS Foundation Trust	36	524	69.7	346	68.5	178	71.9
Northern Devon Healthcare NHS Trust	37	711	80.5	419	80.7	292	80.1
Wirral University Teaching Hospital NHS Foundation Trust	39	426	86.4	259	88.4	167	83.2
South Warwickshire NHS Foundation Trust	40	834	70.6	419	86.4	415	54.7
Isle of Wight NHS Trust	41	865	85.8	486	86.8	379	84.4
St Helens and Knowsley Teaching Hospitals NHS Trust	42	674	53.7	471	53.7	203	53.7
Wrightington, Wigan and Leigh NHS Foundation Trust	43	326	90.5	166	90.4	160	90.6
Warrington and Halton Teaching Hospitals NHS Foundation Trust	44	305	96.4	185	97.3	120	95.0
South Tees Hospitals NHS Foundation Trust	45	1,116	37.7	633	39.2	483	35.8
University Hospitals Dorset NHS Foundation Trust	46	2,415	60.5	1,653	61.8	762	57.7
Barking, Havering and Redbridge University Hospitals NHS Trust	47	559	47.0	350	48.9	209	44.0
Royal Free London NHS Foundation Trust	48	1,411	55.9	879	59.2	532	50.6
University Hospitals Coventry and Warwickshire NHS Trust	49	916	89.2	482	91.9	434	86.2
Salisbury NHS Foundation Trust	51	411	76.6	208	76.9	203	76.4
Nottingham University Hospitals NHS Trust	55	970	89.4	531	90.2	439	88.4
Yeovil District Hospital NHS Foundation Trust	56	757	91.8	362	95.3	395	88.6
SpaMedica – Manchester	57	2,618	80.3	1,615	84.5	1,003	73.6

Appendix 8 table continued: The percentage of first and second treated eyes with postoperative VA data for participating centres in the 2020 NHS year

Centre name	Centre number	Number of operations eligible for postoperative VA results	% with postoperative VA data	Number of first treated eyes	% first treated eyes with postoperative VA data	Number of second treated eyes	% second treated eyes with postoperative VA data
SpaMedica – Wakefield	58	2,490	79.6	1,543	83.7	947	73.0
East Sussex Healthcare NHS Trust	59	1,781	73.8	1,057	74.6	724	72.8
Imperial College Healthcare NHS Trust	60	1,173	77.1	639	80.6	534	72.8
Portsmouth Hospitals University NHS Trust	61	573	91.3	335	91.3	238	91.2
Cambridge University Hospitals NHS Foundation Trust	63	701	75.9	422	79.1	279	71.0
East Kent Hospitals University NHS Foundation Trust	64	163	50.3	31	58.1	132	48.5
East Suffolk and North Essex NHS Foundation Trust	65	2,526	62.4	1,592	61.6	934	63.8
SpaMedica – Birkenhead	66	1,514	87.8	925	90.7	589	83.4
County Durham and Darlington NHS Foundation Trust	67	784	48.6	366	59.8	418	38.8
United Lincolnshire Hospitals NHS Trust	68	337	36.2	297	36.0	40	37.5
Northampton General Hospital NHS Trust	70	272	8.1	183	8.2	89	7.9
SpaMedica – Liverpool	71	707	85.9	458	87.8	249	82.3
James Paget University Hospitals NHS Foundation Trust	72	1,061	79.5	738	81.0	323	75.9
Bolton NHS Foundation Trust	73	620	86.1	335	87.5	285	84.6
Kingston Hospital NHS Foundation Trust	74	889	0.1	585	0.2	304	0.0
Torbay and South Devon NHS Foundation Trust	77	711	48.9	391	54.2	320	42.5
Great Western Hospitals NHS Foundation Trust	78	638	87.6	369	87.5	269	87.7
SpaMedica – Bolton	79	2,210	88.4	1,326	91.0	884	84.5
Cwm Taf Morgannwg University Local Health Board	82	109	52.3	67	56.7	42	45.2
Sherwood Forest Hospitals NHS Foundation Trust	83	584	48.3	409	50.4	175	43.4
Southport and Ormskirk Hospital NHS Trust	86	222	71.2	132	72.0	90	70.0
Practice Plus Group Hospital, Shepton Mallet	88	661	96.2	378	97.1	283	95.1
Practice Plus Group Surgical Centre, St. Mary's Portsmouth	89	1,189	29.9	644	45.7	545	11.4
Practice Plus Group Hospital, Emersons Green	90	634	70.8	381	68.8	253	73.9
Practice Plus Group Surgical Centre, Gillingham	91	648	65.3	358	68.2	290	61.7

Appendix 8 table continued: The percentage of first and second treated eyes with postoperative VA data for participating centres in the 2020 NHS year

Centre name	Centre number	Number of operations eligible for postoperative VA results	% with postoperative VA data	Number of first treated eyes	% first treated eyes with postoperative VA data	Number of second treated eyes	% second treated eyes with postoperative VA data
SpaMedica – Sheffield	92	2,247	72.5	1,405	76.4	842	65.9
Practice Plus Group Hospital, Plymouth	93	351	16.8	220	20.5	131	10.7
Practice Plus Group Ophthalmology, Rochdale	95	642	86.3	361	90.0	281	81.5
Practice Plus Group Hospital, Ilford	97	392	21.7	241	27.0	151	13.2
North Middlesex University Hospital NHS Trust	98	386	92.7	226	92.9	160	92.5
University Hospitals Sussex NHS Foundation Trust	99	1,124	3.4	706	3.5	418	3.1
Practice Plus Group Surgical Centre, Devizes	100	151	97.4	87	98.9	64	95.3
Surrey and Sussex Healthcare NHS Trust	101	343	45.5	246	50.8	97	32.0
Aneurin Bevan University Local Health Board	102	126	96.8	70	95.7	56	98.2
Practice Plus Group Hospital, Southampton	103	202	35.1	126	34.9	76	35.5
SpaMedica – Birmingham	104	2,565	83.9	1,618	87.0	947	78.8
St. Stephens Gate Medical Practice	105	93	36.6	56	28.6	37	48.6
The Dudley Group NHS Foundation Trust	106	211	74.9	152	75.0	59	74.6
East Cheshire NHS Trust	108	576	55.4	299	62.9	277	47.3
Guy's and St Thomas' NHS Foundation Trust	110	735	94.3	472	95.1	263	92.8
Buckinghamshire Healthcare NHS Trust	111	2,477	8.6	1,419	8.8	1,058	8.3
SpaMedica – Bradford	112	852	74.5	560	76.1	292	71.6
SpaMedica – West Lancashire	113	560	90.0	354	91.5	206	87.4
Somerset NHS Foundation Trust	114	1,013	73.2	579	75.1	434	70.7
Medical specialists group Guernsey	115	310	69.7	177	75.7	133	61.7
Hywel Dda University Local Health Board	116	38	*	31	*	7	*
George Eliot Hospital NHS Trust	117	498	95.8	324	95.4	174	96.6
SpaMedica – Newcastle Under Lyme	118	1,415	90.0	901	92.5	514	85.6
SpaMedica – Widnes	119	1,062	82.1	652	84.2	410	78.8
Kettering General Hospital NHS Foundation Trust	120	156	7.7	105	7.6	51	7.8

Appendix 8 table continued: The percentage of first and second treated eyes with postoperative VA data for participating centres in the 2020 NHS year

Centre name	Centre number	Number of operations eligible for postoperative VA results	% with postoperative VA data	Number of first treated eyes	% first treated eyes with postoperative VA data	Number of second treated eyes	% second treated eyes with postoperative VA data
SpaMedica – Chelmsford	121	2,413	78.9	1,535	79.8	878	77.2
Newmedica Community Ophthalmology (Teesside)	124	3,545	0.0	2,370	0.0	1,175	0.0
SpaMedica – Preston	125	1,969	86.7	1,115	89.6	854	82.9
Newmedica Community Ophthalmology (Gloucester – Aspen)	126	1,994	6.1	1,480	6.8	514	4.1
SpaMedica - Wolverhampton	127	1,746	87.8	1,275	89.3	471	83.9
Community Health and Eyecare Ltd (Blackpool)	128	1,821	55.2	1,447	58.2	374	43.6
Community Health and Eyecare Ltd (Watford)	129	1,608	40.8	1,211	37.7	397	50.4
SpaMedica – Hull	130	1,567	87.5	988	90.7	579	82.0
Optegra Eye Health Care (Manchester Eye Hospital)	131	1,447	70.1	839	75.0	608	63.5
Newmedica Community Ophthalmology (Grimsby)	132	1,545	2.2	1,055	2.1	490	2.4
Newmedica Community Ophthalmology (Bristol)	133	1,492	7.6	1,163	7.5	329	7.9
Optegra Eye Health Care (Yorkshire Eye Hospital)	134	1,188	59.8	699	63.8	489	54.0
Worcestershire Acute Hospitals NHS Trust	135	1,605	30.6	1,514	30.4	91	33.0
Community Health and Eyecare Ltd (Stoke)	136	1,412	9.1	978	9.8	434	7.4
SpaMedica – Bedford	137	1,049	82.1	712	84.0	337	78.0
Newmedica Community Ophthalmology (Leeds)	138	1,287	0.6	843	0.8	444	0.2
Optegra Eye Health Care (Surrey Eye Hospital)	139	1,163	71.8	724	75.4	439	65.8
SpaMedica – Coventry	140	886	86.8	659	87.9	227	83.7
Optegra Eye Health Care (Hampshire Eye Hospital)	141	893	78.4	542	80.8	351	74.6
Optegra Eye Health Care (North London Eye Hospital)	142	847	73.9	539	77.7	308	67.2
Optegra Eye Health Care (Birmingham Eye Hospital)	143	915	62.4	539	66.8	376	56.1
Newmedica Community Ophthalmology (Ipswich)	144	510	0.0	479	0.0	31	0.0
Newmedica Community Ophthalmology (Barlborough)	145	674	51.6	489	47.0	185	63.8
Newmedica Community Ophthalmology (Exeter)	146	444	12.6	408	10.8	36	33.3
SpaMedica – Derby	147	271	84.1	193	84.5	78	83.3

Appendix 8 table continued: The percentage of first and second treated eyes with postoperative VA data for participating centres in the 2020 NHS year

Centre name	Centre number	Number of operations eligible for postoperative VA results	% with postoperative VA data	Number of first treated eyes	% first treated eyes with postoperative VA data	Number of second treated eyes	% second treated eyes with postoperative VA data
Exeter Eye	148	504	73.6	309	76.7	195	68.7
SpaMedica – Bromley	149	80	80.0	77	79.2	3	100.0
SpaMedica – Wokingham	150	107	90.7	101	90.1	6	100.0
SpaMedica – Stockton-on-Tees	151	105	90.5	85	95.3	20	70.0
Tetbury Hospital	152	251	94.4	167	95.2	84	92.9
Newmedica Community Ophthalmology (Brigg)	153	0	*	0	*	0	*
West Suffolk NHS Foundation Trust	154	112	69.6	91	72.5	21	57.1
Northern Care Alliance NHS Foundation Trust	155	12	*	12	*	0	*
Newmedica Community Ophthalmology (Frome)	156	33	*	30	*	3	*
Community Health and Eyecare Ltd (Preston)	157	0	*	0	*	0	*
The Stoneygate Eye Hospital	158	113	98.2	63	96.8	50	100.0
Newmedica Community Ophthalmology (Wakefield)	159	10	*	10	*	0	*
Overall for all centres	**N/A**	**132,322**	**59.8**	**81,981**	**61.3**	**50,341**	**57.4**

Note: Both eyes from a patient undergoing immediate sequential bilateral cataract surgery are included as 'first treated' eyes. *No estimate is produced for centres with <50 eligible operations in the postoperative qualifying time period.

Appendix 9: Case complexity PCR and VA Loss

Appendix 9 table: Posterior capsular rupture and VA Loss results for participating centres in the 2020 NHS year

		Posterior Capsular Rupture Overall consultant surgeon PCR rate = 1.1%				Visual Acuity Loss Overall consultant surgeon VA Loss rate = 0.9%			
Centre name	Centre number	Number of operations	Unadjusted PCR rate (%)	Case complexity index (%)	Adjusted PCR rate (%)	Number of operations	Unadjusted VA Loss rate (%)	Case complexity index (%)	Adjusted VA Loss rate (%)
Moorfields Eye Hospital NHS Foundation Trust	1	7,760	1.38	1.90	0.80				
The Newcastle upon Tyne Hospitals NHS Foundation Trust	2	3,428	0.82	1.60	0.56				
Norfolk and Norwich University Hospitals NHS Foundation Trust	3	942	0.53	1.60	0.37				
Leeds Teaching Hospitals NHS Trust	4	688	1.60	2.11	0.83	399	1.25	1.29	0.87
York and Scarborough Teaching Hospitals NHS Foundation Trust	5	2,720	0.51	1.58	0.36				
Oxford University Hospitals NHS Foundation Trust	6	2,065	3.10	2.37	1.44				
University Hospitals Bristol and Weston NHS Foundation Trust	7	1,084	0.83	2.21	0.41				
Gloucestershire Hospitals NHS Foundation Trust	8	1,214	1.48	1.77	0.92				
Sandwell and West Birmingham Hospitals NHS Trust	10	966	3.62	2.35	1.69	673	1.04	1.06	0.88
University Hospital Southampton NHS Foundation Trust	11	1,458	1.10	1.77	0.68	923	0.65	1.15	0.51
Mid Cheshire Hospitals NHS Foundation Trust	14	984	1.83	1.74	1.16	583	0.86	0.99	0.78
The Mid Yorkshire Hospitals NHS Trust	15	942	1.27	1.93	0.73				
Cardiff & Vale University Local Health Board	16	803	1.74	1.76	1.09				
Epsom and St Helier University Hospitals NHS Trust	17	1,635	1.53	1.76	0.96				
Barts Health NHS Trust	18	1,134	2.29	2.06	1.22				
Frimley Health NHS Foundation Trust	19	1,702	1.12	1.61	0.76				
Bradford Teaching Hospitals NHS Foundation Trust	20	418	1.67	1.71	1.08				
University Hospitals Plymouth NHS Trust	22	1,569	0.89	1.91	0.51				
University Hospitals Birmingham NHS Foundation Trust	23	1,378	1.60	2.08	0.85				
Hampshire Hospitals NHS Foundation Trust	24	1,830	0.55	1.40	0.43				
Royal Cornwall Hospitals NHS Trust	25	2,478	0.69	1.76	0.43				
Manchester University NHS Foundation Trust	26	650	1.69	1.97	0.95				

Appendix 9 table continued: Posterior capsular rupture and VA Loss results for participating centres in the 2020 NHS year

