RCOphth

NOD
National Ophthalmology Database Audit

National Ophthalmology Database Audit

Eighth Annual Report of the National Cataract Audit

National Cataract Audit for the 2023 NHS Year: 01 April 2023 to 31 March 2024

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

Scope: An audit of adult cataract surgery performed in the United Kingdom by traditional NHS ophthalmology departments, independent sector treatment centres and private practices between 1 April 2023 and 31 March 2024.

Target audience: This report, aimed at clinicians and commissioners of cataract services, presents key outputs of the national audit to inform quality improvement initiatives. Full background to the National Ophthalmology Database Cataract Audit, methodologies and definitions used, and wider presentation of results are available at nodaudit.org.uk. Output aimed at the general public / patients is also available on our website.

Funding: The National Cataract Audit is funded through participation fees from centres as well as unrestricted contributions from Alcon Eye Care UK Limited and Bausch + Lomb. We are grateful for the donations received from these organisations.

Document authors:

Paul Henry John Donachie
Beth Barnes
Mike Burdon
John C Buchan

Published July 2025

© The Royal College of Ophthalmologists 2025. All rights reserved.
For permission to reproduce any of the content contained herein please contact **contact@rcophth.ac.uk**

Foreword

I am delighted to present the Eighth Annual Report of the National Cataract Audit, covering the 2023 NHS year. This year, we have refreshed the report format focusing more directly on the key questions that matter most to clinicians, commissioners, and ultimately, to patients. For each question, we provide data, reflections and specific recommendations to drive quality improvement. This approach aims to make the audit findings more actionable for clinical teams and service managers.

Cataract surgery remains the most performed operation in the NHS, with over 680,000 procedures undertaken annually in England alone. The scale of this service demands robust quality assurance, particularly as we see an increasingly diverse landscape of providers delivering cataract care. This year's report continues to demonstrate the remarkable improvement in surgical outcomes over the past decade. The posterior capsule rupture rate (PCR) has more than halved since 2014, now standing at just 0.69%. This represents thousands of complications avoided each year, with significant benefits for patients and substantial cost savings for the NHS.

The risk adjustment process has been revised. The updated risk factor model used in estimating adjusted PCR now accounts for more of the variation in surgeons' patient case mix and offers assurance to surgeons that their adjusted result better reflects their case complexity.

The audit continues to evolve, with increasing attention to issues of equity in service access, the adoption of immediate sequential bilateral surgery, and the quality of training opportunities. These areas, alongside our core focus on complication rates and visual outcomes, provide a comprehensive picture of cataract services across the UK.

The ongoing success of this audit depends on high-quality data submission, and I am pleased to report that participation continues to grow, with more than 200 centres now contributing data. This represents approximately 81% of all NHS cataract operations in England and Wales, giving us unprecedented insight into national practice. I would like to thank all the contributing centres and the dedicated National Ophthalmology Database team who make this work possible. Your commitment to transparency and improvement is what makes this work possible and impactful. Together, we are ensuring cataract surgery in the UK continues to be among the safest and most effective in the world.

As we look to the future, we remain committed to using these data to drive continuous improvement in outcomes for patients undergoing cataract surgery across the UK. I encourage all stakeholders to engage with the findings and recommendations in this report, using them as a catalyst for local quality improvement initiatives. Together, we can keep on enhancing the safety and effectiveness of cataract surgery for all patients.

Ben Burton, President
The Royal College of Ophthalmologists

Contents

1. Why and how we do National Cataract Audit?

Cataract surgery is the most frequently performed NHS surgical procedure. With **approximately 681,400 publicly funded cataract operations undertaken in England alone** reported to NHS Digital between 01 April 2023 and 31 March 2024 (corresponding to the 2023 NHS year), the annual cost to the **UK NHS of cataract surgery is estimated at over £750 million**. At this level of recurring public expenditure, quality assurance is necessary, particularly with the proliferation of providers of cataract surgery that has occurred in the past decade making unacceptable variation in clinical outcomes a possibility.

RCOphth National Ophthalmology Database (NOD) National Cataract Audit

The NOD National Cataract Audit quality assures cataract surgery for patients, both NHS and private, allowing surgeons and centres to see themselves in national context. The two primary indicators of surgical quality used by the NOD Cataract Audit are PCR* and Vision Loss*.

PCR* is used as a collective term for intraoperative surgical complications when the posterior capsule ruptures, with or without vitreous prolapse, or zonular rupture leads to vitreous prolapse; NOD analyses demonstrate that PCR is associated with:

- 20-fold risk of a retinal detachment in the year following surgery
- 17-fold risk of acute intra-operative supra-choroidal haemorrhage
- 16-fold risk of losing ≥0.60 LogMAR from pre- to postoperatively
- 7-fold risk of postoperative endophthalmitis
- 6-fold risk of losing ≥0.30 LogMAR from pre- to postoperatively

Vision Loss* – Doubling (or worse) of the visual angle from preoperative to postoperative measurement (equivalent to ≥0.30 LogMAR (15 letters) on a LogMAR chart). Severe Vision Loss is also reported at the ≥0.60 LogMAR threshold, representing a quadrupling of the visual angle.

*Full definitions are available on the NOD website.

In addition to **quality assurance**, the RCOphth NOD cataract audit seeks to drive **quality improvement** in visual outcomes and complication rates, undertaking additional analyses to report national practice patterns, explore issues related to surgical training, investigate risk factors for complications and suggest opportunities to mitigate those risks. Peer reviewed publications from NOD analyses are available on the NOD website.

How we collect data

Data aligned with the Minimum Cataract National Dataset, is extracted from Electronic Medical Records (EMR) or manual spreadsheet submission. Full details of eligibility criteria are available at nodaudit.org.uk but in summary, Vision Loss is evaluated only where ≥60% of cases from a centre or surgeon have both pre- and postoperative Visual Acuity data. PCR rates are not presented on the website for surgeons or centres reporting fewer than 50 cataract operations in an audit year due to lack of statistical power to estimate true PCR rates. Cases are excluded where cataract extraction is part of larger procedure such as a combined phaco-trabeculectomy or alongside keratoplasty or pars plana vitrectomy. Outcomes and complication rates from such cases are not comparable with primary phacoemulsification cataract surgery, so they are excluded, as are operations where the risk of PCR is independent of the surgical care provided such as traumatic cataract or posterior polar cataracts. These exclusions total about 4% of the submitted procedures.

Risk adjustment – The complexity of cases undertaken by different surgeons and centres will vary substantially making direct report of observed complication rates problematic. Analysis of the risk factors, both systemic and ocular, for PCR and Vision Loss allows us to calculate the expected PCR rate for each surgeon and centre based on their case mix.