		Posterior Capsular Rupture Overall consultant surgeon PCR rate = 1.1%				Visual Acuity Loss Overall consultant surgeon VA Loss rate = 0.9%			
Centre name	Centre number	Number of operations	Unadjusted PCR rate (%)	Case complexity index (%)	Adjusted PCR rate (%)	Number of operations	Unadjusted VA Loss rate (%)	Case complexity index (%)	Adjusted VA Loss rate (%)
King's College Hospital NHS Foundation Trust	27	2,403	1.62	1.84	0.97	1,631	0.55	1.25	0.40
The Shrewsbury and Telford Hospital NHS Trust	28	728	1.65	1.78	1.02				
The Hillingdon Hospitals NHS Foundation Trust	30	640	1.25	2.71	0.51				
Liverpool University Hospitals NHS Foundation Trust	31	1,072	3.82	2.46	1.71				
Royal United Hospitals Bath NHS Foundation Trust	32	979	1.63	2.04	0.88				
Chesterfield Royal Hospital NHS Foundation Trust	33	509	0.98	1.56	0.69				
Mid and South Essex NHS Foundation Trust	34	1,378	1.52	1.77	0.95				
Harrogate and District NHS Foundation Trust	35	291	0.00	1.67	0.00				
North West Anglia NHS Foundation Trust	36	625	1.60	2.26	0.78				
Northern Devon Healthcare NHS Trust	37	942	0.74	1.63	0.50	556	0.90	1.30	0.62
Wirral University Teaching Hospital NHS Foundation Trust	39	462	0.87	1.77	0.54	264	1.52	1.06	1.28
South Warwickshire NHS Foundation Trust	40	1,004	0.90	1.63	0.61				
Isle of Wight NHS Trust	41	1,020	1.08	1.39	0.85				
St Helens and Knowsley Teaching Hospitals NHS Trust	42	745	1.34	1.71	0.86				
Wrightington, Wigan and Leigh NHS Foundation Trust	43	357	0.84	1.40	0.66	232	1.72	0.77	2.01
Warrington and Halton Teaching Hospitals NHS Foundation Trust	44	458	1.09	1.46	0.83				
South Tees Hospitals NHS Foundation Trust	45	1,249	2.56	1.58	1.79				
University Hospitals Dorset NHS Foundation Trust	46	2,885	0.80	1.66	0.53				
Barking, Havering and Redbridge University Hospitals NHS Trust	47	717	1.67	1.60	1.15				
Royal Free London NHS Foundation Trust	48	1,591	2.14	1.89	1.24				
University Hospitals Coventry and Warwickshire NHS Trust	49	990	1.31	2.29	0.63				
Salisbury NHS Foundation Trust	51	455	1.76	1.89	1.03				
Nottingham University Hospitals NHS Trust	55	1,134	1.59	2.09	0.83				
Yeovil District Hospital NHS Foundation Trust	56	971	1.34	1.53	0.96	684	0.73	1.16	0.57
SpaMedica – Manchester	57	3,591	0.53	1.27	0.46	2,004	0.30	0.83	0.33

Appendix 9 table continued: Posterior capsular rupture and VA Loss results for participating centres in the 2020 NHS year

		Posterior Capsular Rupture Overall consultant surgeon PCR rate = 1.1%				Visual Acuity Loss Overall consultant surgeon VA Loss rate = 0.9%			
Centre name	Centre number	Number of operations	Unadjusted PCR rate (%)	Case complexity index (%)	Adjusted PCR rate (%)	Number of operations	Unadjusted VA Loss rate (%)	Case complexity index (%)	Adjusted VA Loss rate (%)
SpaMedica – Wakefield	58	3,310	0.48	1.06	0.50	1,933	0.26	0.88	0.26
East Sussex Healthcare NHS Trust	59	2,172	1.38	1.68	0.90				
Imperial College Healthcare NHS Trust	60	1,274	3.06	2.61	1.29	715	0.98	1.02	0.86
Portsmouth Hospitals University NHS Trust	61	911	1.21	1.60	0.83	472	0.85	0.92	0.83
Cambridge University Hospitals NHS Foundation Trust	63	985	0.41	1.77	0.25				
East Kent Hospitals University NHS Foundation Trust	64	167	0.60	1.77	0.37				
East Suffolk and North Essex NHS Foundation Trust	65	2,993	1.30	1.85	0.77				
SpaMedica – Birkenhead	66	2,057	0.29	1.14	0.28	1,264	0.00	0.91	0.00
County Durham and Darlington NHS Foundation Trust	67	925	1.95	1.74	1.23				
United Lincolnshire Hospitals NHS Trust	68	337	0.89	1.49	0.66				
Northampton General Hospital NHS Trust	70	420	1.67	1.70	1.08				
SpaMedica – Liverpool	71	1,292	0.15	1.25	0.14	579	0.00	0.79	0.00
James Paget University Hospitals NHS Foundation Trust	72	1,333	0.68	1.47	0.51				
Bolton NHS Foundation Trust	73	904	1.55	2.00	0.85	503	0.80	1.08	0.66
Kingston Hospital NHS Foundation Trust	74	1,215	1.23	1.46	0.93				
Torbay and South Devon NHS Foundation Trust	77	1,048	1.24	1.94	0.70				
Great Western Hospitals NHS Foundation Trust	78	738	0.95	1.54	0.68	508	0.79	1.39	0.51
SpaMedica – Bolton	79	2,997	0.27	1.08	0.27	1,890	0.26	0.78	0.31
Cwm Taf Morgannwg University Local Health Board	82	137	3.65	2.14	1.87				
Sherwood Forest Hospitals NHS Foundation Trust	83	672	1.19	2.50	0.52				
Southport and Ormskirk Hospital NHS Trust	86	257	0.39	1.47	0.29	155	1.29	0.64	1.81
Practice Plus Group Hospital, Shepton Mallet	88	923	0.54	1.18	0.51				
Practice Plus Group Surgical Centre, St. Mary's Portsmouth	89	1,397	0.57	1.12	0.56				
Practice Plus Group Hospital, Emersons Green	90	893	0.22	1.78	0.14				
Practice Plus Group Surgical Centre, Gillingham	91	1,053	0.57	1.33	0.47				

Appendix 9 table continued: Posterior capsular rupture and VA Loss results for participating centres in the 2020 NHS year

		Posterior Capsular Rupture Overall consultant surgeon PCR rate = 1.1%				Visual Acuity Loss Overall consultant surgeon VA Loss rate = 0.9%			
Centre name	Centre number	Number of operations	Unadjusted PCR rate (%)	Case complexity index (%)	Adjusted PCR rate (%)	Number of operations	Unadjusted VA Loss rate (%)	Case complexity index (%)	Adjusted VA Loss rate (%)
SpaMedica – Sheffield	92	3,128	0.45	1.37	0.36	1,524	0.13	0.91	0.13
Practice Plus Group Hospital, Plymouth	93	560	0.54	1.14	0.52				
Practice Plus Group Ophthalmology, Rochdale	95	971	0.72	1.43	0.55	538	0.56	0.77	0.65
Practice Plus Group Hospital, Ilford	97	466	0.86	1.10	0.86				
North Middlesex University Hospital NHS Trust	98	418	1.67	1.50	1.22				
University Hospitals Sussex NHS Foundation Trust	99	1,345	1.49	1.52	1.08				
Practice Plus Group Surgical Centre, Devizes	100	272	0.00	1.75	0.00	115	0.00	0.68	0.00
Surrey and Sussex Healthcare NHS Trust	101	692	2.46	1.48	1.83				
Aneurin Bevan University Local Health Board	102	146	1.37	2.37	0.63	119	1.68	1.01	1.50
Practice Plus Group Hospital, Southampton	103	220	0.45	1.05	0.48				
SpaMedica – Birmingham	104	3,599	0.36	1.26	0.32	2,066	0.24	1.37	0.16
St. Stephens Gate Medical Practice	105	129	0.78	1.32	0.65				
The Dudley Group NHS Foundation Trust	106	288	4.17	1.87	2.45				
East Cheshire NHS Trust	108	683	0.59	1.40	0.46				
Guy's and St Thomas' NHS Foundation Trust	110	747	1.20	2.48	0.53	622	0.32	0.94	0.31
Buckinghamshire Healthcare NHS Trust	111	3,173	0.85	1.85	0.51				
SpaMedica – Bradford	112	1,251	0.64	1.08	0.65	615	0.49	1.02	0.43
SpaMedica – West Lancashire	113	843	0.24	1.10	0.24	455	0.22	0.82	0.24
Somerset NHS Foundation Trust	114	1,101	0.82	1.45	0.62				
Medical specialists group Guernsey	115	342	1.75	1.38	1.40				
Hywel Dda University Local Health Board	116	56	0.00	1.29	0.00				
George Eliot Hospital NHS Trust	117	548	1.09	1.25	0.96				
SpaMedica – Newcastle Under Lyme	118	1,893	0.42	1.29	0.36	1,220	0.16	1.51	0.10
SpaMedica – Widnes	119	1,499	0.73	1.18	0.68	844	0.12	0.77	0.14
Kettering General Hospital NHS Foundation Trust	120	172	0.58	1.16	0.55				

Appendix 9 table continued: Posterior capsular rupture and VA Loss results for participating centres in the 2020 NHS year

		Posterior Capsular Rupture Overall consultant surgeon PCR rate = 1.1%				Visual Acuity Loss Overall consultant surgeon VA Loss rate = 0.9%			
Centre name	Centre number	Number of operations	Unadjusted PCR rate (%)	Case complexity index (%)	Adjusted PCR rate (%)	Number of operations	Unadjusted VA Loss rate (%)	Case complexity index (%)	Adjusted VA Loss rate (%)
SpaMedica – Chelmsford	121	3,468	0.55	1.12	0.54	1,845	0.33	1.03	0.28
Newmedica Community Ophthalmology (Teesside)	124	4,767	0.42	1.00	0.46				
SpaMedica – Preston	125	2,760	0.33	1.17	0.31	1,595	0.19	1.30	0.13
Newmedica Community Ophthalmology (Gloucester – Aspen)	126	2,616	0.34	1.04	0.37				
SpaMedica – Wolverhampton	127	2,594	0.23	1.52	0.17	1,492	0.27	1.31	0.18
Community Health and Eyecare Ltd (Blackpool)	128	2,464	0.41	1.11	0.40				
Community Health and Eyecare Ltd (Watford)	129	2,344	0.51	1.09	0.51				
SpaMedica – Hull	130	2,234	0.40	1.04	0.43	1,314	0.46	0.76	0.54
Optegra Eye Health Care (Manchester Eye Hospital)	131	2,027	0.39	1.24	0.35	983	0.10	0.95	0.10
Newmedica Community Ophthalmology (Grimsby)	132	2,009	0.00	1.00	0.00				
Newmedica Community Ophthalmology (Bristol)	133	1,985	0.40	1.06	0.42				
Optegra Eye Health Care (Yorkshire Eye Hospital)	134	1,906	0.47	1.23	0.42				
Worcestershire Acute Hospitals NHS Trust	135	1,852	0.38	1.32	0.32				
Community Health and Eyecare Ltd (Stoke)	136	1,836	0.76	1.33	0.63				
SpaMedica – Bedford	137	1,805	0.55	1.20	0.51	798	0.38	0.93	0.36
Newmedica Community Ophthalmology (Leeds)	138	1,767	0.23	1.00	0.25				
Optegra Eye Health Care (Surrey Eye Hospital)	139	1,765	0.28	1.22	0.26	806	0.62	0.97	0.58
SpaMedica – Coventry	140	1,564	0.45	1.23	0.40	756	0.40	1.24	0.29
Optegra Eye Health Care (Hampshire Eye Hospital)	141	1,508	0.80	1.29	0.68	688	0.29	0.75	0.35
Optegra Eye Health Care (North London Eye Hospital)	142	1,418	0.35	1.39	0.28				
Optegra Eye Health Care (Birmingham Eye Hospital)	143	1,155	0.52	1.09	0.52				
Newmedica Community Ophthalmology (Ipswich)	144	972	0.10	1.03	0.11				
Newmedica Community Ophthalmology (Barlborough)	145	969	0.31	1.10	0.31				
Newmedica Community Ophthalmology (Exeter)	146	724	0.28	1.12	0.27				
SpaMedica – Derby	147	711	0.14	1.22	0.13	227	0.00	1.49	0.00

Appendix 9 table continued: Posterior capsular rupture and VA Loss results for participating centres in the 2020 NHS year

		Posterior Capsular Rupture Overall consultant surgeon PCR rate = 1.1%				Visual Acuity Loss Overall consultant surgeon VA Loss rate = 0.9%			
Centre name	Centre number	Number of operations	Unadjusted PCR rate (%)	Case complexity index (%)	Adjusted PCR rate (%)	Number of operations	Unadjusted VA Loss rate (%)	Case complexity index (%)	Adjusted VA Loss rate (%)
Exeter Eye	148	688	0.73	1.11	0.72	309	0.00	0.89	0.00
SpaMedica – Bromley	149	473	1.06	1.32	0.88	64	1.56	1.22	1.15
SpaMedica – Wokingham	150	397	1.26	1.48	0.94	97	1.03	0.97	0.96
SpaMedica – Stockton-on-Tees	151	284	0.35	1.09	0.36	95	1.05	0.64	1.47
Tetbury Hospital	152	251	0.80	1.26	0.70				
Newmedica Community Ophthalmology (Brigg)	153	249	0.40	1.05	0.42				
West Suffolk NHS Foundation Trust	154	168	1.19	1.68	0.78				
Northern Care Alliance NHS Foundation Trust	155	148	1.35	1.60	0.93				
Newmedica Community Ophthalmology (Frome)	156	128	0.78	1.12	0.77				
Community Health and Eyecare Ltd (Preston)	157	127	2.36	1.42	1.83				
The Stoneygate Eye Hospital	158	114	0.00	1.02	0.00	107	2.80	0.73	3.46
Newmedica Community Ophthalmology (Wakefield)	159	77	0.00	0.96	0.00				
Overall for all centres	**N/A**	**172,320**	**0.91**	**1.50**	**0.67**	**35,262**	**0.42**	**1.04**	**0.36**

The case complexity index is an estimate of the overall predicted probability of the adverse event based on the reported case complexity.

Appendix 10: Surgeon information for the 2016 – 2020 NHS years

Appendix 10 table: Surgeon information for each NHS year

	NHS year				
	2016	2017	2018	2019	2020
Number of centres	93	105	114	125	134
Number of operations	194,562	219,077	247,535	277,749	172,320
Percentage of operations by					
Consultant surgeons	69.5	68.5	70.5	72.8	82.0
Career grade non-consultant surgeons	7.6	7.5	6.6	6.3	4.2
More experienced trainee surgeons	19.5	20.4	19.8	18.1	12.1
Less experienced trainee surgeons	3.4	3.6	3.1	2.7	1.8
Surgeons					
Number of surgeons	1,839	2,075	2,167	2,238	1,920
Number of surgeons data >1 grade	115	130	122	122	80
Surgeon gender, percentage					
Male	65.8	64.1	63.5	63.2	64.7
Female	33.9	35.6	36.4	35.9	33.6
Not recorded	0.3	0.3	0.2	0.9	1.7
Surgeon grade, number of					
Consultant surgeons	925	1,064	1,116	1,183	1,056
Career grade non-consultant surgeons	171	183	172	182	140
More experienced trainee surgeons	689	782	813	812	671
Less experienced trainee surgeons	169	176	188	183	133
Number of surgeons with data for					
<50 operations	826	869	913	921	1,199
50 – 100 operations	410	480	461	519	379
101 – 250 operations	431	554	583	570	223
251 – 500 operations	134	141	164	161	56
501 – 1,000 operations	31	20	33	43	40
>1,000 operations	7	11	13	24	23
Median number of operations per surgeon	58	64	65	66	33
Percentage of surgeons with data for					
<50 operations	44.9	41.9	42.1	41.2	62.4
≥50 operations	55.1	58.1	57.9	58.8	37.6

Appendix 11: Patient details for first eye, second eye and immediate sequential bilateral cataract surgery for the 2016 – 2020 NHS years

Appendix 11 table A: First eye surgery patient details for each NHS year

First eye surgery	NHS year				
	2016	2017	2018	2019	2020
Number patients	116,029	129,005	145,775	164,835	104,218
Patient age in years					
Median	75.9	75.8	75.8	75.7	75.2
IQR	68.6 – 81.9	68.7 – 81.9	68.9 – 82.0	69.0 – 81.8	68.4 – 81.3
Percentage of patients					
Males	42.6	42.7	42.6	41.6	42.6
Females	57.0	56.9	56.8	56.1	55.2
Gender not recorded	0.4	0.4	0.6	2.3	2.2
With diabetes	16.2	16.1	15.5	13.6	10.9
Unable to lie flat during surgery	1.7	1.8	1.8	1.6	1.4
Unable to cooperate with surgery	2.3	2.2	2.1	2.0	2.0
General anaesthesia used	4.5	4.5	4.4	4.0	2.3

Note in the 2020 NHS year, 1 first treated eye patient had a recorded gender of indeterminate / anticipated sex change.