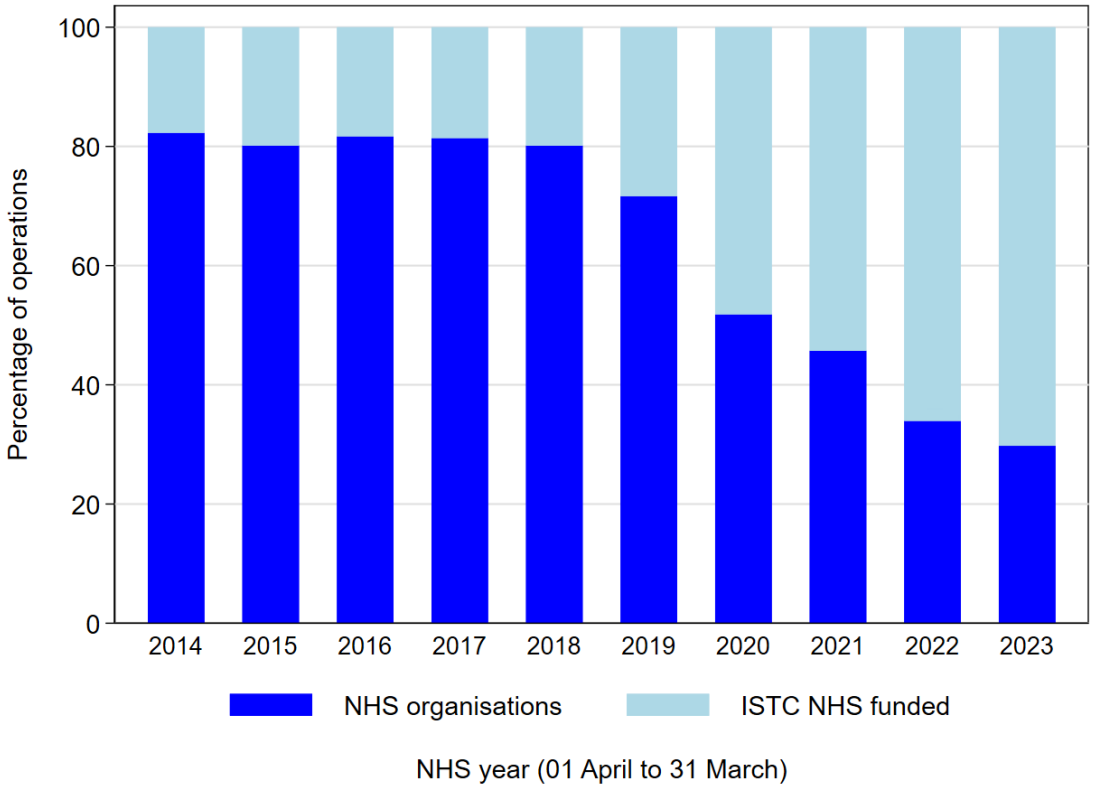
Participation – The annual increase in participation continued in 2023-24 with **eligible results received from 199 centres** (Table 1). Data were received from 71 traditional NHS cataract surgical providers, nine independent sector treatment providers of NHS funded services (125 sites), one centre from Guernsey and two private providers. Combined NHS and privately funded surgery data were received from one NHS Trust and one independent sector treatment provider (23 sites).

Table 1: The number of participating centres and eligible operations over the last decade

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Number of centres	58	71	92	101	111	123	133	160	176	199
Number of eligible operations	136,045	152,834	190,970	215,995	246,610	278,769	173,800	373,325	483,510	550,519

In recent NHS years the proportion of eligible operations received from the traditional NHS has decreased while the proportion from the ISTC has increased, and this trend continued in the 2023 NHS year (Figure 1).

Figure 1: Proportions of NHS funded eligible cataract operations submitted to the RCOphth NOD from the traditional NHS and ISTC in England and Wales over the last decade

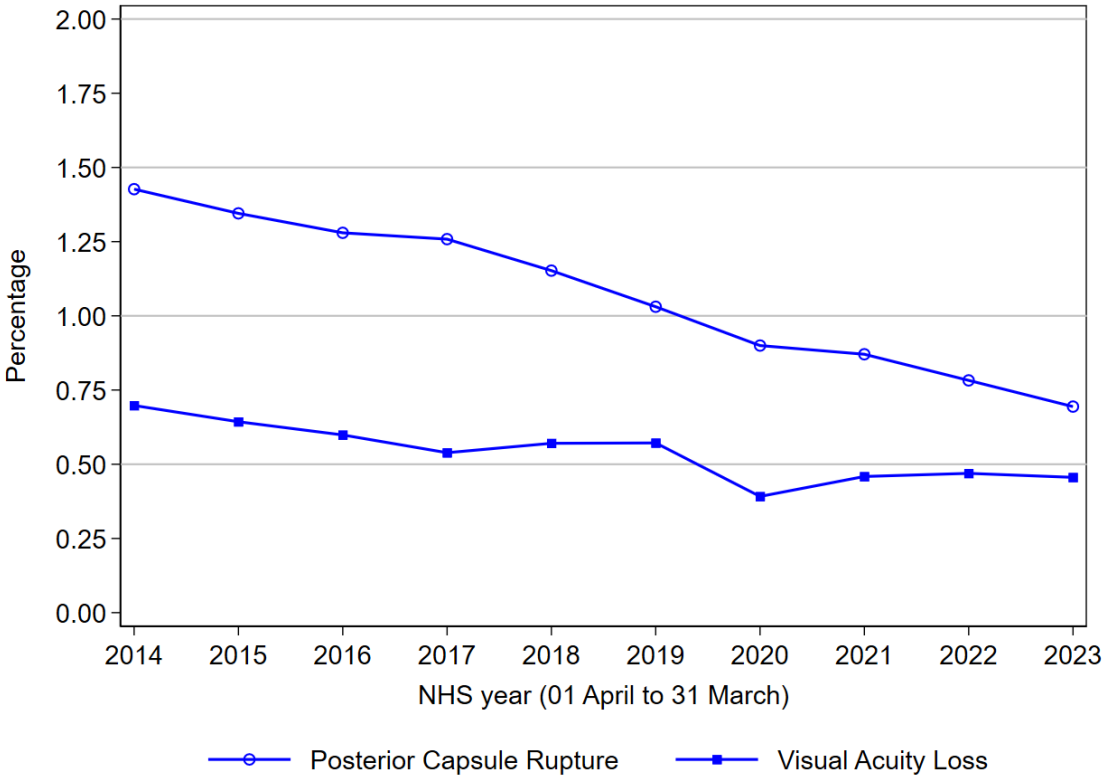


2. What is the Posterior Capsule Rupture rate during cataract surgery?

For all operations, **0.69% of operations were recorded as affected by PCR**. This continues the downward trend observed since the inception of the NOD Cataract Audit. In the past decade the PCR rate has more than halved from 1.43% in 2014, to 0.69% in the 2023 NHS audit year (Figure 2). If we had remained at 2014 PCR rates, there would have been ≈4,074 (0.74% of 550,519) more PCR events annually across the UK NHS, costing an estimated **≈£2 million** from additional interventions.

Of the 3,822 cases of PCR reported, 2,703 (70.7%) were PC rupture with vitreous loss, 682 (17.8%) PC rupture without vitreous loss, 247 (6.5%) zonule rupture with vitreous loss, and 190 (5.0%) involved both PC and zonule rupture with vitreous loss. Adjusted for case complexity PCR rates varied between the participating centres with none confirmed as statistical outliers at the 3 standard deviation threshold (Figure 3). Individual surgeon and centre PCR rates, both observed and risk adjusted, are available from the NOD website.