Appendix 11 table B: Second eye surgery patient details for each NHS year

Second eye surgery	NHS year				
	2016	2017	2018	2019	2020
Number patients	78,127	89,432	100,768	111,834	65,616
Patient age in years					
Median	77.1	76.8	76.8	76.7	76.2
IQR	70.0 – 82.6	70.0 – 82.5	70.3 – 82.6	70.3 – 82.5	70.1 – 82.0
Percentage of patients					
Males	40.8	41.1	41.3	40.3	41.0
Females	58.8	58.6	58.4	58.1	57.2
Gender not recorded	0.3	0.3	0.4	1.6	1.8
With diabetes	17.3	17.2	17.2	15.5	12.8
Unable to lie flat during surgery	1.7	1.7	1.6	1.3	1.1
Unable to cooperate with surgery	2.4	2.3	2.1	2.0	1.9
General anaesthesia used	4.3	4.3	4.1	3.6	2.4

Appendix 11 table C: Immediate sequential bilateral cataract surgery patient details for each NHS year

Immediate sequential bilateral cataract surgery	NHS year				
	2016	2017	2018	2019	2020
Number patients	203	320	496	540	1,243
Patient age in years					
Median	72.0	69.0	70.0	72.5	73.5
IQR	60.9 – 81.2	58.6 – 79.1	60.0 – 78.6	62.7 – 79.3	65.9 – 79.7
Percentage of patients					
Males	42.4	41.3	37.5	40.0	41.3
Females	57.6	58.8	62.5	57.0	56.0
Gender not recorded	0.0	0.0	0.0	3.0	2.7
With diabetes	10.8	11.6	12.5	10.7	9.8
Unable to lie flat during surgery	9.4	6.6	7.3	9.3	5.0
Unable to cooperate with surgery	8.9	5.6	5.8	6.3	2.5
General anaesthesia used	45.8	41.3	38.1	35.6	12.9

Appendix 12: Case ascertainment and percentage of eyes with any ocular co-pathology / known risk indicator for the 2016 – 2020 NHS years

Appendix 12 table: Case ascertainment and the percentage of eyes with any ocular co-pathology / known risk indicator for the 2016 – 2020 NHS years for participating centres in the audit

		Case ascertainment %*					Any co-pathology / known risk indicator %				
Centre name	Centre number	2016	2017	2018	2019	2020	2016	2017	2018	2019	2020
Moorfields Eye Hospital NHS Foundation Trust	1	99.9	94.9	97.9	94.7	82.4	29.8	31.1	27.6	27.3	32.4
The Newcastle upon Tyne Hospitals NHS Foundation Trust	2	100.0	97.0	96.8	98.4	100.0	36.0	38.4	40.0	38.2	42.3
Norfolk and Norwich University Hospitals NHS Foundation Trust	3	100.0	95.5	100.0	98.6	97.4	35.0	38.1	38.7	37.3	46.9
Leeds Teaching Hospitals NHS Trust	4	100.0	98.9	100.0	98.9	94.7	54.1	55.9	55.3	61.3	62.5
York and Scarborough Teaching Hospitals NHS Foundation Trust	5	90.4	93.8	100.0	100.0	100.0	37.5	37.4	40.7	37.1	34.3
Oxford University Hospitals NHS Foundation Trust	6	100.0	98.2	100.0	98.2	99.0	37.2	43.3	48.6	45.7	52.6
University Hospitals Bristol and Weston NHS Foundation Trust	7	100.0	100.0	100.0	96.1	100.0	51.7	52.5	61.2	59.3	66.4
Gloucestershire Hospitals NHS Foundation Trust	8	100.0	100.0	92.6	98.3	96.6	45.1	47.0	53.7	58.8	67.5
Sheffield Teaching Hospitals NHS Foundation Trust	9	84.4	100.0	94.4	75.0		47.3	53.5	51.6	50.7	
Sandwell and West Birmingham Hospitals NHS Trust	10	91.0	100.0	93.0	95.8	96.8	57.6	55.9	51.2	52.4	58.7
University Hospital Southampton NHS Foundation Trust	11	100.0	99.3	91.5	90.9	100.0	51.3	53.4	56.7	57.5	60.8
Royal Berkshire NHS Foundation Trust	12	65.4	57.0	24.3			40.7	38.2	37.8		
Calderdale and Huddersfield NHS Foundation Trust	13	100.0	99.7	43.6			48.2	53.2	56.1		
Mid Cheshire Hospitals NHS Foundation Trust	14	100.0	100.0	100.0	100.0	100.0	39.1	39.4	37.6	37.1	39.3
The Mid Yorkshire Hospitals NHS Trust	15	100.0	99.7	96.9	100.0	100.0	58.7	63.9	63.9	62.8	70.9
Cardiff & Vale University Local Health Board	16	****	93.3	93.7	92.8	100.0	42.8	44.9	47.3	43.6	54.0
Epsom and St Helier University Hospitals NHS Trust	17	99.8	100.0	100.0	99.1	100.0	51.0	52.0	50.8	48.1	46.3
Barts Health NHS Trust	18	89.6	96.0	100.0	98.3	98.5	44.7	47.1	46.7	48.7	56.5
Frimley Health NHS Foundation Trust	19	94.8	90.9	97.2	99.2	100.0	37.4	33.9	35.8	41.2	39.3
Bradford Teaching Hospitals NHS Foundation Trust	20	93.8	94.7	94.8	98.0	100.0	44.8	50.3	59.1	58.6	54.5

Appendix 12 table continued: Case ascertainment and the percentage of eyes with any ocular co-pathology / known risk indicator for the 2016 – 2020 NHS years for participating centres in the audit

		Case ascertainment %*					Any co-pathology / known risk indicator %				
Centre name	Centre number	2016	2017	2018	2019	2020	2016	2017	2018	2019	2020
University Hospitals Plymouth NHS Trust	22	98.0	95.6	94.5	96.0	100.0	54.3	62.9	60.6	59.0	56.3
University Hospitals Birmingham NHS Foundation Trust	23	100.0	91.4	100.0	98.7	100.0	53.0	59.0	60.7	62.4	60.0
Hampshire Hospitals NHS Foundation Trust	24	75.9	76.2	74.6	84.5	91.3	38.5	38.3	39.7	33.8	36.9
Royal Cornwall Hospitals NHS Trust	25	100.0	100.0	100.0	100.0	100.0	50.6	61.2	63.5	61.6	58.6
Manchester University NHS Foundation Trust	26	55.7	57.3	59.0	62.4	38.4	36.5	46.5	44.0	41.2	45.8
King's College Hospital NHS Foundation Trust	27	78.1	84.0	100.0	97.9	89.4	37.8	38.8	39.5	49.4	54.4
The Shrewsbury and Telford Hospital NHS Trust	28	98.0	100.0	93.0	99.1	100.0	39.2	40.0	38.4	41.3	50.8
The Hillingdon Hospitals NHS Foundation Trust	30	100.0	95.8	100.0	98.9	100.0	36.6	36.9	46.3	47.0	55.0
Liverpool University Hospitals NHS Foundation Trust	31	100.0	48.2	80.2	90.2	96.1	39.2	54.8	50.3	49.9	50.8
Royal United Hospitals Bath NHS Foundation Trust	32	96.7	100.0	99.1	99.6	100.0	38.1	46.7	51.9	51.9	46.9
Chesterfield Royal Hospital NHS Foundation Trust	33	100.0	98.8	97.4	100.0	100.0	57.9	62.9	67.3	59.0	52.7
Mid and South Essex NHS Foundation Trust	34	100.0	100.0	100.0	88.4	79.0	41.8	41.0	36.4	41.1	44.8
Harrogate and District NHS Foundation Trust	35	100.0	91.7	96.0	100.0	100.0	39.3	40.0	47.6	53.0	53.6
North West Anglia NHS Foundation Trust	36	100.0	100.0	100.0	99.2	91.7	51.6	55.1	55.1	58.2	65.4
Northern Devon Healthcare NHS Trust	37	100.0	94.0	100.0	100.0	100.0	53.9	49.8	48.9	49.2	49.8
Wirral University Teaching Hospital NHS Foundation Trust	39	84.9	100.0	85.0	98.7	100.0	51.8	53.8	52.5	50.5	55.6
South Warwickshire NHS Foundation Trust	40	100.0	100.0	95.6	99.7	100.0	53.7	62.5	64.9	61.6	62.6
Isle of Wight NHS Trust	41	89.3	98.0	100.0	99.0	100.0	36.8	46.5	46.9	53.0	55.8
St Helens and Knowsley Teaching Hospitals NHS Trust	42	70.7	80.6	73.8	65.1	84.9	35.7	35.8	38.9	33.6	38.4
Wrightington, Wigan and Leigh NHS Foundation Trust	43	100.0	87.5	98.0	94.6	100.0	28.8	33.2	39.0	37.7	40.9
Warrington and Halton Teaching Hospitals NHS Foundation Trust	44	88.2	76.2	91.2	92.9	100.0	37.9	44.5	44.5	46.9	52.2
South Tees Hospitals NHS Foundation Trust	45	48.7	64.4	85.9	85.5	70.9	47.5	55.9	51.2	52.4	58.3
University Hospitals Dorset NHS Foundation Trust	46	55.4	62.5	67.2	82.9	89.8	29.5	34.6	41.0	36.2	40.8
Barking, Havering and Redbridge University Hospitals NHS Trust	47	58.0	65.9	87.6	79.9	100.0	39.2	44.3	43.4	50.6	47.8

Appendix 12 table continued: Case ascertainment and the percentage of eyes with any ocular co-pathology / known risk indicator for the 2016 – 2020 NHS years for participating centres in the audit

		Case ascertainment %*					Any co-pathology / known risk indicator %				
Centre name	Centre number	2016	2017	2018	2019	2020	2016	2017	2018	2019	2020
Royal Free London NHS Foundation Trust	48	35.9	44.3	42.2	81.3	94.0	38.6	31.8	31.4	30.6	36.1
University Hospitals Coventry and Warwickshire NHS Trust	49	69.1	96.3	98.1	95.9	100.0	42.2	51.5	55.2	53.9	63.7
Barnsley Hospital NHS Foundation Trust	50	100.0	12.1	14.0	4.8		55.4	55.3	45.3	52.9	
Salisbury NHS Foundation Trust	51	83.2	100.0	100.0	99.9	100.0	41.1	46.7	55.3	52.2	64.0
London North West University Healthcare NHS Trust	52	93.7	84.2	30.0			50.0	55.6	62.5		
Blackpool Teaching Hospitals NHS Foundation Trust	53	*****					*****				
University Hospitals of Morecambe Bay NHS Foundation Trust	54	17.3					38.6				
Nottingham University Hospitals NHS Trust	55	25.4	54.3	67.0	87.4	87.7	55.1	50.7	52.9	52.1	52.6
Yeovil District Hospital NHS Foundation Trust	56	76.6	100.0	84.2	100.0	100.0	44.4	49.0	54.0	48.0	52.2
SpaMedica – Manchester	57	76.1	100.0	96.7	99.6	100.0	53.3	50.1	53.5	42.3	34.7
SpaMedica – Wakefield	58	**	100.0	100.0	100.0	100.0	46.5	33.5	22.4	16.7	28.6
East Sussex Healthcare NHS Trust	59	100.0	100.0	100.0	100.0	100.0	47.7	51.2	50.1	53.6	51.1
Imperial College Healthcare NHS Trust	60	96.8	100.0	97.2	97.5	100.0	51.8	56.0	57.6	53.8	61.9
Portsmouth Hospitals University NHS Trust	61	100.0	95.0	98.2	96.7	100.0	46.0	51.3	53.1	52.5	49.0
Cambridge University Hospitals NHS Foundation Trust	63	100.0	92.6	96.8	95.8	100.0	31.3	29.3	31.2	35.5	20.6
East Kent Hospitals University NHS Foundation Trust	64	40.2	82.8	100.0	96.7	30.0	22.1	25.5	36.4	44.9	53.3
East Suffolk and North Essex NHS Foundation Trust	65	100.0	65.1	55.4	47.2	84.8	38.9	41.1	46.9	49.4	52.6
SpaMedica – Birkenhead	66	**	100.0	95.6	100.0	100.0	54.1	47.9	50.4	36.7	30.6
County Durham and Darlington NHS Foundation Trust	67	99.8	100.0	95.9	99.2	100.0	46.6	50.5	51.9	46.1	50.9
United Lincolnshire Hospitals NHS Trust	68	50.8	43.2	51.6	24.1	88.6	32.6	34.1	44.0	50.5	41.8
SpaMedica – Newton-le-Willows	69	**	97.1	100.0	99.9		62.0	68.8	61.5	43.8	
Northampton General Hospital NHS Trust	70	39.9	82.3	81.3	85.4	57.6	15.7	29.1	37.0	29.3	36.4
SpaMedica – Liverpool	71	**	100.0	100.0	98.4	100.0	52.1	37.0	32.7	27.8	36.5
James Paget University Hospitals NHS Foundation Trust	72	64.9	88.5	97.1	94.8	100.0	24.9	39.9	43.1	44.6	43.9

Appendix 12 table continued: Case ascertainment and the percentage of eyes with any ocular co-pathology / known risk indicator for the 2016 – 2020 NHS years for participating centres in the audit

		Case ascertainment %*					Any co-pathology / known risk indicator %				
Centre name	Centre number	2016	2017	2018	2019	2020	2016	2017	2018	2019	2020
Bolton NHS Foundation Trust	73	69.5	94.7	100.0	98.1	100.0	37.6	37.7	45.1	49.9	51.9
Kingston Hospital NHS Foundation Trust	74	26.0	73.0	76.7	88.1	100.0	41.8	41.4	38.7	42.2	46.7
Northern Lincolnshire and Goole NHS Foundation Trust	75	50.2	33.0	9.2			44.8	37.0	36.9		
The Rotherham NHS Foundation Trust	76	26.8	32.6	34.0			58.9	57.5	55.2		
Torbay and South Devon NHS Foundation Trust	77	*****	86.7	100.0	99.6	100.0	*****	55.6	59.7	55.1	64.0
Great Western Hospitals NHS Foundation Trust	78	15.0	70.8	92.2	89.1	94.9	48.1	62.9	70.4	68.0	68.2
SpaMedica – Bolton	79		100.0	100.0	100.0	100.0		43.8	46.2	36.0	24.8
The Princess Alexandra Hospital NHS Trust	80	15.0	85.6	34.9			50.5	39.1	59.2		
Wye Valley NHS Trust	81	27.5	14.5				50.3	58.7			
Cwm Taf Morgannwg University Local Health Board	82	*****	73.5	96.9	42.0	28.4	*****	59.6	58.2	58.6	64.2
Sherwood Forest Hospitals NHS Foundation Trust	83	42.4	44.6	81.2	79.0	100.0	44.3	30.8	29.5	33.5	56.4
Royal Surrey County Hospital NHS Foundation Trust	84	10.3	12.7	18.3	9.3	*****	52.6	41.1	37.9	42.1	*****
East Lancashire Hospitals NHS Trust	85		6.7					7.3			
Southport and Ormskirk Hospital NHS Trust	86		82.0	92.8	94.6	82.7		38.9	33.5	32.8	26.8
Stockport NHS Foundation Trust	87		11.8	*****				24.1	*****		
Practice Plus Group Hospital, Shepton Mallet	88	100.0	100.0	100.0	100.0	100.0	65.5	57.5	55.7	21.3	18.7
Practice Plus Group Surgical Centre, St. Mary's Portsmouth	89	100.0	100.0	97.0	100.0	100.0	13.0	14.2	14.7	17.1	22.0
Practice Plus Group Hospital, Emersons Green	90	100.0	100.0	100.0	100.0	100.0	47.8	39.3	47.1	57.6	55.0
Practice Plus Group Surgical Centre, Gillingham	91	100.0	100.0	100.0	100.0	100.0	8.7	8.3	11.3	28.4	26.7
SpaMedica – Sheffield	92		**	100.0	99.1	100.0		34.6	29.8	25.3	43.3
Practice Plus Group Hospital, Plymouth	93	97.4	97.1	100.0	100.0	100.0	30.9	21.9	16.4	14.1	22.1
North Cumbria Integrated Care NHS Foundation Trust	94		33.6	61.6	7.4			23.4	28.4	33.0	
Practice Plus Group Ophthalmology, Rochdale	95	100.0	100.0	97.5	100.0	100.0	28.2	24.0	31.3	30.7	39.8
Practice Plus Group Hospital, Ilford	97	66.9	100.0	95.1	100.0	100.0	11.1	15.7	19.2	27.6	11.4

Appendix 12 table continued: Case ascertainment and the percentage of eyes with any ocular co-pathology / known risk indicator for the 2016 – 2020 NHS years for participating centres in the audit

		Case ascertainment %*					Any co-pathology / known risk indicator %				
Centre name	Centre number	2016	2017	2018	2019	2020	2016	2017	2018	2019	2020
North Middlesex University Hospital NHS Trust	98		74.8	100.0	98.2	100.0		48.2	44.0	51.8	47.1
University Hospitals Sussex NHS Foundation Trust	99		*****	46.8	53.8	33.4		*****	36.2	33.5	37.9
Practice Plus Group Surgical Centre, Devizes	100	100.0	96.3	97.6	100.0	100.0	6.6	6.5	7.1	9.3	41.9
Surrey and Sussex Healthcare NHS Trust	101		18.5	11.7	4.6	100.0		23.6	17.7	33.1	31.2
Aneurin Bevan University Local Health Board	102		60.1	24.2	12.7	19.3		56.3	55.8	60.1	63.0
Practice Plus Group Hospital, Southampton	103	27.3	27.0	66.5	80.4	100.0	12.5	13.8	2.8	3.4	7.3
SpaMedica – Birmingham	104			98.4	99.3	100.0			71.9	63.7	59.9
St. Stephens Gate Medical Practice	105		**	**	**	**		32.9	33.8	35.1	32.6
The Dudley Group NHS Foundation Trust	106		*****	36.6	49.7	100.0		*****	40.3	36.6	44.4
Swansea Bay University Local Health Board	107		2.6	1.3				41.4	42.9		
East Cheshire NHS Trust	108		*****	59.2	99.0	99.4		*****	20.8	23.1	30.3
Guy's and St Thomas' NHS Foundation Trust	110			45.5	68.3	69.4			24.8	32.3	43.4
Buckinghamshire Healthcare NHS Trust	111			76.0	96.3	100.0			35.9	38.1	37.0
SpaMedica – Bradford	112			**	100.0	100.0			28.1	23.0	38.9
SpaMedica – West Lancashire	113			100.0	100.0	100.0			55.6	43.8	33.2
Somerset NHS Foundation Trust	114				97.7	100.0				42.4	42.7
Medical specialists group Guernsey	115	***	***	***	***	***	48.3	44.0	49.6	46.3	53.8
Hywel Dda University Local Health Board	116		*****	18.6	29.0	37.5		*****	35.4	32.3	51.8
George Eliot Hospital NHS Trust	117			44.2	91.3	100.0			7.5	11.9	18.4
SpaMedica – Newcastle Under Lyme	118				100.0	100.0				72.9	73.2
SpaMedica – Widnes	119				100.0	100.0				31.0	21.9
Kettering General Hospital NHS Foundation Trust	120	*****	*****	4.4	41.6	88.7	*****	*****	26.4	11.8	14.5
SpaMedica – Chelmsford	121				100.0	100.0				48.4	43.2
Community Health and Eyecare Ltd (Face and Eye)	123				**	*****				1.2	*****

Appendix 12 table continued: Case ascertainment and the percentage of eyes with any ocular co-pathology / known risk indicator for the 2016 – 2020 NHS years for participating centres in the audit

		Case ascertainment %*					Any co-pathology / known risk indicator %				
Centre name	Centre number	2016	2017	2018	2019	2020	2016	2017	2018	2019	2020
Newmedica Community Ophthalmology (Teesside)	124				100.0	100.0				0.0	0.0
SpaMedica – Preston	125					100.0					61.5
Newmedica Community Ophthalmology (Gloucester – Aspen)	126				95.3	100.0				0.0	3.4
SpaMedica – Wolverhampton	127				100.0	100.0				65.9	81.2
Community Health and Eyecare Ltd (Blackpool)	128					**					13.5
Community Health and Eyecare Ltd (Watford)	129				**	**				5.6	12.8
SpaMedica – Hull	130				100.0	100.0				11.4	12.4
Optegra Eye Health Care (Manchester Eye Hospital)	131	100.0	100.0	100.0	100.0	100.0	27.7	29.1	30.8	21.0	39.7
Newmedica Community Ophthalmology (Grimsby)	132				100.0	100.0				0.0	2.0
Newmedica Community Ophthalmology (Bristol)	133				91.7	100.0				0.0	7.2
Optegra Eye Health Care (Yorkshire Eye Hospital)	134	**	**	100.0	100.0	100.0	34.8	35.4	33.1	30.3	35.4
Worcestershire Acute Hospitals NHS Trust	135					100.0					21.5
Community Health and Eyecare Ltd (Stoke)	136				**	**				2.9	13.6
SpaMedica – Bedford	137				100.0	100.0				65.4	52.0
Newmedica Community Ophthalmology (Leeds)	138				97.8	100.0				0.0	3.1
Optegra Eye Health Care (Surrey Eye Hospital)	139	**	**	100.0	100.0	100.0	29.6	19.3	10.5	11.5	17.1
SpaMedica – Coventry	140					100.0					55.4
Optegra Eye Health Care (Hampshire Eye Hospital)	141	**	**	100.0	100.0	100.0	58.8	48.1	53.9	37.3	31.8
Optegra Eye Health Care (North London Eye Hospital)	142	**	**	**	**	**	24.0	25.2	33.7	36.7	34.4
Optegra Eye Health Care (Birmingham Eye Hospital)	143	**	**	100.0	100.0	100.0	37.7	34.5	28.0	28.3	11.9
Newmedica Community Ophthalmology (Ipswich)	144					100.0					0.0
Newmedica Community Ophthalmology (Barlborough)	145				91.6	100.0				0.0	23.0
Newmedica Community Ophthalmology (Exeter)	146					100.0					10.1
SpaMedica – Derby	147					100.0					48.9
Exeter Eye	148		*****	***	***	***		*****	35.1	33.6	34.4

Appendix 12 table continued: Case ascertainment and the percentage of eyes with any ocular co-pathology / known risk indicator for the 2016 – 2020 NHS years for participating centres in the audit

		Case ascertainment %*					Any co-pathology / known risk indicator %				
Centre name	Centre number	2016	2017	2018	2019	2020	2016	2017	2018	2019	2020
SpaMedica – Bromley	149					100.0					52.2
SpaMedica – Wokingham	150					100.0					59.4
SpaMedica – Stockton-on-Tees	151					100.0					20.8
Tetbury Hospital	152					98.0					26.7
Newmedica Community Ophthalmology (Brigg)	153					100.0					6.0
West Suffolk NHS Foundation Trust	154			*****	29.9	62.6			*****	35.4	48.8
Northern Care Alliance NHS Foundation Trust	155					22.5					31.8
Newmedica Community Ophthalmology (Frome)	156					100.0					26.6
Community Health and Eyecare Ltd (Preston)	157					**					22.8
The Stoneygate Eye Hospital	158				8.4	11.0				11.1	16.7
Newmedica Community Ophthalmology (Wakefield)	159					100.0					0.0
Optegra Eye Health Care (Central London Eye Hospital)	160	**	100.0	51.8	9.3	*****	20.1	19.8	23.3	33.0	*****
Overall for all centres	**N/A**	**87.4**	**84.8**	**86.1**	**88.8**	**100.0**	**41.4**	**42.6**	**43.1**	**40.5**	**39.1**

*The estimate of the proportion of cases submitted to the audit is derived from the number of completed cataract operations supplied to NHS Digital or DHCW for the relevant NHS year. This estimation uses a pro rata calculation for a centre's denominator where the proportion of time during the NHS year that a centre had been recording cataract operations was multiplied by the number of cataract operations supplied to NHS Digital or DHCW. The numerator was the number of operations a centre had supplied to the audit. Centres that had more operations submitted to the national audit than in the NHS Digital or DHCW data were all assumed to have a complete submission rate as the actual rate was not possible to estimate. For a full explanation of how case ascertainment was estimated see the Statistical Analysis Plan on the audit website. **These centres had no data in the indicated NHS year NHS digital data. ***These centres do not have to report to either NHS Digital or DHCW. ****Data from DHCW was not received for the 2016 NHS year *****These centres submitted data for <50 eligible operations in the indicated NHS year.

Appendix 13: The percentage of eyes with each ocular co-pathology / known risk indicator for the 2016 – 2020 NHS years

Appendix 13 table: The percentage of eyes with each ocular co-pathology / known risk indicator in each NHS year

Ocular co-pathology / know risk indicator	NHS year				
	2016	2017	2018	2019	2020
Age-related macular degeneration	10.2	10.1	10.2	9.3	8.1
Amblyopia	1.7	1.7	1.7	1.5	1.1
Brunescent/White/Mature cataract	4.6	4.9	5.4	4.9	5.5
Corneal pathology	3.8	3.9	4.5	5.2	8.7
Diabetic retinopathy	5.2	5.6	5.7	5.1	4.0
Glaucoma	8.0	8.3	8.2	7.3	5.9
High myopia	3.5	3.4	3.4	2.9	2.4
Inherited eye disease	0.1	0.1	0.1	0.1	0.6
No fundal view/Vitreous opacity	1.6	1.7	2.0	2.0	3.0
Optic nerve/CNS disease	0.4	0.4	0.4	0.4	0.3
Other macular pathology	2.6	2.9	3.2	3.3	3.7
Other retinal vascular pathology	1.0	1.0	1.0	1.0	0.8
Previous trabeculectomy surgery	0.4	0.4	0.4	0.3	0.3
Previous vitrectomy surgery	1.7	1.8	1.8	1.7	1.6
Pseudoexfoliation/Phacodonesis	0.9	1.0	0.9	0.8	0.8
Uveitis/Synechiae	0.7	0.7	0.7	0.6	0.5
Unspecified 'other' co-pathology	8.0	9.1	9.2	8.2	5.8

Appendix 14: Participating centres percentage of eyes with VA data in each NHS year

Appendix 14 table: The percentage of eyes with preoperative and postoperative visual acuity data for participating centres in each NHS year

		Preoperative VA %					Postoperative VA %				
Centre name	Centre number	2016	2017	2018	2019	2020	2016	2017	2018	2019	2020
Moorfields Eye Hospital NHS Foundation Trust	1	72.1	73.1	72.0	76.8	70.3	69.0	71.3	71.1	75.3	71.8
The Newcastle upon Tyne Hospitals NHS Foundation Trust	2	97.0	95.3	92.9	87.7	36.8	85.1	85.0	81.7	80.6	44.0
Norfolk and Norwich University Hospitals NHS Foundation Trust	3	95.5	95.7	94.1	94.2	77.2	15.4	14.6	14.8	11.8	17.2
Leeds Teaching Hospitals NHS Trust	4	99.0	97.5	97.7	98.6	83.1	84.8	90.6	88.3	84.8	78.9
York and Scarborough Teaching Hospitals NHS Foundation Trust	5	86.4	84.8	70.6	54.0	36.3	82.9	77.7	79.5	80.1	32.9
Oxford University Hospitals NHS Foundation Trust	6	93.4	88.7	90.6	79.4	62.8	68.9	42.7	30.7	28.2	39.3
University Hospitals Bristol and Weston NHS Foundation Trust	7	98.7	98.3	97.8	98.8	62.4	88.4	88.1	89.3	84.3	64.2
Gloucestershire Hospitals NHS Foundation Trust	8	94.1	93.0	80.3	78.1	59.1	90.5	82.7	77.4	79.6	75.9
Sheffield Teaching Hospitals NHS Foundation Trust	9	97.0	97.7	98.6	99.4		97.0	97.0	96.8	93.1	
Sandwell and West Birmingham Hospitals NHS Trust	10	91.7	93.7	96.1	97.5	80.2	89.9	93.7	93.4	92.9	89.7
University Hospital Southampton NHS Foundation Trust	11	95.0	94.9	97.7	97.1	84.9	87.9	93.5	94.6	89.9	91.6
Royal Berkshire NHS Foundation Trust	12	99.2	98.6	96.5			95.7	95.7	95.2		
Calderdale and Huddersfield NHS Foundation Trust	13	93.8	96.1	97.3			82.7	81.7	79.3		
Mid Cheshire Hospitals NHS Foundation Trust	14	94.4	92.5	94.1	95.1	85.4	75.8	69.5	78.4	85.0	71.7
The Mid Yorkshire Hospitals NHS Trust	15	93.1	98.1	99.3	98.9	77.2	81.7	80.6	84.0	85.6	78.7
Cardiff & Vale University Local Health Board	16	93.6	92.1	89.1	89.4	84.1	41.1	46.2	48.1	44.4	43.5
Epsom and St Helier University Hospitals NHS Trust	17	98.2	97.4	97.6	98.3	79.9	90.3	90.7	92.3	90.1	61.8
Barts Health NHS Trust	18	89.0	88.9	90.9	91.2	61.9	81.4	83.8	87.4	87.3	68.4
Frimley Health NHS Foundation Trust	19	98.2	95.1	98.5	98.4	91.4	50.4	54.8	69.6	79.1	57.7
Bradford Teaching Hospitals NHS Foundation Trust	20	83.9	91.2	93.7	89.9	49.8	36.8	56.2	72.2	84.8	51.2
University Hospitals Plymouth NHS Trust	22	99.3	98.9	99.3	98.3	68.4	91.8	92.1	90.0	87.0	71.6
University Hospitals Birmingham NHS Foundation Trust	23	97.8	97.8	97.0	96.7	71.9	96.7	96.6	97.3	95.5	83.6