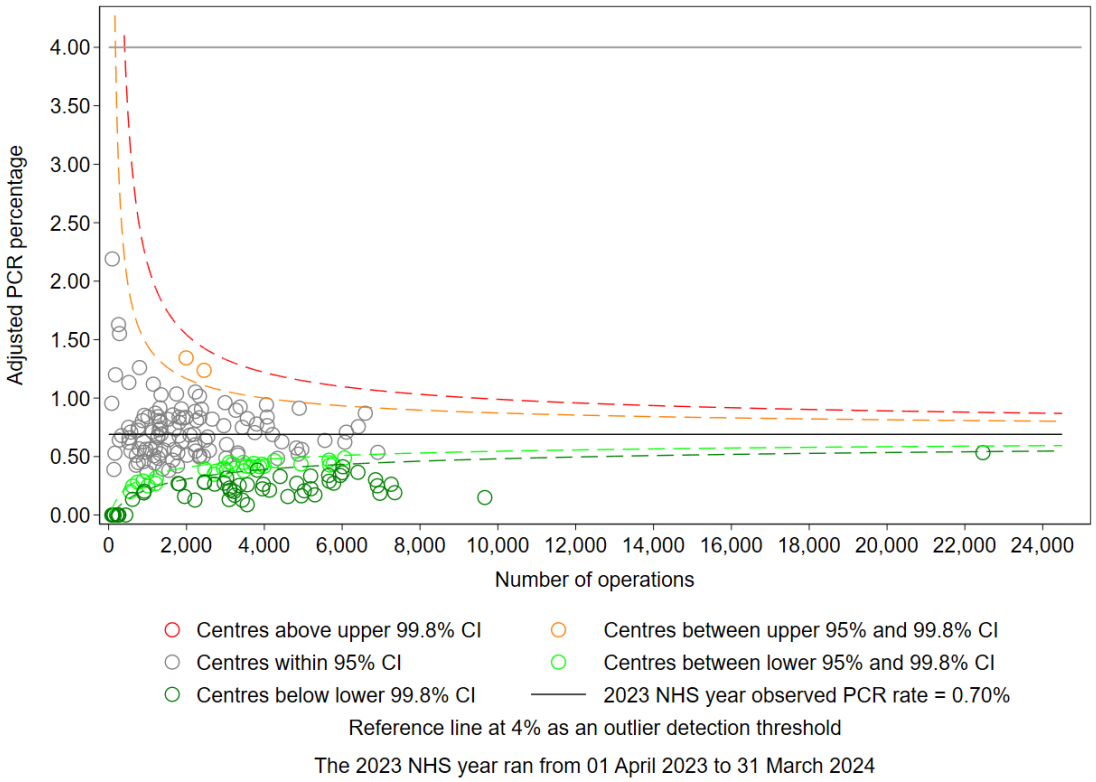
Figure 2: PCR and VA Loss rates for each NHS year over the last decade



Of patients that experienced PCR intraoperatively for whom a postoperative VA was recorded, 72.0% achieved 0.30 LogMAR or better. For 92.7% the final recorded VA was ≤1.00 LogMAR.

For the informed consent process, this **overall rate of 0.69%** can be cited, or estimations of patient-specific risk of PCR based on preoperative characteristics are available in the main ophthalmic EMR. A short video explaining PCR to patients is available on the NOD website.

Figure 3: Adjusted for case complexity PCR rates for participating centres



Reflections

- In the seven audit years up till now, the NOD Cataract Audit had not identified any statistical outlier surgeon still active in the UK, or outlier centre for PCR or Vision Loss, despite data being received from more than 2,000 surgeons each year. It was felt that this was a missed opportunity to flag up results to those surgeons and centres experiencing the highest complication rates.
- A new NOD Cataract Audit outlier policy is being implemented in 2025 such that any fully trained surgeon, regardless of activity level, who has had PCR rate of >4% (representing five times the national average of 0.79% in 2022-23) and any surgeon above the 2 standard deviation line for risk adjusted PCR rate over the past 3 years will receive an email informing them of their rate, and suggesting that they discuss this at annual appraisal meeting or with their clinical lead. An acknowledgement email will be requested from each recipient, and each email sent will be copied to the responsible officer of the organisation to safety net the communication.

Recommendations

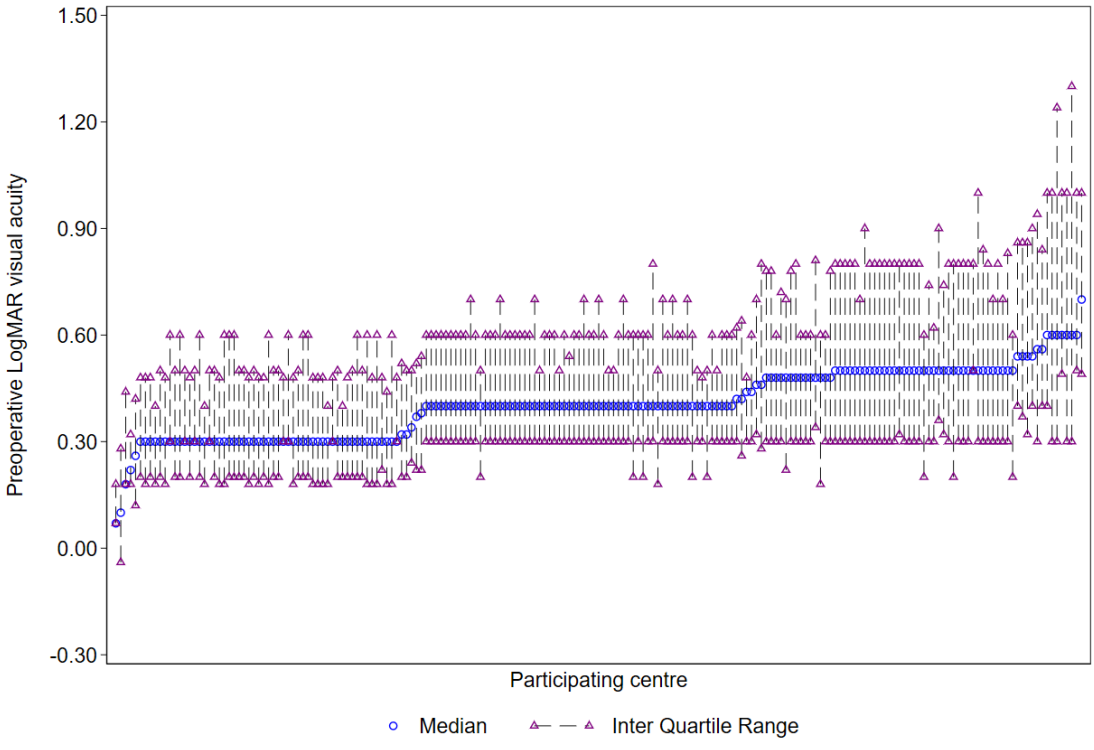
- At present, there are no clear interventions available for consultants or SAS surgeons to help reduce complication rates, but the strong association between higher annual volume of surgery and lower PCR rates suggests that increased surgical opportunities may be effective in reducing PCR rates.

3a. What is the risk of Vision Loss with cataract surgery?

VA readings are accepted within 6 months of the date of surgery, with the closest preoperative VA (not including pinhole) to surgery being compared to the best postoperative VA recording (including pinhole).

Preoperative VA – Data adequate for analysis of preoperative VA were received for 490,052 operations from 197 centres. There is a trend towards operating at a progressively earlier stage in the disease process, reflected in the median preoperative VA which was 0.40 LogMAR units (6/15 Snellen equivalent) although there is a wide range in median preoperative VA for centres, stretching from 0.07 LogMAR to 0.70 LogMAR (Figure 4). The median preoperative VA was 0.50 LogMAR for NHS organisation surgery, 0.34 LogMAR for ISTC organisation surgery and 0.30 LogMAR for private surgery.