Appendix 14 table continued: The percentage of eyes with preoperative and postoperative visual acuity data for participating centres in each NHS year

		Preoperative VA %					Postoperative VA %				
Centre name	Centre number	2016	2017	2018	2019	2020	2016	2017	2018	2019	2020
Hampshire Hospitals NHS Foundation Trust	24	96.6	95.4	95.0	85.6	72.2	74.8	73.3	74.5	77.6	44.0
Royal Cornwall Hospitals NHS Trust	25	98.4	95.8	86.8	95.6	80.8	80.6	85.7	86.1	68.8	57.6
Manchester University NHS Foundation Trust	26	98.1	97.2	98.4	96.4	84.3	92.3	92.8	88.4	82.5	28.9
King's College Hospital NHS Foundation Trust	27	97.0	95.9	97.0	97.2	89.2	85.7	91.4	93.5	92.4	86.8
The Shrewsbury and Telford Hospital NHS Trust	28	92.7	83.4	89.7	87.6	67.0	76.0	79.6	84.7	86.0	60.1
The Hillingdon Hospitals NHS Foundation Trust	30	99.1	97.4	97.0	96.8	76.3	84.1	83.4	85.8	88.1	40.9
Liverpool University Hospitals NHS Foundation Trust	31	93.0	91.4	91.1	90.4	39.2	74.4	84.6	72.0	81.3	79.8
Royal United Hospitals Bath NHS Foundation Trust	32	91.3	89.4	88.9	92.3	72.1	60.5	64.0	61.3	63.3	45.7
Chesterfield Royal Hospital NHS Foundation Trust	33	94.2	95.4	97.1	97.2	59.7	96.0	96.5	95.2	95.7	96.7
Mid and South Essex NHS Foundation Trust	34	81.6	79.1	67.7	60.4	36.4	61.9	72.7	9.5	6.6	7.0
Harrogate and District NHS Foundation Trust	35	96.8	97.5	96.2	96.6	79.7	87.0	85.3	86.9	88.9	17.0
North West Anglia NHS Foundation Trust	36	96.6	97.5	97.5	96.8	82.9	85.3	86.4	87.9	80.8	69.7
Northern Devon Healthcare NHS Trust	37	99.6	98.8	97.1	97.5	96.6	92.6	90.0	89.3	89.3	80.5
Wirral University Teaching Hospital NHS Foundation Trust	39	79.0	73.5	81.1	87.2	74.0	72.1	79.6	81.4	73.0	86.4
South Warwickshire NHS Foundation Trust	40	98.0	97.7	98.4	97.9	85.3	75.1	80.1	77.9	70.4	70.6
Isle of Wight NHS Trust	41	87.1	90.8	92.6	84.8	68.0	83.6	86.6	73.9	81.6	85.8
St Helens and Knowsley Teaching Hospitals NHS Trust	42	96.0	97.8	97.9	90.0	79.6	69.6	68.1	60.9	72.6	53.7
Wrightington, Wigan and Leigh NHS Foundation Trust	43	99.2	99.0	98.9	97.5	78.7	92.8	94.2	92.6	92.7	90.5
Warrington and Halton Teaching Hospitals NHS Foundation Trust	44	96.4	95.6	95.1	94.1	37.3	14.4	63.8	82.7	84.8	96.4
South Tees Hospitals NHS Foundation Trust	45	98.6	96.4	94.9	38.7	30.3	64.3	55.7	59.4	62.3	37.7
University Hospitals Dorset NHS Foundation Trust	46	98.4	95.4	89.4	83.5	82.0	78.8	67.4	68.3	72.2	60.5
Barking, Havering and Redbridge University Hospitals NHS Trust	47	83.3	88.2	88.6	88.9	92.9	44.4	56.4	62.9	58.5	47.0
Royal Free London NHS Foundation Trust	48	95.2	95.9	92.5	93.1	42.3	50.8	19.8	32.2	58.2	55.9
University Hospitals Coventry and Warwickshire NHS Trust	49	89.8	96.6	95.0	91.7	59.5	64.4	94.8	93.1	96.3	89.2

Appendix 14 table continued: The percentage of eyes with preoperative and postoperative visual acuity data for participating centres in each NHS year

		Preoperative VA %					Postoperative VA %				
Centre name	Centre number	2016	2017	2018	2019	2020	2016	2017	2018	2019	2020
Barnsley Hospital NHS Foundation Trust	50	81.2	24.7	19.3	3.4		22.1	4.7	41.3	98.9	
Salisbury NHS Foundation Trust	51	99.2	98.7	99.3	97.4	37.6	95.3	98.1	98.2	95.6	76.6
London North West University Healthcare NHS Trust	52	75.5	79.3	67.1			71.3	73.5	59.3		
Blackpool Teaching Hospitals NHS Foundation Trust	53	**					**				
University Hospitals of Morecambe Bay NHS Foundation Trust	54	89.0					16.7				
Nottingham University Hospitals NHS Trust	55	93.2	88.2	86.2	88.0	48.9	93.4	83.8	89.6	90.1	89.4
Yeovil District Hospital NHS Foundation Trust	56	99.0	99.9	99.9	100.0	98.7	67.2	96.8	99.1	96.1	91.8
SpaMedica – Manchester	57	99.9	99.9	99.7	99.6	95.7	93.4	90.3	85.7	88.7	80.3
SpaMedica – Wakefield	58	99.9	99.9	99.9	99.6	98.0	91.2	89.7	87.1	87.2	79.6
East Sussex Healthcare NHS Trust	59	91.2	90.2	84.8	86.1	71.8	62.7	81.6	79.5	81.6	73.8
Imperial College Healthcare NHS Trust	60	92.2	93.9	94.0	96.6	78.0	87.5	94.7	94.0	92.9	77.1
Portsmouth Hospitals University NHS Trust	61	93.0	95.4	96.6	97.1	93.2	93.4	93.9	93.2	93.8	91.3
Cambridge University Hospitals NHS Foundation Trust	63	71.7	83.5	91.9	91.5	70.4	79.1	74.9	79.7	82.8	75.9
East Kent Hospitals University NHS Foundation Trust	64	77.9	86.3	88.7	93.6	38.3	30.0	51.8	59.0	60.9	50.3
East Suffolk and North Essex NHS Foundation Trust	65	85.8	96.1	93.6	96.1	72.8	14.4	20.3	40.2	46.6	62.4
SpaMedica – Birkenhead	66	99.8	100.0	99.8	99.9	96.0	93.5	93.5	90.9	92.1	87.8
County Durham and Darlington NHS Foundation Trust	67	98.0	94.2	84.5	92.4	42.8	97.5	97.4	97.1	98.6	48.6
United Lincolnshire Hospitals NHS Trust	68	93.3	94.5	96.6	95.8	51.9	63.5	57.5	54.8	57.4	36.2
SpaMedica – Newton-le-Willows	69	99.9	99.9	99.9	99.8		93.4	88.3	87.8	93.8	
Northampton General Hospital NHS Trust	70	68.5	74.1	66.3	69.7	27.6	13.1	20.9	20.0	16.0	8.1
SpaMedica – Liverpool	71	100.0	100.0	99.9	99.4	96.4	93.3	86.0	86.2	87.0	85.9
James Paget University Hospitals NHS Foundation Trust	72	85.2	87.9	88.1	87.7	68.8	16.6	73.2	74.3	77.1	79.5
Bolton NHS Foundation Trust	73	94.7	98.8	99.1	98.6	95.8	*	87.5	86.5	93.4	86.1
Kingston Hospital NHS Foundation Trust	74	46.7	40.8	12.5	4.3	5.4	*	7.7	1.7	0.1	0.1

Appendix 14 table continued: The percentage of eyes with preoperative and postoperative visual acuity data for participating centres in each NHS year

		Preoperative VA %					Postoperative VA %				
Centre name	Centre number	2016	2017	2018	2019	2020	2016	2017	2018	2019	2020
Northern Lincolnshire and Goole NHS Foundation Trust	75	77.4	77.2	73.9			95.3	95.4	96.6		
The Rotherham NHS Foundation Trust	76	99.4	95.0	96.0			14.9	24.8	35.4		
Torbay and South Devon NHS Foundation Trust	77	**	97.3	88.9	83.0	71.2	**	50.4	53.7	67.5	48.9
Great Western Hospitals NHS Foundation Trust	78	95.8	95.5	91.8	96.4	92.3	91.9	82.1	84.3	89.4	87.6
SpaMedica – Bolton	79		100.0	99.9	99.7	97.2		92.4	89.6	89.7	88.4
The Princess Alexandra Hospital NHS Trust	80	100.0	98.1	96.3			65.2	88.7	83.3		
Wye Valley NHS Trust	81	54.2	71.0				*	76.6			
Cwm Taf Morgannwg University Local Health Board	82	**	72.8	86.2	88.9	51.1	**	78.5	81.4	74.9	52.3
Sherwood Forest Hospitals NHS Foundation Trust	83	13.2	54.4	73.0	74.0	61.0	*	6.6	54.0	64.6	48.3
Royal Surrey County Hospital NHS Foundation Trust	84	98.9	98.2	97.9	97.6	**	96.2	92.2	96.2	98.0	**
East Lancashire Hospitals NHS Trust	85		2.7					0.0			
Southport and Ormskirk Hospital NHS Trust	86		36.3	90.3	96.9	97.7		59.5	88.0	86.5	71.2
Stockport NHS Foundation Trust	87		10.8	**				0.0	**		
Practice Plus Group Hospital, Shepton Mallet	88	98.5	99.1	99.1	99.4	65.0	94.7	96.9	95.0	97.1	96.2
Practice Plus Group Surgical Centre, St. Mary's Portsmouth	89	97.9	99.7	99.7	99.8	63.5	23.0	64.9	97.2	77.2	29.9
Practice Plus Group Hospital, Emersons Green	90	99.6	99.8	99.6	99.6	82.3	53.1	57.1	65.1	49.7	70.8
Practice Plus Group Surgical Centre, Gillingham	91	99.8	99.5	99.4	96.4	70.5	98.7	97.6	98.9	60.1	65.3
SpaMedica – Sheffield	92		100.0	99.9	99.7	94.8		93.1	88.6	89.0	72.5
Practice Plus Group Hospital, Plymouth	93	99.2	97.0	92.0	97.1	35.5	97.3	98.2	92.8	53.8	16.8
North Cumbria Integrated Care NHS Foundation Trust	94		98.6	95.7	93.4			17.3	11.3	8.1	
Practice Plus Group Ophthalmology, Rochdale	95	98.7	99.1	98.4	99.6	97.8	98.4	89.0	68.0	69.8	86.3
Practice Plus Group Hospital, Ilford	97	92.4	84.1	96.1	97.3	65.7	92.0	93.9	97.4	95.7	21.7
North Middlesex University Hospital NHS Trust	98		70.6	85.8	97.3	53.1		82.3	93.3	98.3	92.7
University Hospitals Sussex NHS Foundation Trust	99		**	94.0	74.2	61.7		**	3.8	16.8	3.4

Appendix 14 table continued: The percentage of eyes with preoperative and postoperative visual acuity data for participating centres in each NHS year

		Preoperative VA %					Postoperative VA %				
Centre name	Centre number	2016	2017	2018	2019	2020	2016	2017	2018	2019	2020
Practice Plus Group Surgical Centre, Devizes	100	99.4	99.6	100.0	100.0	88.2	98.9	99.2	99.8	83.4	97.4
Surrey and Sussex Healthcare NHS Trust	101		67.5	68.8	78.8	94.5		5.3	2.8	3.4	45.5
Aneurin Bevan University Local Health Board	102		94.5	96.2	94.9	97.9		*	42.1	85.1	96.8
Practice Plus Group Hospital, Southampton	103	100.0	99.7	52.6	42.3	26.4	98.1	97.5	50.7	41.9	35.1
SpaMedica – Birmingham	104			99.9	99.5	96.7			93.1	90.9	83.9
St. Stephens Gate Medical Practice	105		99.4	99.6	100.0	92.2		98.6	37.2	31.7	36.6
The Dudley Group NHS Foundation Trust	106		**	46.1	51.0	43.1		**	75.1	67.0	74.9
Swansea Bay University Local Health Board	107		70.7	96.4				*	44.6		
East Cheshire NHS Trust	108		**	64.6	93.8	69.0		**	59.7	40.5	55.4
Guy's and St Thomas' NHS Foundation Trust	110			68.8	85.8	89.0			63.5	86.6	94.3
Buckinghamshire Healthcare NHS Trust	111			1.9	24.2	31.8			*	10.9	8.6
SpaMedica – Bradford	112			100.0	99.7	96.6			90.3	85.1	74.5
SpaMedica – West Lancashire	113			100.0	99.1	92.6			87.5	87.6	90.0
Somerset NHS Foundation Trust	114				51.9	41.6				44.8	73.2
Medical specialists group Guernsey	115	98.2	99.0	97.8	97.9	80.1	98.8	98.2	98.4	98.8	69.7
Hywel Dda University Local Health Board	116		**	10.2	3.4	23.2		**	4.7	25.8	*
George Eliot Hospital NHS Trust	117			97.5	77.3	29.7			*	97.5	95.8
SpaMedica – Newcastle Under Lyme	118				99.6	96.2				91.7	90.0
SpaMedica – Widnes	119				99.8	97.4				89.4	82.1
Kettering General Hospital NHS Foundation Trust	120	**	**	1.9	21.6	30.2	**	**	*	4.7	7.7
SpaMedica – Chelmsford	121				99.8	97.6				94.8	78.9
Community Health and Eyecare Ltd (Face and Eye)	123				91.4	**				0.0	**
Newmedica Community Ophthalmology (Teesside)	124				0.0	0.0				0.0	0.0
SpaMedica – Preston	125					94.4					86.7

Appendix 14 table continued: The percentage of eyes with preoperative and postoperative visual acuity data for participating centres in each NHS year