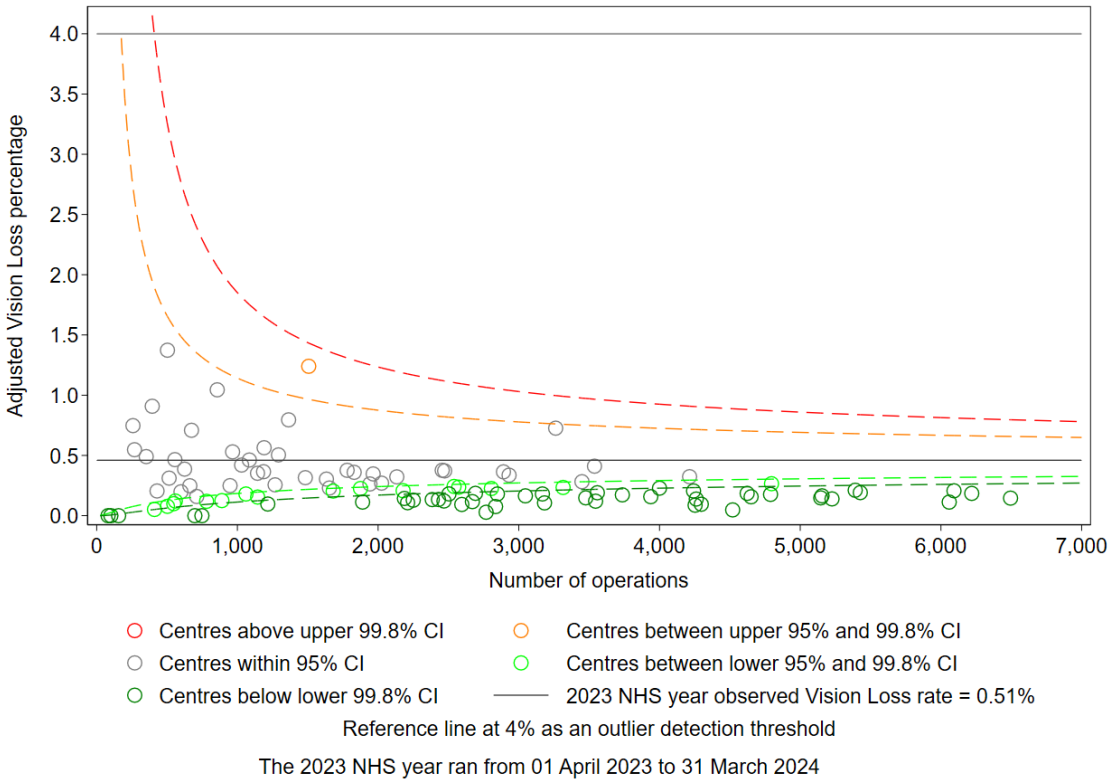
Figure 4: Median and interquartile range preoperative VA for participating centres in the 2023 NHS year



Postoperative VA – Data adequate for analysis of postoperative VA were received for 372,300 operations from 186 centres. Overall, a 'good' postoperative VA of 0.30 LogMAR (=6/12, required to drive) or better was achieved in 93.0% of eyes, 96.4% of eyes with no ocular co-pathology and 86.6% of eyes with a recorded co-pathology. The median postoperative VA was 0.02 LogMAR units (≈6/6 Snellen). From 351,703 operations performed in 184 centres where both eligible preoperative and postoperative VA measurements, the median change in VA was a 0.30 LogMAR gain.

Vision Loss – Eligible for assessing Vision Loss were 265,854 operations from 105 centres. Overall, the assessable Vision Loss rate was 0.46% which is similar to the rate for recent NHS years (Figure 2). The plateau in VL rates around 0.5%, despite reducing PCR rates can be explained by the observation that we are operating on earlier cataracts with a better preoperative VA which increases the chance of reaching the 0.30 LogMAR drop needed to be termed *Vision Loss*. Adjusted for case complexity, Vision Loss rates varied between centres with none confirmed as statistical outliers at the 3SD threshold (Figure 5).

Figure 5: Case complexity adjusted Vision Loss rates for participating centres



3b. What is the risk of Severe Vision Loss?

Data adequate for analysis of Severe Vision Loss (VA reduction by ≥0.60 LogMAR) were received for 264,581 operations from 105 centres. The rate of Severe Vision Loss was 0.17%. As with the Vision Loss metric at the ≥0.30 LogMAR level, it is not universally possible to claim a causal relationship between the cataract surgery and the loss of acuity, although the observation that PCR increases the risk of Severe Vision Loss by 16 times suggests that surgical factors are important. A detailed analysis of the risk factors for Severe Vision Loss is being submitted for publication in *Eye*.

Regardless of the cause of the drop in vision, from the patients' perspective, if vision is lost around the time of cataract surgery, albeit through a potentially unrelated pathology such as conversion to wet age-related macular degeneration, their experience of cataract surgery will likely be determined by the visual outcome.

The Vision Loss and Severe Vision Loss results from this audit are important to inform the consent process. Patients can be informed that of all those undergoing cataract surgery recorded on the NOD, 0.46% experienced Vision Loss and 0.17% Severe Vision Loss. These metrics are explained in a short video aimed at patients on the NOD website.

Reflections

- Perioperative Vision Loss rates have reduced over the past decade, but the risks are higher for patients with better preoperative vision.

Recommendations

- Patients can be informed that, based on data received by NOD, there is a 0.46% risk of Vision Loss and 0.17% risk of Severe Vision Loss (approximating to 1 in 200 risk and 1 in 500 risk respectively) as an all-cause estimate of risk over the course of treatment and recovery from cataract surgery.

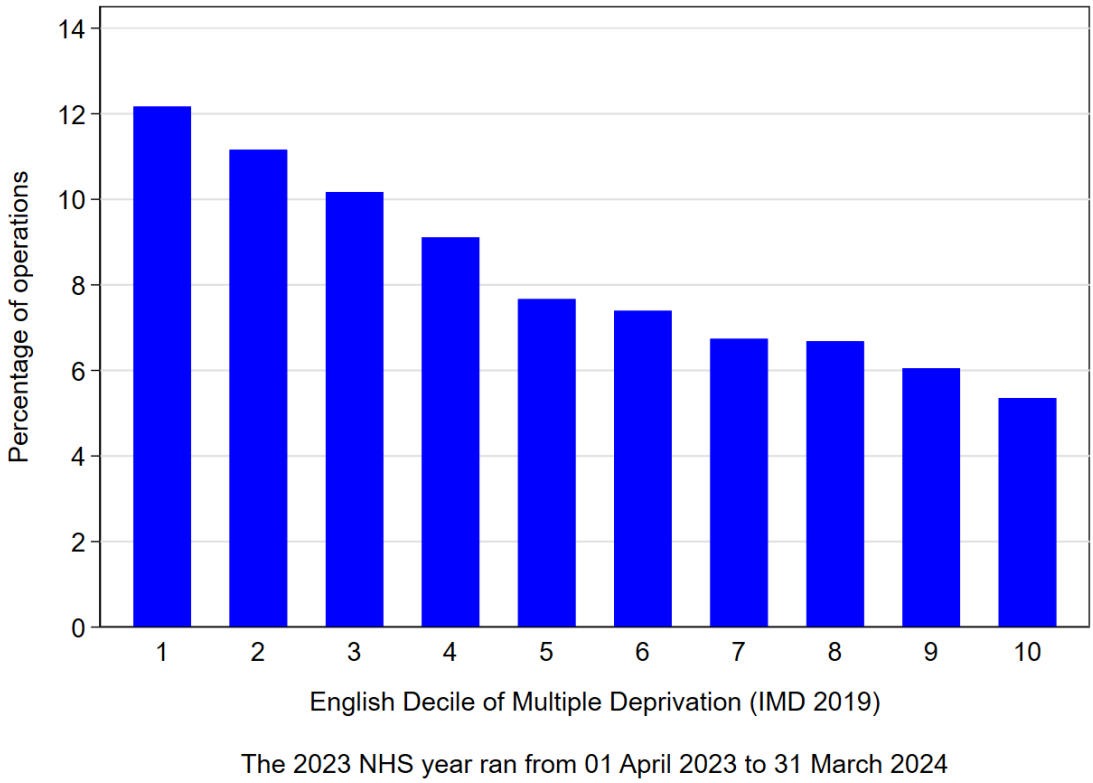
4a. Is NHS cataract service access socio-economically determined?

NHS cataract services should be equitably accessible to all on the basis of clinical need. Using the Index of Multiple Deprivation 2019 (IMD2019), it is apparent that there is a greater proportion of patients from the least affluent communities (decile 1) who have a preoperative VA of ≥1.00 LogMAR (≤6/60) than in the most affluent decile (decile 10). In the 2023 NHS year the audit received data for 315,807 operations performed in 137 English centres with preoperative VA data for which IMD deciles were calculable. The proportions with preoperative VA of ≥1.00 LogMAR were 16.2% from decile 1 and 7.9% from decile 10. This observation, however, does not imply inequity, as there is a higher frequency of risk factors for other ocular diseases in IMD2019 decile 1 (such as poorer diet and smoking), most notably for AMD which could confound this association.

Analysis is still possible to explore potential inequity in accessing NHS cataract services. If we select only patients who achieve a final VA of 0.10 LogMAR or better, then this forms a group of patients who can be considered as having eyes without co-pathology that impairs acuity and their preoperative VA could then be used as a surrogate marker for accessibility of cataract services. There are factors that would be expected to cause variation in health seeking behavior between the IMD2019 deciles, which could lead to different levels of uptake in different deciles that do not necessarily come from inequity, such as greater levels of car ownership in the most affluent deciles causing patients to seek cataract surgery at an earlier point in the disease progression. However, it is reasonable to assert that very few patients will make the choice to allow their vision to deteriorate to 1.00 LogMAR (6/60) or worse before seeking treatment if access to services is good.

There were 187,099 eyes from 133 centres of patients for whom we have IMD2019 and preoperative VA data who achieved a final acuity of ≤0.10 LogMAR in the 2023 NHS year. Of those, the proportions of eyes whose preoperative VA was ≥1.00 LogMAR (≤6/60) in each decile is displayed below (Figure 6).

Figure 6: Proportions of eyes with a postoperative VA of ≤0.10 LogMAR who had a preoperative VA of ≥1.00 LogMAR for IMD2019 deciles



4b. Is there gender equity in accessibility of cataract services?

The patient gender was recorded for 466,173 operations from 173 centres (41.4% male). A greater proportion of cataract operations in females is expected due to higher life expectancy, but analysis of the proportion of each gender who achieved a final VA of 0.10 LogMAR or better whose preoperative VA had dropped to ≥1.00 LogMAR prior to presenting for cataract surgery would give some indication of equity of access and uptake of services. For 185,614 operations performed in 132 English centres with IMD2019 and preoperative VA data who achieved a final VA of 0.10 LogMAR or better, the preoperative VA was ≥1.00 LogMAR for 13.9% of male eyes in IMD2019 decile 1 and 6.1% in decile 10, compared to 10.8% of female eyes in decile 1 and 4.8% in decile 10.

Reflections

- There are patients in all deciles with no VA limiting co-pathology whose preoperative VA is ≥1.00 LogMAR.
- The observed difference in proportions of patients ≥1.00 LogMAR preoperatively from the different IMD deciles may, to some extent, reflect difference in health seeking behaviours, however strategies should be sought to ensure timely uptake of services across the entire socioeconomic spectrum and dismantle structural impediments to access to cataract services.
- The gender difference observed suggests that males may wait longer before presenting for surgery than females, although our data cannot conclude that there is a definite intrinsic gender inequity in accessibility of services.

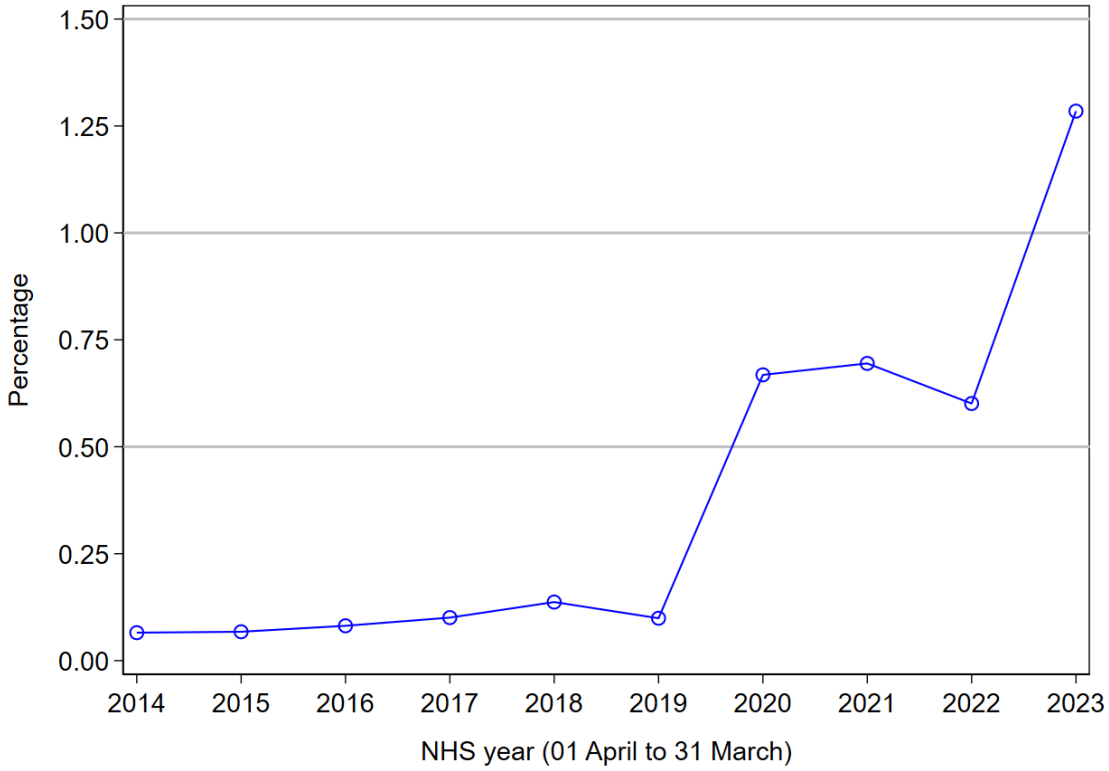
Recommendations

- Disseminate this finding of a health gap in access to cataract surgical services through NOD platforms and peer reviewed publication to promote planning to reduce this gap.
- Encourage centre and ICB level discussion of the slower uptake of cataract services by those in the lowest IMD deciles and configure local solutions to reduce this health gap.
- Monitor equitable, timely access to cataract services in NOD Cataract Audit annual reports.

5. Immediate Sequential Bilateral Cataract Surgery (ISBCS)

NICE recommend that we consider offering ISBCS to **any patient undergoing general anaesthesia, and to any low-risk routine local anesthetic patient**. Despite this recommendation, uptake of ISBCS was very limited prior to the 2020 NHS year which was severely affected by COVID19. The proportional increase in ISBCS has continued in the most recent audit year with >1% of surgery naïve patients opting for ISBCS for the first time (Figure 7).

Figure 7: Proportions of patients who have not had cataract surgery to either eye that had ISBCS over the last decade



Reflections

- The increasing international uptake of ISBCS in services where complication rates are low and meticulous infection control practices are in place offers benefits to patients and providers. Offering ISBCS to patients in the UK is limited compared many similar health economies despite ISBCS already being promoted by NICE [NG77].