		Preoperative VA %					Postoperative VA %				
Centre name	Centre number	2016	2017	2018	2019	2020	2016	2017	2018	2019	2020
Newmedica Community Ophthalmology (Gloucester – Aspen)	126				0.0	20.4				0.0	6.1
SpaMedica – Wolverhampton	127				99.7	97.6				92.7	87.8
Community Health and Eyecare Ltd (Blackpool)	128					97.6					55.2
Community Health and Eyecare Ltd (Watford)	129				89.6	80.7				66.1	40.8
SpaMedica – Hull	130				99.7	96.6				90.6	87.5
Optegra Eye Health Care (Manchester Eye Hospital)	131	86.4	85.5	85.5	88.2	96.8	85.6	86.5	85.9	87.2	70.1
Newmedica Community Ophthalmology (Grimsby)	132				0.0	6.6				0.0	2.2
Newmedica Community Ophthalmology (Bristol)	133				0.0	26.8				0.0	7.6
Optegra Eye Health Care (Yorkshire Eye Hospital)	134	95.6	95.8	94.1	94.2	90.1	81.2	88.6	91.1	94.5	59.8
Worcestershire Acute Hospitals NHS Trust	135					51.7					30.6
Community Health and Eyecare Ltd (Stoke)	136				95.5	90.3				1.1	9.1
SpaMedica – Bedford	137				99.7	95.2				95.7	82.1
Newmedica Community Ophthalmology (Leeds)	138				0.0	6.9				0.0	0.6
Optegra Eye Health Care (Surrey Eye Hospital)	139	99.0	97.9	90.7	85.0	92.7	52.9	55.1	57.9	57.2	71.8
SpaMedica – Coventry	140					98.8					86.8
Optegra Eye Health Care (Hampshire Eye Hospital)	141	98.6	99.1	99.3	99.1	98.9	87.8	82.6	94.4	96.3	78.4
Optegra Eye Health Care (North London Eye Hospital)	142	98.3	99.0	98.4	96.5	86.0	78.1	92.5	95.4	96.5	73.9
Optegra Eye Health Care (Birmingham Eye Hospital)	143	98.1	91.3	44.1	53.4	90.0	96.7	96.4	95.8	91.1	62.4
Newmedica Community Ophthalmology (Ipswich)	144					0.0					0.0
Newmedica Community Ophthalmology (Barlborough)	145				0.0	52.0				0.0	51.6
Newmedica Community Ophthalmology (Exeter)	146					28.0					12.6
SpaMedica – Derby	147					99.4					84.1
Exeter Eye	148		**	73.9	93.6	87.1		**	93.2	73.1	73.6
SpaMedica – Bromley	149					99.4					80.0

Appendix 14 table continued: The percentage of eyes with preoperative and postoperative visual acuity data for participating centres in each NHS year

		Preoperative VA %					Postoperative VA %				
Centre name	Centre number	2016	2017	2018	2019	2020	2016	2017	2018	2019	2020
SpaMedica – Wokingham	150					99.7					90.7
SpaMedica – Stockton-on-Tees	151					100.0					90.5
Tetbury Hospital	152					63.3					94.4
Newmedica Community Ophthalmology (Brigg)	153					42.2					*
West Suffolk NHS Foundation Trust	154			**	80.3	83.3			**	73.1	69.6
Northern Care Alliance NHS Foundation Trust	155					43.9					*
Newmedica Community Ophthalmology (Frome)	156					65.6					*
Community Health and Eyecare Ltd (Preston)	157					98.4					*
The Stoneygate Eye Hospital	158				100.0	95.6				*	98.2
Newmedica Community Ophthalmology (Wakefield)	159					0.0					*
Optegra Eye Health Care (Central London Eye Hospital)	160	99.0	98.2	93.8	83.5	**	39.3	49.6	48.1	58.1	**
Overall for all centres	**N/A**	**92.5**	**91.6**	**89.9**	**85.6**	**71.0**	**76.4**	**76.8**	**75.7**	**72.6**	**59.8**

*No estimate is produced for centres with <50 eligible operations in the postoperative qualifying time period. **These centres supplied data for <50 eligible operations in the relevant audit year.

Appendix 15: Participating centres case complexity adjusted PCR and VA Loss for each NHS year

Appendix 15 table: Case complexity adjusted PCR and VA Loss rates for participating centres in each NHS year

		Posterior Capsule Rupture %					Postoperative Visual Acuity Loss %				
Centre name	Centre number	2016	2017	2018	2019	2020	2016	2017	2018	2019	2020
Moorfields Eye Hospital NHS Foundation Trust	1	0.87	0.91	0.75	0.78	0.80	0.55	0.56	0.43	0.47	
The Newcastle upon Tyne Hospitals NHS Foundation Trust	2	0.76	0.93	0.99	0.86	0.56	0.48	0.52	0.44	0.46	
Norfolk and Norwich University Hospitals NHS Foundation Trust	3	0.80	0.60	0.46	0.62	0.37					
Leeds Teaching Hospitals NHS Trust	4	0.80	0.66	0.58	0.57	0.83	0.61	0.39	0.32	0.53	0.87
York and Scarborough Teaching Hospitals NHS Foundation Trust	5	0.67	0.65	0.55	0.60	0.36	0.57	0.66			
Oxford University Hospitals NHS Foundation Trust	6	0.93	1.15	0.99	0.80	1.44	0.68				
University Hospitals Bristol and Weston NHS Foundation Trust	7	1.02	1.00	0.92	0.95	0.41	0.54	0.48	0.58	0.84	
Gloucestershire Hospitals NHS Foundation Trust	8	0.81	0.80	0.70	0.92	0.92	0.41	0.39	0.57	0.26	
Sheffield Teaching Hospitals NHS Foundation Trust	9	0.86	0.80	0.73	0.61		0.71	0.72	0.71	0.80	
Sandwell and West Birmingham Hospitals NHS Trust	10	1.15	1.21	1.17	1.12	1.69	0.87	0.62	0.41	0.76	0.88
University Hospital Southampton NHS Foundation Trust	11	1.13	0.97	0.90	0.87	0.68	0.69	0.43	0.51	0.33	0.51
Royal Berkshire NHS Foundation Trust	12	0.75	0.88	0.70			0.29	0.25	0.83		
Calderdale and Huddersfield NHS Foundation Trust	13	1.11	0.71	0.60			0.64	0.56	0.72		
Mid Cheshire Hospitals NHS Foundation Trust	14	1.00	0.83	0.67	0.83	1.16	0.46	1.02	0.48	0.25	0.78
The Mid Yorkshire Hospitals NHS Trust	15	0.61	0.57	0.71	0.50	0.73	0.59	0.39	0.47	0.26	
Cardiff & Vale University Local Health Board	16	1.16	1.15	1.04	1.06	1.09					
Epsom and St Helier University Hospitals NHS Trust	17	0.74	1.00	1.00	0.86	0.96	0.31	0.26	0.31	0.42	
Barts Health NHS Trust	18	1.48	0.95	0.81	0.63	1.22	0.61	0.38	0.64	1.01	
Frimley Health NHS Foundation Trust	19	1.03	0.85	0.91	0.64	0.76			0.98	0.79	
Bradford Teaching Hospitals NHS Foundation Trust	20	1.36	0.93	0.84	1.21	1.08			0.68	0.67	
University Hospitals Plymouth NHS Trust	22	0.59	0.40	0.41	0.39	0.51	0.77	0.35	0.38	0.13	
University Hospitals Birmingham NHS Foundation Trust	23	1.34	0.84	0.87	0.60	0.85	0.56	0.63	0.53	0.52	

Appendix 15 table continued: Case complexity adjusted PCR and VA Loss rates for participating centres in each NHS year

		Posterior Capsule Rupture %					Postoperative Visual Acuity Loss %				
Centre name	Centre number	2016	2017	2018	2019	2020	2016	2017	2018	2019	2020
Hampshire Hospitals NHS Foundation Trust	24	0.75	0.61	0.64	0.85	0.43	0.16	0.46	0.36	0.38	
Royal Cornwall Hospitals NHS Trust	25	0.67	0.80	0.65	0.53	0.43	0.71	0.34	0.56	0.37	
Manchester University NHS Foundation Trust	26	0.73	0.96	1.01	0.91	0.95	0.99	0.28	0.40	0.49	
King's College Hospital NHS Foundation Trust	27	0.90	1.06	0.92	0.98	0.97	0.70	0.72	0.65	0.55	0.40
The Shrewsbury and Telford Hospital NHS Trust	28	1.21	0.82	0.81	0.71	1.02	0.52	0.59	0.94	1.03	
The Hillingdon Hospitals NHS Foundation Trust	30	0.68	1.08	0.85	0.86	0.51	1.38	0.61	0.44	0.94	
Liverpool University Hospitals NHS Foundation Trust	31	1.38	1.63	1.02	0.89	1.71	0.59	0.87	0.71	0.96	
Royal United Hospitals Bath NHS Foundation Trust	32	0.61	0.67	0.58	0.66	0.88					
Chesterfield Royal Hospital NHS Foundation Trust	33	1.48	1.54	1.19	1.77	0.69	0.28	0.21	0.83	0.58	
Mid and South Essex NHS Foundation Trust	34	1.95	1.42	0.90	0.77	0.95					
Harrogate and District NHS Foundation Trust	35	0.28	0.32	0.39	0.50	0.00	0.84	0.99	0.47	0.64	
North West Anglia NHS Foundation Trust	36	0.94	0.86	0.65	0.94	0.78	0.46	0.32	0.29	0.26	
Northern Devon Healthcare NHS Trust	37	1.03	0.83	0.35	0.28	0.50	0.71	0.41	0.32	0.61	0.62
Wirral University Teaching Hospital NHS Foundation Trust	39	0.93	0.65	0.38	0.40	0.54			1.46	0.88	1.28
South Warwickshire NHS Foundation Trust	40	0.60	0.47	0.68	0.65	0.61	0.20	0.49	0.23	0.28	
Isle of Wight NHS Trust	41	0.72	0.41	0.60	0.91	0.85	0.85	0.51	2.32	1.14	
St Helens and Knowsley Teaching Hospitals NHS Trust	42	1.23	1.04	0.73	1.29	0.86	1.33	1.46	0.90	1.67	
Wrightington, Wigan and Leigh NHS Foundation Trust	43	0.82	0.96	0.49	1.06	0.66	0.60	0.26	1.28	1.36	2.01
Warrington and Halton Teaching Hospitals NHS Foundation Trust	44	0.72	0.58	0.37	0.42	0.83		1.04	0.52	0.71	
South Tees Hospitals NHS Foundation Trust	45	0.77	0.57	0.82	1.26	1.79	0.76				
University Hospitals Dorset NHS Foundation Trust	46	0.81	0.65	0.55	0.63	0.53	1.17	1.00	0.81	0.55	
Barking, Havering and Redbridge University Hospitals NHS Trust	47	0.62	1.01	0.85	0.54	1.15					
Royal Free London NHS Foundation Trust	48	1.01	0.61	1.20	1.04	1.24					
University Hospitals Coventry and Warwickshire NHS Trust	49	0.67	0.53	0.64	0.70	0.63		0.33	0.42	0.29	

Appendix 15 table continued: Case complexity adjusted PCR and VA Loss rates for participating centres in each NHS year

		Posterior Capsule Rupture %					Postoperative Visual Acuity Loss %				
Centre name	Centre number	2016	2017	2018	2019	2020	2016	2017	2018	2019	2020
Barnsley Hospital NHS Foundation Trust	50	0.06	0.56	0.00	0.00						
Salisbury NHS Foundation Trust	51	1.68	1.11	0.88	0.42	1.03	0.23	0.09	0.15	0.07	
London North West University Healthcare NHS Trust	52	1.20	0.78	1.37							
Blackpool Teaching Hospitals NHS Foundation Trust	53	*					*				
University Hospitals of Morecambe Bay NHS Foundation Trust	54	0.92									
Nottingham University Hospitals NHS Trust	55	0.60	0.71	0.69	0.66	0.83	0.62	0.80	0.56	0.30	
Yeovil District Hospital NHS Foundation Trust	56	0.61	1.51	1.21	0.54	0.96	1.26	0.45	0.19	0.24	0.57
SpaMedica – Manchester	57	0.72	0.41	0.42	0.51	0.46	0.44	0.13	0.27	0.19	0.33
SpaMedica – Wakefield	58	0.51	0.38	0.44	0.63	0.50	0.31	0.16	0.36	0.28	0.26
East Sussex Healthcare NHS Trust	59	1.05	1.20	0.61	0.64	0.90		0.42	0.42	0.29	
Imperial College Healthcare NHS Trust	60	1.19	1.41	1.14	1.07	1.29	0.70	0.64	0.70	0.65	0.86
Portsmouth Hospitals University NHS Trust	61	0.88	0.84	0.89	0.63	0.83	0.58	0.55	0.71	0.78	0.83
Cambridge University Hospitals NHS Foundation Trust	63	0.87	0.84	0.48	0.55	0.25		2.01	1.39	0.37	
East Kent Hospitals University NHS Foundation Trust	64	0.62	0.74	0.81	0.62	0.37					
East Suffolk and North Essex NHS Foundation Trust	65	0.94	0.73	0.97	0.89	0.77					
SpaMedica – Birkenhead	66	0.27	0.28	0.21	0.19	0.28	0.18	0.21	0.24	0.12	0.00
County Durham and Darlington NHS Foundation Trust	67	1.22	0.94	1.09	0.55	1.23	0.38	0.53	0.32	0.35	
United Lincolnshire Hospitals NHS Trust	68	1.58	0.94	0.59	0.84	0.66					
SpaMedica – Newton-le-Willows	69	0.34	0.35	0.13	0.21		0.12	0.28	0.13	0.00	
Northampton General Hospital NHS Trust	70	0.22	0.77	0.77	1.03	1.08					
SpaMedica – Liverpool	71	0.26	0.34	0.43	0.37	0.14	0.00	0.12	0.10	0.00	0.00
James Paget University Hospitals NHS Foundation Trust	72	1.68	0.93	0.90	0.59	0.51		0.25	0.19	0.09	
Bolton NHS Foundation Trust	73	0.25	0.65	0.84	0.73	0.85		1.04	1.25	0.38	0.66
Kingston Hospital NHS Foundation Trust	74	0.31	0.82	1.35	1.21	0.93					

Appendix 15 table continued: Case complexity adjusted PCR and VA Loss rates for participating centres in each NHS year

		Posterior Capsule Rupture %					Postoperative Visual Acuity Loss %				
Centre name	Centre number	2016	2017	2018	2019	2020	2016	2017	2018	2019	2020
Northern Lincolnshire and Goole NHS Foundation Trust	75	1.30	1.30	0.98			2.93	2.06	1.75		
The Rotherham NHS Foundation Trust	76	0.19	0.10	0.56							
Torbay and South Devon NHS Foundation Trust	77	*	0.92	1.06	0.68	0.70	*				
Great Western Hospitals NHS Foundation Trust	78	0.00	0.75	0.72	0.83	0.68	0.49	0.45	0.52	0.25	0.51
SpaMedica – Bolton	79		0.48	0.29	0.39	0.27		0.47	0.16	0.21	0.31
The Princess Alexandra Hospital NHS Trust	80	0.00	1.64	0.57				0.59	1.45		
Wye Valley NHS Trust	81	0.00	0.91								
Cwm Taf Morgannwg University Local Health Board	82	*	0.76	0.69	0.71	1.87	*		1.31	0.66	
Sherwood Forest Hospitals NHS Foundation Trust	83	0.00	0.19	0.55	0.46	0.52					
Royal Surrey County Hospital NHS Foundation Trust	84	0.00	0.00	0.00	0.00	*	2.78	0.00	2.43	0.00	*
East Lancashire Hospitals NHS Trust	85		0.00								
Southport and Ormskirk Hospital NHS Trust	86		0.40	0.38	0.28	0.29			1.19	1.69	1.81
Stockport NHS Foundation Trust	87		1.34	*					*		
Practice Plus Group Hospital, Shepton Mallet	88	0.16	0.23	0.27	1.08	0.51	0.07	0.19	0.21	0.57	
Practice Plus Group Surgical Centre, St. Mary's Portsmouth	89	0.91	0.75	0.76	0.53	0.56		0.28	0.18	0.31	
Practice Plus Group Hospital, Emersons Green	90	0.30	0.36	0.27	0.35	0.14			0.44		
Practice Plus Group Surgical Centre, Gillingham	91	0.66	0.81	0.61	0.53	0.47	0.62	0.47	0.63		
SpaMedica – Sheffield	92		0.94	0.70	0.44	0.36		0.51	0.31	0.51	0.13
Practice Plus Group Hospital, Plymouth	93	0.22	0.13	0.45	0.18	0.52	0.14	0.11	1.54		
North Cumbria Integrated Care NHS Foundation Trust	94		0.42	1.00	1.83						
Practice Plus Group Ophthalmology, Rochdale	95	0.98	0.91	0.24	1.09	0.55	0.51	1.25	1.12	0.90	0.65
Practice Plus Group Hospital, Ilford	97	0.30	0.28	0.32	0.41	0.86	0.00	1.39	0.00	0.24	
North Middlesex University Hospital NHS Trust	98		0.36	1.02	0.91	1.22			0.49	0.19	
University Hospitals Sussex NHS Foundation Trust	99		*	0.43	0.70	1.08		*			