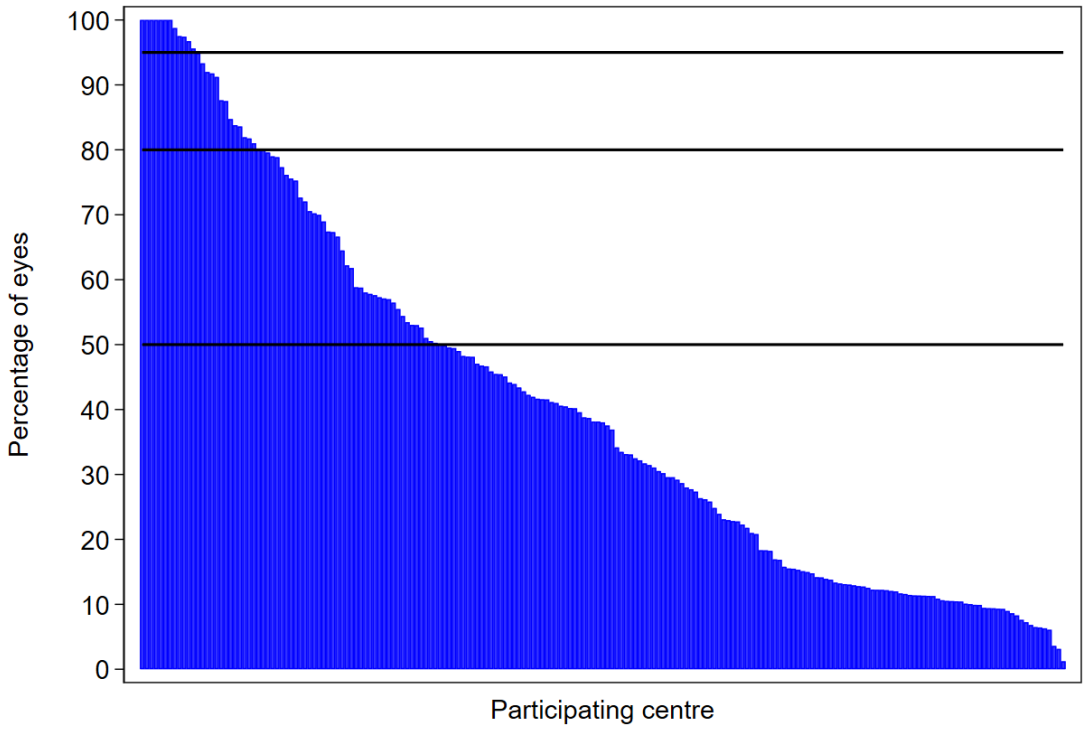
Recommendations

- Cataract services should reflect on their current % ISBCS.
- Inquire with your ICB about the remuneration arrangements should you start offering ISBCS at large scale.
- Prepare ISBCS Patient Information Leaflets, consent forms, and standard operating procedures in theatre following accepted guidelines such as those from the European Society of Cataract and Refractive Surgeons.

6. 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. VA data is essential to many analyses but there is a lot more missing data. An eligible preoperative distance VA was recorded for 89.0% of eyes and a postoperative VA for 67.7% of eyes; 63.9% of eyes had both a preoperative and a postoperative VA measurement (Figure 8).

Figure 8: The percentage of eligible cataract operations with both preoperative and postoperative VA measurements recorded in each centre (ordered from best to worst VA data recording)



The 2023 NHS year ran from 01 April 2023 to 31 March 2024

Receiving a GMC number as the unique identifier for surgeons and an up-to-date surgeon grade allows us to ensure we have ascribed the correct operations to each surgeon and performed risk adjustment appropriately. NOD data processing is delayed by several weeks each year chasing missing surgeon identification data. The NOD receives data on biometry (70.1%), IOL choice (77.1%), angle of main surgical incision (77.8%), and refractive outcomes on 61.5% of eyes and further in-depth analyses may become possible as data quality improves.

Reflections

- There was significant variation in the completeness of VA data between centres, most likely attributable to changes in follow-up pathways. A data quality report will be provided separately to each centre.
- More complete data returns, particularly for postoperative VA and refraction, GMC number, and surgeon grade, will increase NOD's ability to offer further in-depth analyses.

Recommendations

- Resident doctors should update their training grade recorded on the EMR annually.
- Using your centre level report, evaluate the percentage of first/second eye data returns for postoperative complications and visual outcomes at your centre.
- Where data returns from community optometrists are lacking for first or second eyes, data flow pathways should be designed to ensure each hospital is effectively able to monitor complication rates, VA and refractive outcomes.

7. Training

The proportion of eligible cataract operations reported to the audit that were performed by resident doctors has dropped over the past decade. Much of this drop has come from the rapid growth of consultant delivered independent sector high-volume cataract services (Figure 9).

The reduction in PCR rates since 2014 has been greatest for consultant surgeons, but there has also been a general reduction in PCR rates for resident doctors in surgical training, with the exception of the 2020 NHS year which was severely disrupted by the COVID19 pandemic (Figure 10).

One consequence of the shift to high-volume consultant delivered cataract service is the tendency for the traditional teaching hospital settings, where the majority of training takes place, to attract higher complexity cases. The observed PCR rate for junior resident doctors in the 2023 audit year was 2.23%, for senior resident doctors 1.71%, compared to consultants rate of 0.53% and career grade non-consultant surgeons rate of 1.52%. The far lower PCR rate for consultant surgeons is influenced by the high proportion of operations from the ISTC where the expected PCR rate is lower than for the traditional NHS and where surgical training is still a very small proportion of the ISTC operations (Table 2).

As ISTCs have the highest volume consultant surgeons with the lowest complication rates, and the lowest complexity patients, they would be an excellent environment for training the most junior residents (ST1 and ST2). More senior resident doctors could adequately be trained in the traditional training centres where more complex cases are available to develop their skills. The overall resident doctors complication rate varies significantly by centre (Figure 11).

Figure 9: The proportion of eligible cataract operations performed by each grade of surgeon over the last decade

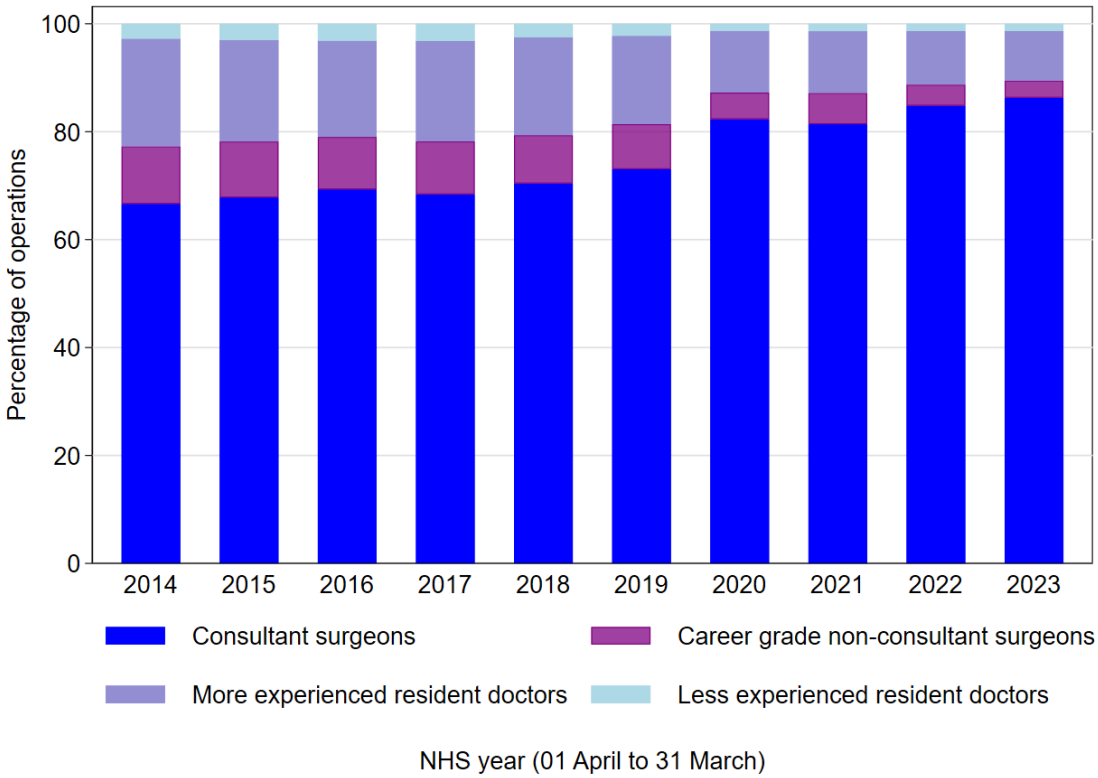


Figure 10: PCR rates for the grade of operating surgeon in each NHS year over the last decade