Appendix 15 table continued: Case complexity adjusted PCR and VA Loss rates for participating centres in each NHS year

		Posterior Capsule Rupture %					Postoperative Visual Acuity Loss %				
Centre name	Centre number	2016	2017	2018	2019	2020	2016	2017	2018	2019	2020
Practice Plus Group Surgical Centre, Devizes	100	0.00	0.00	0.39	0.00	0.00	0.32	0.80	0.36	0.38	0.00
Surrey and Sussex Healthcare NHS Trust	101		1.68	1.63	2.95	1.83					
Aneurin Bevan University Local Health Board	102		0.00	0.23	1.16	0.63				0.95	1.50
Practice Plus Group Hospital, Southampton	103	0.00	0.62	1.35	0.52	0.48	0.00	0.00			
SpaMedica – Birmingham	104			0.33	0.36	0.32			0.15	0.14	0.16
St. Stephens Gate Medical Practice	105		0.00	0.36	0.45	0.65		0.00			
The Dudley Group NHS Foundation Trust	106		*	0.95	0.96	2.45		*			
Swansea Bay University Local Health Board	107		0.00	1.92							
East Cheshire NHS Trust	108		*	0.83	0.50	0.46		*			
Guy's and St Thomas' NHS Foundation Trust	110			0.57	0.58	0.53				0.65	0.31
Buckinghamshire Healthcare NHS Trust	111			0.85	0.94	0.51					
SpaMedica – Bradford	112			0.58	0.45	0.65			0.71	0.34	0.43
SpaMedica – West Lancashire	113			0.00	0.39	0.24			0.37	0.36	0.24
Somerset NHS Foundation Trust	114				0.64	0.62					
Medical specialists group Guernsey	115	1.08	0.96	0.31	1.15	1.40	0.66	0.41	0.21	0.17	
Hywel Dda University Local Health Board	116		*	0.90	1.27	0.00		*			
George Eliot Hospital NHS Trust	117			1.04	0.77	0.96				0.16	
SpaMedica – Newcastle Under Lyme	118				0.51	0.36				0.47	0.10
SpaMedica – Widnes	119				0.39	0.68				0.23	0.14
Kettering General Hospital NHS Foundation Trust	120	*	*	0.00	0.55	0.55	*	*			
SpaMedica – Chelmsford	121				0.81	0.54				0.00	0.28
Community Health and Eyecare Ltd (Face and Eye)	123				0.00	*					*
Newmedica Community Ophthalmology (Teesside)	124				0.08	0.46					
SpaMedica – Preston	125					0.31					0.13

Appendix 15 table continued: Case complexity adjusted PCR and VA Loss rates for participating centres in each NHS year

		Posterior Capsule Rupture %					Postoperative Visual Acuity Loss %				
Centre name	Centre number	2016	2017	2018	2019	2020	2016	2017	2018	2019	2020
Newmedica Community Ophthalmology (Gloucester – Aspen)	126				0.14	0.37					
SpaMedica – Wolverhampton	127				0.00	0.17				0.00	0.18
Community Health and Eyecare Ltd (Blackpool)	128					0.40					
Community Health and Eyecare Ltd (Watford)	129				0.54	0.51					
SpaMedica – Hull	130				0.86	0.43				0.69	0.54
Optegra Eye Health Care (Manchester Eye Hospital)	131	0.83	0.84	0.68	0.56	0.35	0.32	0.61	0.37	0.75	0.10
Newmedica Community Ophthalmology (Grimsby)	132				0.49	0.00					
Newmedica Community Ophthalmology (Bristol)	133				0.32	0.42					
Optegra Eye Health Care (Yorkshire Eye Hospital)	134	0.44	0.62	0.41	0.23	0.42	0.10	0.69	0.17	0.18	
Worcestershire Acute Hospitals NHS Trust	135					0.32					
Community Health and Eyecare Ltd (Stoke)	136				0.27	0.63					
SpaMedica – Bedford	137				0.00	0.51				0.00	0.36
Newmedica Community Ophthalmology (Leeds)	138				0.32	0.25					
Optegra Eye Health Care (Surrey Eye Hospital)	139	0.46	0.41	0.85	0.52	0.26					0.58
SpaMedica – Coventry	140					0.40					0.29
Optegra Eye Health Care (Hampshire Eye Hospital)	141	0.30	0.55	0.63	0.51	0.68	0.00	0.11	0.00	0.19	0.35
Optegra Eye Health Care (North London Eye Hospital)	142	1.54	0.79	0.49	0.57	0.28	0.43	0.15	0.00	0.00	
Optegra Eye Health Care (Birmingham Eye Hospital)	143	0.43	0.47	0.62	0.86	0.52	0.25	0.16			
Newmedica Community Ophthalmology (Ipswich)	144					0.11					
Newmedica Community Ophthalmology (Barlborough)	145				0.31	0.31					
Newmedica Community Ophthalmology (Exeter)	146					0.27					
SpaMedica – Derby	147					0.13					0.00
Exeter Eye	148		*	0.00	0.13	0.72		*		0.00	0.00
SpaMedica – Bromley	149					0.88					1.15

Appendix 15 table continued: Case complexity adjusted PCR and VA Loss rates for participating centres in each NHS year

		Posterior Capsule Rupture %					Postoperative Visual Acuity Loss %				
Centre name	Centre number	2016	2017	2018	2019	2020	2016	2017	2018	2019	2020
SpaMedica – Wokingham	150					0.94					0.96
SpaMedica – Stockton-on-Tees	151					0.36					1.47
Tetbury Hospital	152					0.70					
Newmedica Community Ophthalmology (Brigg)	153					0.42					
West Suffolk NHS Foundation Trust	154			*	0.29	0.78			*	0.81	
Northern Care Alliance NHS Foundation Trust	155					0.93					
Newmedica Community Ophthalmology (Frome)	156					0.77					
Community Health and Eyecare Ltd (Preston)	157					1.83					
The Stoneygate Eye Hospital	158				0.00	0.00					3.46
Newmedica Community Ophthalmology (Wakefield)	159					0.00					
Optegra Eye Health Care (Central London Eye Hospital)	160	0.78	0.00	1.58	2.32	*					*
Overall for all centres	**N/A**	**0.86**	**0.82**	**0.75**	**0.71**	**0.67**	**0.54**	**0.51**	**0.52**	**0.47**	**0.36**

*These centres supplied data for <50 eligible operations in the relevant audit year.

Appendix 16: The percentage of eyes with VA data at different time intervals

Appendix 16 table: The percentage of eyes with visual acuity measurements at different time intervals for participating centres in the 2020 NHS year

		Preoperative VA					Postoperative VA				
Centre name	Centre number	Number of eligible operations	6 months %	5 months %	4 months %	3 months %	Number of eligible operations	3 months %	4 months %	5 months %	6 months %
Moorfields Eye Hospital NHS Foundation Trust	1	7,760	70.3	67.6	65.0	60.2	6,337	66.6	69.2	71.0	71.8
The Newcastle upon Tyne Hospitals NHS Foundation Trust	2	3,428	36.8	33.7	29.9	26.1	3,142	41.8	43.0	43.6	44.0
Norfolk and Norwich University Hospitals NHS Foundation Trust	3	942	77.2	73.1	70.3	68.2	891	15.5	16.5	16.9	17.2
Leeds Teaching Hospitals NHS Trust	4	688	83.1	76.0	71.9	70.3	610	76.7	77.4	78.4	78.9
York and Scarborough Teaching Hospitals NHS Foundation Trust	5	2,720	36.3	35.1	33.8	31.2	2,091	26.4	30.0	31.9	32.9
Oxford University Hospitals NHS Foundation Trust	6	2,065	62.8	57.5	53.2	48.6	1,834	35.6	37.4	38.2	39.3
University Hospitals Bristol and Weston NHS Foundation Trust	7	1,084	62.4	57.5	53.3	50.3	996	56.5	59.7	62.1	64.2
Gloucestershire Hospitals NHS Foundation Trust	8	1,214	59.1	55.0	51.0	46.3	1,003	71.1	73.4	74.6	75.9
Sandwell and West Birmingham Hospitals NHS Trust	10	966	80.2	72.3	67.9	61.4	938	87.0	88.4	88.9	89.7
University Hospital Southampton NHS Foundation Trust	11	1,458	84.9	81.0	75.0	66.0	1,207	87.9	90.1	91.1	91.6
Mid Cheshire Hospitals NHS Foundation Trust	14	984	85.4	83.1	81.3	79.7	940	68.9	71.1	71.6	71.7
The Mid Yorkshire Hospitals NHS Trust	15	942	77.2	72.4	70.5	67.7	773	74.9	76.3	77.5	78.7
Cardiff & Vale University Local Health Board	16	803	84.1	83.7	83.4	82.7	605	38.5	41.2	42.6	43.5
Epsom and St Helier University Hospitals NHS Trust	17	1,635	79.9	70.4	63.7	59.6	1,551	57.5	59.8	61.1	61.8
Barts Health NHS Trust	18	1,134	61.9	56.3	52.6	48.9	1,106	62.0	64.8	67.0	68.4
Frimley Health NHS Foundation Trust	19	1,702	91.4	90.3	88.1	86.1	1,595	49.6	54.0	56.8	57.7
Bradford Teaching Hospitals NHS Foundation Trust	20	418	49.8	43.5	41.6	39.5	402	44.3	47.3	49.3	51.2
University Hospitals Plymouth NHS Trust	22	1,569	68.4	62.7	57.1	51.9	1,282	60.4	65.1	68.6	71.6
University Hospitals Birmingham NHS Foundation Trust	23	1,378	71.9	67.2	63.3	58.1	1,113	82.1	82.9	83.3	83.6
Hampshire Hospitals NHS Foundation Trust	24	1,830	72.2	69.5	67.7	65.4	1,401	42.9	43.3	43.6	44.0
Royal Cornwall Hospitals NHS Trust	25	2,478	80.8	77.2	73.9	68.8	1,892	53.5	56.2	57.2	57.6

Appendix 16 table continued: The percentage of eyes with visual acuity measurements at different time intervals for participating centres in the 2020 NHS year

		Preoperative VA					Postoperative VA				
Centre name	Centre number	Number of eligible operations	6 months %	5 months %	4 months %	3 months %	Number of eligible operations	3 months %	4 months %	5 months %	6 months %
Manchester University NHS Foundation Trust	26	650	84.3	82.2	80.5	80.3	650	26.9	28.3	28.6	28.9
King's College Hospital NHS Foundation Trust	27	2,403	89.2	83.9	78.5	73.4	2,129	84.5	86.0	86.5	86.8
The Shrewsbury and Telford Hospital NHS Trust	28	728	67.0	63.9	62.6	60.9	537	58.1	58.1	59.4	60.1
The Hillingdon Hospitals NHS Foundation Trust	30	640	76.3	70.3	64.2	62.3	533	31.9	35.5	38.8	40.9
Liverpool University Hospitals NHS Foundation Trust	31	1,072	39.2	35.7	33.6	29.8	992	75.5	77.6	79.4	79.8
Royal United Hospitals Bath NHS Foundation Trust	32	979	72.1	67.4	60.7	54.6	814	43.2	44.0	44.6	45.7
Chesterfield Royal Hospital NHS Foundation Trust	33	509	59.7	52.5	50.5	48.5	397	96.7	96.7	96.7	96.7
Mid and South Essex NHS Foundation Trust	34	1,378	36.4	33.2	31.5	29.7	1,199	6.1	6.5	6.7	7.0
Harrogate and District NHS Foundation Trust	35	291	79.7	79.7	79.7	79.7	277	14.4	15.5	17.0	17.0
North West Anglia NHS Foundation Trust	36	625	82.9	79.4	76.8	76.0	524	67.0	68.3	69.5	69.7
Northern Devon Healthcare NHS Trust	37	942	96.6	95.6	94.1	92.8	711	76.1	79.3	79.9	80.5
Wirral University Teaching Hospital NHS Foundation Trust	39	462	74.0	69.9	67.5	64.5	426	82.6	84.7	85.2	86.4
South Warwickshire NHS Foundation Trust	40	1,004	85.3	79.3	76.2	73.8	834	56.0	66.1	69.2	70.6
Isle of Wight NHS Trust	41	1,020	68.0	63.0	58.7	52.4	865	84.9	85.3	85.4	85.8
St Helens and Knowsley Teaching Hospitals NHS Trust	42	745	79.6	77.3	75.6	73.6	674	50.3	51.5	52.4	53.7
Wrightington, Wigan and Leigh NHS Foundation Trust	43	357	78.7	72.8	72.5	71.7	326	85.6	89.6	90.2	90.5
Warrington and Halton Teaching Hospitals NHS Foundation Trust	44	458	37.3	32.8	26.9	24.2	305	96.1	96.1	96.1	96.4
South Tees Hospitals NHS Foundation Trust	45	1,249	30.3	27.5	24.3	20.7	1,116	29.3	32.8	35.6	37.7
University Hospitals Dorset NHS Foundation Trust	46	2,885	82.0	78.1	72.7	67.3	2,415	57.8	59.5	60.0	60.5
Barking, Havering and Redbridge University Hospitals NHS Trust	47	717	92.9	90.9	88.7	87.6	559	39.0	43.1	46.2	47.0
Royal Free London NHS Foundation Trust	48	1,591	42.3	38.3	34.8	32.9	1,411	46.6	50.5	53.2	55.9
University Hospitals Coventry and Warwickshire NHS Trust	49	990	59.5	56.5	52.7	48.8	916	84.4	87.9	89.0	89.2
Salisbury NHS Foundation Trust	51	455	37.6	35.2	33.6	32.1	411	75.9	76.6	76.6	76.6
Nottingham University Hospitals NHS Trust	55	1,134	48.9	39.9	31.7	24.1	970	87.7	88.8	89.1	89.4

Appendix 16 table continued: The percentage of eyes with visual acuity measurements at different time intervals for participating centres in the 2020 NHS year

		Preoperative VA					Postoperative VA				
Centre name	Centre number	Number of eligible operations	6 months %	5 months %	4 months %	3 months %	Number of eligible operations	3 months %	4 months %	5 months %	6 months %
Yeovil District Hospital NHS Foundation Trust	56	971	98.7	98.4	97.8	97.3	757	88.6	90.1	91.4	91.8
SpaMedica – Manchester	57	3,591	95.7	92.3	88.8	84.3	2,618	75.0	78.0	79.5	80.3
SpaMedica – Wakefield	58	3,310	98.0	96.1	93.2	89.4	2,490	75.4	77.8	79.0	79.6
East Sussex Healthcare NHS Trust	59	2,172	71.8	69.0	65.5	61.0	1,781	63.8	67.5	71.0	73.8
Imperial College Healthcare NHS Trust	60	1,274	78.0	71.8	66.3	62.9	1,173	74.7	75.4	76.4	77.1
Portsmouth Hospitals University NHS Trust	61	911	93.2	92.4	91.9	90.0	573	90.8	91.1	91.3	91.3
Cambridge University Hospitals NHS Foundation Trust	63	985	70.4	67.7	64.8	58.9	701	65.8	70.3	73.2	75.9
East Kent Hospitals University NHS Foundation Trust	64	167	38.3	34.7	30.5	26.9	163	41.7	44.2	46.0	50.3
East Suffolk and North Essex NHS Foundation Trust	65	2,993	72.8	69.7	64.8	57.9	2,526	47.9	54.0	61.1	62.4
SpaMedica – Birkenhead	66	2,057	96.0	93.3	90.5	86.3	1,514	84.3	86.2	87.6	87.8
County Durham and Darlington NHS Foundation Trust	67	925	42.8	37.0	32.4	28.4	784	44.3	46.8	47.7	48.6
United Lincolnshire Hospitals NHS Trust	68	337	51.9	51.3	49.3	46.0	337	29.1	32.9	35.0	36.2
Northampton General Hospital NHS Trust	70	420	27.6	21.0	17.9	16.0	272	7.7	8.1	8.1	8.1
SpaMedica – Liverpool	71	1,292	96.4	93.0	90.3	88.8	707	81.9	83.9	84.7	85.9
James Paget University Hospitals NHS Foundation Trust	72	1,333	68.8	61.4	57.5	53.0	1,061	78.1	78.9	79.0	79.5
Bolton NHS Foundation Trust	73	904	95.8	92.9	87.7	81.2	620	81.5	83.5	85.5	86.1
Kingston Hospital NHS Foundation Trust	74	1,215	5.4	5.4	5.3	4.8	889	0.1	0.1	0.1	0.1
Torbay and South Devon NHS Foundation Trust	77	1,048	71.2	69.8	67.7	64.5	711	30.4	35.9	47.5	48.9
Great Western Hospitals NHS Foundation Trust	78	738	92.3	86.2	82.5	76.8	638	83.4	85.3	87.0	87.6
SpaMedica – Bolton	79	2,997	97.2	95.2	91.9	87.4	2,210	84.7	87.0	88.0	88.4
Cwm Taf Morgannwg University Local Health Board	82	137	51.1	49.6	46.7	41.6	109	51.4	51.4	52.3	52.3
Sherwood Forest Hospitals NHS Foundation Trust	83	672	61.0	56.8	51.5	50.0	584	46.1	46.9	48.3	48.3
Southport and Ormskirk Hospital NHS Trust	86	257	97.7	96.5	95.7	94.9	222	68.0	69.4	70.3	71.2
Practice Plus Group Hospital, Shepton Mallet	88	923	65.0	64.5	64.0	62.9	661	96.1	96.1	96.1	96.2

Appendix 16 table continued: The percentage of eyes with visual acuity measurements at different time intervals for participating centres in the 2020 NHS year

		Preoperative VA					Postoperative VA				
Centre name	Centre number	Number of eligible operations	6 months %	5 months %	4 months %	3 months %	Number of eligible operations	3 months %	4 months %	5 months %	6 months %
Practice Plus Group Surgical Centre, St. Mary's Portsmouth	89	1,397	63.5	61.1	59.0	57.1	1,189	27.7	28.7	29.5	29.9
Practice Plus Group Hospital, Emersons Green	90	893	82.3	80.3	79.2	76.1	634	70.5	70.7	70.8	70.8
Practice Plus Group Surgical Centre, Gillingham	91	1,053	70.5	69.3	68.5	64.6	648	64.0	65.3	65.3	65.3
SpaMedica – Sheffield	92	3,128	94.8	91.8	88.0	85.1	2,247	66.9	70.1	71.7	72.5
Practice Plus Group Hospital, Plymouth	93	560	35.5	33.4	29.3	24.3	351	15.4	16.8	16.8	16.8
Practice Plus Group Ophthalmology, Rochdale	95	971	97.8	97.4	96.2	94.4	642	79.4	82.4	85.2	86.3
Practice Plus Group Hospital, Ilford	97	466	65.7	62.7	61.2	59.0	392	16.3	19.9	21.2	21.7
North Middlesex University Hospital NHS Trust	98	418	53.1	49.8	43.5	35.9	386	89.6	90.9	92.5	92.7
University Hospitals Sussex NHS Foundation Trust	99	1,345	61.7	60.0	57.1	52.1	1,124	2.3	2.8	3.2	3.4
Practice Plus Group Surgical Centre, Devizes	100	272	88.2	88.2	87.9	83.8	151	97.4	97.4	97.4	97.4
Surrey and Sussex Healthcare NHS Trust	101	692	94.5	94.5	93.6	92.2	343	39.4	42.3	44.3	45.5
Aneurin Bevan University Local Health Board	102	146	97.9	97.9	97.3	93.8	126	96.0	96.8	96.8	96.8
Practice Plus Group Hospital, Southampton	103	220	26.4	25.0	23.2	21.4	202	32.7	35.1	35.1	35.1
SpaMedica – Birmingham	104	3,599	96.7	95.4	92.6	88.5	2,565	77.2	81.1	83.1	83.9
St. Stephens Gate Medical Practice	105	129	92.2	86.0	85.3	85.3	93	36.6	36.6	36.6	36.6
The Dudley Group NHS Foundation Trust	106	288	43.1	41.7	40.6	39.9	211	66.8	72.0	73.9	74.9
East Cheshire NHS Trust	108	683	69.0	59.9	53.7	48.9	576	51.7	52.8	54.9	55.4
Guy's and St Thomas' NHS Foundation Trust	110	747	89.0	84.3	79.9	76.7	735	93.7	93.9	94.1	94.3
Buckinghamshire Healthcare NHS Trust	111	3,173	31.8	29.3	26.9	24.7	2,477	6.7	7.4	8.0	8.6
SpaMedica – Bradford	112	1,251	96.6	95.8	92.6	88.6	852	72.5	73.0	74.2	74.5
SpaMedica – West Lancashire	113	843	92.6	90.5	88.3	85.2	560	84.8	88.6	89.5	90.0
Somerset NHS Foundation Trust	114	1,101	41.6	38.1	35.2	31.4	1,013	62.8	68.8	72.1	73.2
Medical specialists group Guernsey	115	342	80.1	75.7	72.2	67.8	310	66.1	67.7	68.7	69.7
Hywel Dda University Local Health Board	116	56	23.2	23.2	23.2	23.2	38	*	*	*	*

Appendix 16 table continued: The percentage of eyes with visual acuity measurements at different time intervals for participating centres in the 2020 NHS year

		Preoperative VA					Postoperative VA				
Centre name	Centre number	Number of eligible operations	6 months %	5 months %	4 months %	3 months %	Number of eligible operations	3 months %	4 months %	5 months %	6 months %
George Eliot Hospital NHS Trust	117	548	29.7	29.2	27.7	27.6	498	95.6	95.6	95.8	95.8
SpaMedica - Newcastle Under Lyme	118	1,893	96.2	94.0	90.6	87.0	1,415	85.6	88.1	89.4	90.0
SpaMedica - Widnes	119	1,499	97.4	94.7	90.8	88.2	1,062	79.7	81.1	81.7	82.1
Kettering General Hospital NHS Foundation Trust	120	172	30.2	27.3	25.6	25.0	156	5.1	5.8	6.4	7.7
SpaMedica - Chelmsford	121	3,468	97.6	95.9	93.1	88.8	2,413	73.5	76.5	78.0	78.9
Newmedica Community Ophthalmology (Teesside)	124	4,767	0.0	0.0	0.0	0.0	3,545	0.0	0.0	0.0	0.0
SpaMedica - Preston	125	2,760	94.4	92.3	89.8	86.5	1,969	82.5	84.9	86.1	86.7
Newmedica Community Ophthalmology (Gloucester – Aspen)	126	2,616	20.4	19.6	18.2	9.2	1,994	5.1	5.5	6.0	6.1
SpaMedica - Wolverhampton	127	2,594	97.6	95.3	91.7	87.9	1,746	83.2	85.9	87.2	87.8
Community Health and Eyecare Ltd (Blackpool)	128	2,464	97.6	96.8	95.5	92.5	1,821	54.4	54.8	55.1	55.2
Community Health and Eyecare Ltd (Watford)	129	2,344	80.7	77.4	71.8	60.9	1,608	40.3	40.6	40.7	40.8
SpaMedica - Hull	130	2,234	96.6	94.6	90.5	86.2	1,567	84.2	86.0	86.9	87.5
Optegra Eye Health Care (Manchester Eye Hospital)	131	2,027	96.8	95.6	94.4	93.3	1,447	67.9	69.2	69.8	70.1
Newmedica Community Ophthalmology (Grimsby)	132	2,009	6.6	6.6	6.6	6.4	1,545	2.1	2.2	2.2	2.2
Newmedica Community Ophthalmology (Bristol)	133	1,985	26.8	26.3	24.9	19.7	1,492	7.1	7.4	7.6	7.6
Optegra Eye Health Care (Yorkshire Eye Hospital)	134	1,906	90.1	89.2	88.6	85.8	1,188	58.3	59.0	59.8	59.8
Worcestershire Acute Hospitals NHS Trust	135	1,852	51.7	50.2	42.8	34.6	1,605	24.3	27.0	28.7	30.6
Community Health and Eyecare Ltd (Stoke)	136	1,836	90.3	87.1	84.2	79.6	1,412	8.9	9.1	9.1	9.1
SpaMedica - Bedford	137	1,805	95.2	92.7	90.0	86.3	1,049	76.5	78.9	80.7	82.1
Newmedica Community Ophthalmology (Leeds)	138	1,767	6.9	6.8	6.6	5.9	1,287	0.6	0.6	0.6	0.6
Optegra Eye Health Care (Surrey Eye Hospital)	139	1,765	92.7	92.2	91.1	88.4	1,163	67.7	70.0	70.7	71.8
SpaMedica - Coventry	140	1,564	98.8	98.6	98.1	94.9	886	82.8	85.0	86.2	86.8
Optegra Eye Health Care (Hampshire Eye Hospital)	141	1,508	98.9	98.5	96.9	93.4	893	77.0	77.6	78.2	78.4
Optegra Eye Health Care (North London Eye Hospital)	142	1,418	86.0	81.7	76.9	68.8	847	70.5	72.6	73.4	73.9

Appendix 16 table continued: The percentage of eyes with visual acuity measurements at different time intervals for participating centres in the 2020 NHS year

		Preoperative VA					Postoperative VA				
Centre name	Centre number	Number of eligible operations	6 months %	5 months %	4 months %	3 months %	Number of eligible operations	3 months %	4 months %	5 months %	6 months %
Optegra Eye Health Care (Birmingham Eye Hospital)	143	1,155	90.0	89.2	87.9	85.1	915	59.2	61.9	62.3	62.4
Newmedica Community Ophthalmology (Ipswich)	144	972	0.0	0.0	0.0	0.0	510	0.0	0.0	0.0	0.0
Newmedica Community Ophthalmology (Barlborough)	145	969	52.0	51.4	39.4	17.8	674	51.3	51.6	51.6	51.6
Newmedica Community Ophthalmology (Exeter)	146	724	28.0	27.8	26.9	25.3	444	11.9	12.4	12.6	12.6
SpaMedica – Derby	147	711	99.4	99.3	98.3	94.7	271	80.1	83.4	84.1	84.1
Exeter Eye	148	688	87.1	82.1	76.7	67.0	504	71.8	73.2	73.4	73.6
SpaMedica – Bromley	149	473	99.4	99.4	99.4	99.2	80	77.5	78.8	80.0	80.0
SpaMedica – Wokingham	150	397	99.7	99.7	99.7	99.5	107	88.8	90.7	90.7	90.7
SpaMedica – Stockton-on-Tees	151	284	100.0	100.0	100.0	98.2	105	83.8	87.6	88.6	90.5
Tetbury Hospital	152	251	63.3	62.2	50.6	22.3	251	90.4	92.0	94.0	94.4
Newmedica Community Ophthalmology (Brigg)	153	249	42.2	41.0	40.6	39.8	0	*	*	*	*
West Suffolk NHS Foundation Trust	154	168	83.3	82.7	82.7	80.4	112	69.6	69.6	69.6	69.6
Northern Care Alliance NHS Foundation Trust	155	148	43.9	39.2	28.4	19.6	12	*	*	*	*
Newmedica Community Ophthalmology (Frome)	156	128	65.6	65.6	64.8	64.1	33	*	*	*	*
Community Health and Eyecare Ltd (Preston)	157	127	98.4	97.6	96.9	96.1	0	*	*	*	*
The Stoneygate Eye Hospital	158	114	95.6	93.0	89.5	76.3	113	98.2	98.2	98.2	98.2
Newmedica Community Ophthalmology (Wakefield)	159	77	0.0	0.0	0.0	0.0	10	*	*	*	*
Overall for all centres	**N/A**	**172,320**	**71.0**	**68.3**	**65.4**	**61.5**	**132,322**	**55.9**	**57.9**	**59.2**	**59.9**

*No estimate is produced for centres with <50 eligible operations in the postoperative qualifying time period.

Appendix 17: Operative procedures combined with phacoemulsification ± IOL

Operative procedure	Frequency
Insertion of pupil ring expander	2,610
Insertion of Iris hooks	984
Automated anterior vitrectomy	975
Capsular tension ring	733
Limbal relaxing incisions / Opposite clear corneal incisions	648
Intravitreal injection	608
Intraoperative phenylephrine	524
Synaechiolysis	321
Stretching of the Iris	226
Injection of bleb (antimetabolite)	195
Pars plana vitrectomy	119
Injection into anterior chamber	70
I/C Miochol	61
Anterior chamber of eye and/or lens operations	43
Suture of Cornea	40
Removal of retained lens fragments	19
Examination under anaesthesia	17
IOL exchange	15
Sub-conjunctival injection	15
Peripheral iridectomy	12
Sphincterotomy	12
Removal Cornea sutures	11
IOL removal	10
Washout of anterior chamber	7
Fragmatone lensectomy	6
Orbital floor injection	6
Photocoagulation of ciliary body	6

Appendix 17 table continued: Operative procedures combined with phacoemulsification ± IOL

Operative procedure	Frequency
Scleral-fixed IOL	5
Other operation on iris	3
Removal of stent from Baerveldt tube	3
Punctual cautery	2
Pupilloplasty	2
Capsulectomy	1
Diathermy	1
Excision of lesion of Cornea	1
Incision of Conjunctiva	1
Insertion of punctal plug	1
Lacrimal punctoplasty	1
Perfect capsule	1
Removal of IOL from vitreous cavity	1
Removal of retained lens nucleus	1
Repair of Conjunctiva	1

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