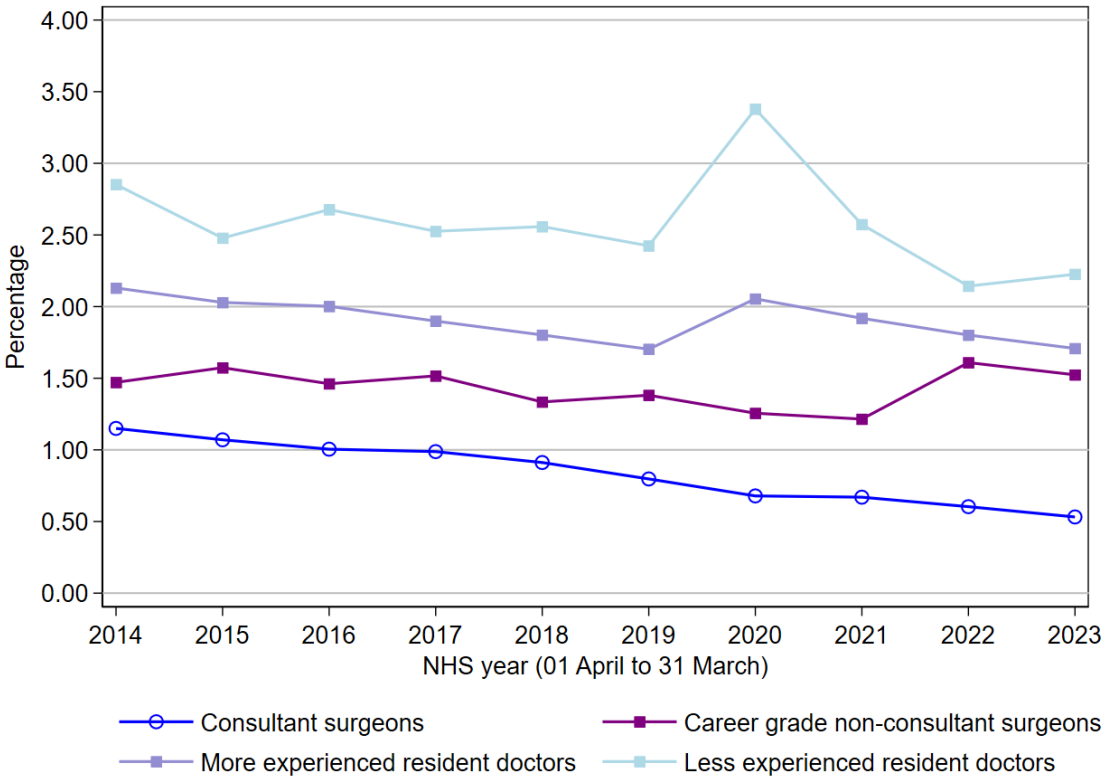
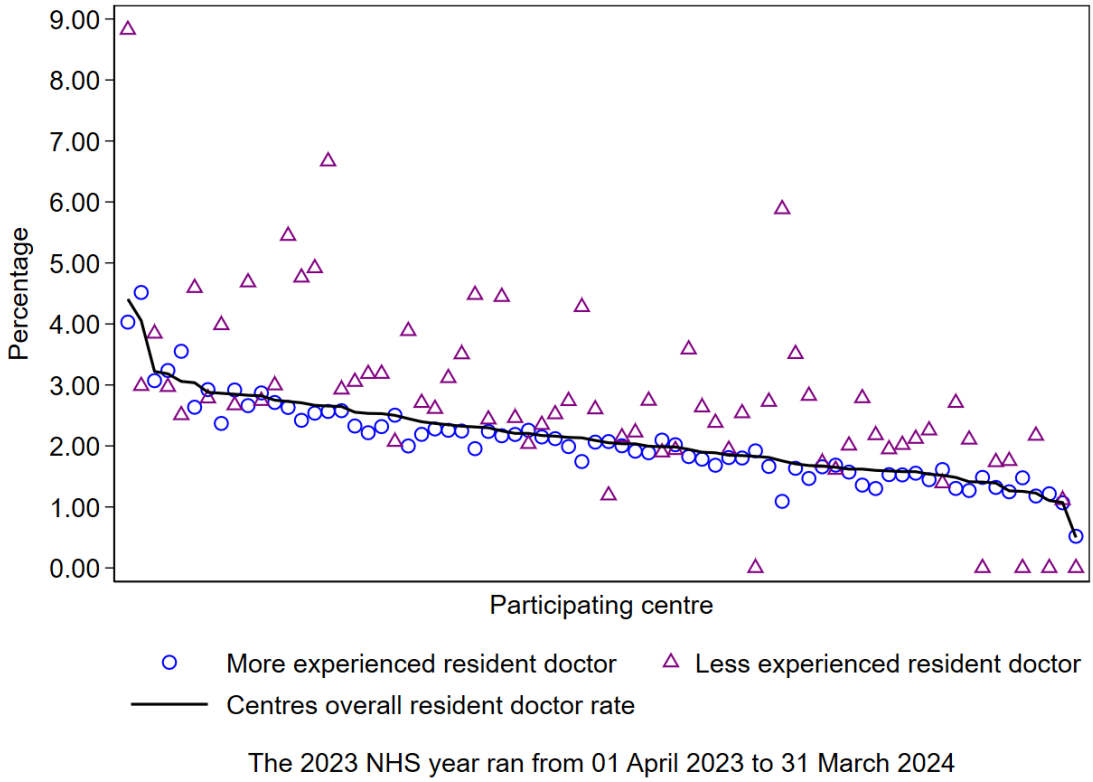


Table 2: The number and percentage of operations along with PCR rates for non-trainee and resident doctors within NHS organisations and NHS funded ISTC operations

	2021	2022	2023
Traditional NHS organisations			
Number of centres	76	71	71
Number of eligible operations	169,010	162,875	162,571
Percentage of operations performed by consultant and career grade surgeons	71.7	66.7	65.8
Percentage of operations performed by resident doctors	28.3	33.3	34.2
Unadjusted PCR rate for consultant and career grade surgeons	1.21	1.29	1.19
Unadjusted PCR rate for resident doctors	1.99	1.84	1.77
Expected PCR rate for consultant and career grade surgeons	1.04	1.04	1.03
Expected PCR rate for resident doctors	2.20	2.18	2.14
ISTC NHS funded			
Number of centres	82	103	125
Number of eligible operations	200,680	316,947	383,518
Percentage of operations performed by consultant and career grade surgeons	100.0	99.9	99.4
Percentage of operations performed by resident doctors	0.0	0.1	0.6
Unadjusted PCR rate for consultant and career grade surgeons	0.41	0.43	0.40
Unadjusted PCR rate for resident doctors	-	1.95	1.88
Expected PCR rate for consultant and career grade surgeons	0.73	0.69	0.67
Expected PCR rate for resident doctors	-	1.69	1.65

Figure 11: Unadjusted PCR rates for operations performed by resident doctors for 72 participating centres with at least 25 operations performed by both more experienced resident doctors and less experienced resident doctors – ordered by centres resident doctors PCR rate



Reflections

- The proportion of operations reported to the NOD that were performed by resident doctors has reduced by around 43.4% between 2019 and 2023 due to growth in high-volume consultant-delivered ISTC surgery.

Recommendations

- Centres currently training in cataract surgery need to reflect on the availability of low complexity cases suitable for training the most junior resident doctors, and where such cases are lacking, consider partnering with local ISTCs with lower mean case complexity scores for these inexperienced surgeons.
- Mapping of training opportunities (cases per resident doctor per year) nationally should be considered to explore geographic variation in surgical opportunities.
- Centres should consider interventions to reduce the complication rates associated with the learning curve of resident doctors (for instance employing formalised risk stratification for case allocation to suitably experienced surgeons).

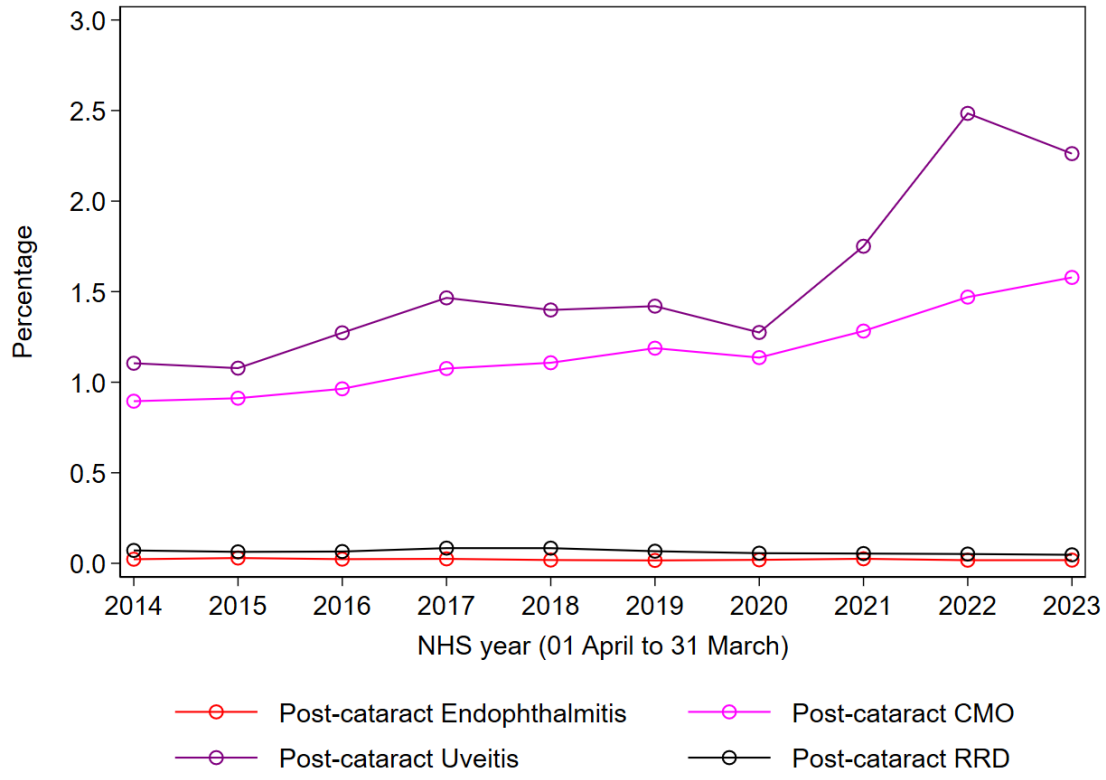
8. Postoperative complications: endophthalmitis/CMO/RRD/Uveitis

Postoperative complications of cataract surgery are fortunately rare, although some can have disastrous consequences, such as endophthalmitis. EMR enabled centres should monitor their postoperative complications rates on a regular basis as there can be variation in occurrence between centres.

For the 2023 NHS year, the audit received data for postoperative complications (or the absence thereof) for 222,547 (40.4%) operations from 187 centres, with the median percentage of postoperative complication data (or active recording of no complication) submitted being 34.5% (IQR; 24.0% to 52.0%) for centres. After removing data from centres who did not supply any data for postoperative complications, the 2023 NHS year estimates are 0.02% eyes experienced postoperative endophthalmitis within 42 days of surgery, and within 2 months of cataract surgery, 1.58% experienced postoperative cystoid macular oedema, 0.05% rhegmatogenous retinal detachment, and 2.26% uveitis.

Over the past decade the rates of post-cataract endophthalmitis and rhegmatogenous retinal detachment have remained fairly stable, while the rates of post-cataract cystoid macular oedema and uveitis have both increased (Figure 12). These estimates may be indicative of trends, however this rate cannot be taken as reflective of the accurate actual rates due to the large number of centres with missing postoperative complication data.

Figure 12: Post-cataract cystoid macular oedema, rhegmatogenous retinal detachment and uveitis rates within 2 months of surgery, and endophthalmitis within 42 days of surgery over the last decade



Reflections

- Until there is a significant reduction in missing data indicating the presence or absence of postoperative complications, estimates of individual postoperative complications cannot be taken as actual proportions of eyes undergoing cataract surgery that are experiencing these complications; this is a hinderance to service planning and potential quality improvement initiatives.

Recommendations

- Where centres are not routinely recording the presence or absence of postoperative complications (for example due to routine community optometry or patient initiated follow-up), mechanisms need to be put in place to capture this information to permit audit of these complications.
- Local monitoring of cystoid macular oedema and postoperative uveitis rates would be prudent. Interventions that minimise the risk of these, such as systematising the addition of topical NSAID for diabetics, or separate postoperative anti-inflammatory regimes for brown and blue eyes should be considered.
- Postoperative infection rates can be evaluated regularly using the NOD tool designed to support this local audit.

9. Quality Improvement recommendations for cataract services

The purpose of this Annual Report is to allow surgeons and centres to reflect on their current practice and outcomes with reference to those of peers. Reflection should then lead to identification of areas for potential development. As a response to this Annual Report we would encourage the following actions:

- Each participant centre could collate the Quality Improvement (QI) actions from each section of this audit report to create a checklist for follow up at subsequent audit meetings. (This process will be aided by accessing the centre level report which will be sent out to each clinical lead).
- Assign someone as responsible for each item to report back on this to subsequent departmental meetings.
- The NOD is interested to collect and curate the various QI initiatives that departments create. This will allow us to promote your ideas to colleagues around the country. If you would be happy to send in your list of QI actions to noa.project@rcophth.ac.uk they will be anonymised and potentially circulated together with other QI ideas on the same theme.

10. Centre results available on the NOD website

The following results are available on the NOD website for participating centres in an excel file:

- The Number of eligible operations, patients and surgeons with data (Sheet 2)
- The proportion of operations with an ocular co-pathology and experiencing PCR (Sheet 3)
- The proportion of operations with preoperative, postoperative (and both) VA measurements, the median preoperative and postoperative VA and VA Loss rates (Sheet 4)
- The proportion of operations with an inaccurate surgeon grade, VA measurements, biometry measurements and refraction measurements (Sheet 5)
- The proportion of operations with recorded as experiencing postoperative Endophthalmitis, CMO, RRD and Uveitis (Sheet 6)
- Case Ascertainment, ocular co-pathology and adjusted PCR percentages for the last 5 NHS years (Sheet 7)
- The proportion of operations with preoperative, postoperative (and both) VA measurements and VA Loss rates for the last 5 NHS years (Sheet 8)

National Ophthalmology Database Audit
The Royal College of Ophthalmologists
18 Stephenson Way, London NW1 2HD

T. 020 7935 0702
noa.project@rcophth.ac.uk
nodaudit.org.uk