

# Comparisons of metrics used in The Royal College of Ophthalmologists' National Ophthalmology Database Audit, between all participating centres and Gloucestershire Hospitals NHS Foundation Trust

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## Introduction:

A cataract (Figure 1) is a clouding of the lens which leads to sight becoming cloudy, misty and unclear. Cataract surgery is the most frequently performed NHS surgical procedure in the UK with an annual cost estimated at around £450 million.

Audit is an important part of any service and for this reason The Healthcare Quality Improvement Partnership (HQIP) commissioned The Royal College of Ophthalmologists' National Ophthalmology Database (RCOphth NOD) to conduct the National Cataract Audit (NOA) using data collected as part of routine clinical care.

The NOA is an audit of NHS funded cataract surgery on adults. Results are published annually in reports which are freely available on both the HQIP website ([www.hqip.org.uk](http://www.hqip.org.uk)) and the RCOphth NOD website ([www.nodaudit.org.uk](http://www.nodaudit.org.uk)). Results are provided to The Care Quality Commission, NHS Choices and to participating centres and surgeons.

Audit results can be useful for centres when planning services and for quality assurance of services. For surgeon's, results can be used with appraisals, revalidation and as a record of progression through training.

## Methods:

Results are presented for the second prospective NOA audit year which ran from 1<sup>st</sup> September 2016 to 31<sup>st</sup> August 2017, except for postoperative visual acuity (VA), where the time period was 1<sup>st</sup> September 2016 to 30<sup>th</sup> June 2017.

An eligible cataract operation was defined according to the criteria used in the NOA. Comprehensive details concerning the methodology used in the NOA can be found on the RCOphth NOD website ([www.nodaudit.org.uk](http://www.nodaudit.org.uk)), including the definitions of Posterior Capsule Rupture (PCR), VA loss and case ascertainment, which is a measure of the proportion of cataract operations a centre performs, that they have provided to the audit.

Each year data from participating centres is extracted and transferred to Gloucestershire Hospitals NHS Foundation Trust (GHNHSFT) for analysis.

In the second NOA year, the RCOphth NOD received data for 184,807 eligible operations performed by 1,885 surgeons from 82 participating centres. For comparison, GHNHSFT submitted data for 3,521 eligible cataract operations performed by 34 surgeons.

## Results:

GHNHSFT was the 13<sup>th</sup> largest contributing centre, Figure 2.

The case ascertainment rate was 100% for GHNHSFT compared to 85.7% overall.

GHNHSFT had a lower proportion of operations performed by consultant surgeons and a higher proportion by career grade non-consultant surgeons than all participating centres.

No patients aged between 18 and 24 years old or above 100 years old were operated on in GHNHSFT, Table 1.

GHNHSFT is one of 48 centres that had >40% of operations performed in eyes with an ocular co-pathology / known PCR risk factor, Figure 3.

GHNHSFT compares favourably with other centres for preventing PCR, Figure 4.

GHNHSFT is one of 33 centres with >80% of operations with both preoperative and postoperative VA data, Figure 5.

GHNHSFT is an exemplar centre for preventing post-surgery VA loss, Table 2 and Figure 6.

Figure 1: Image of an eye with and without a cataract.

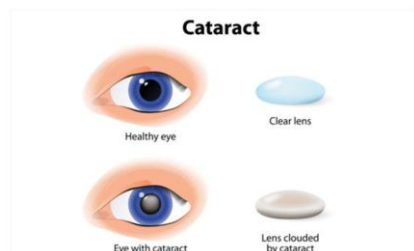


Figure 3: The percentage of eyes with an ocular co-pathology / known PCR risk factor.

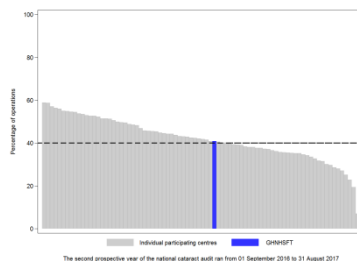


Figure 5: The percentage of operations with pre- and postoperative VA data.

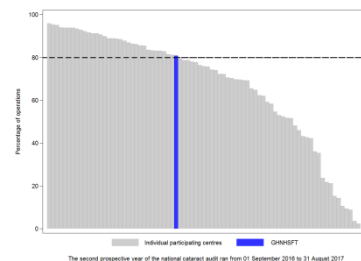


Figure 2: The number of operations for each centre.

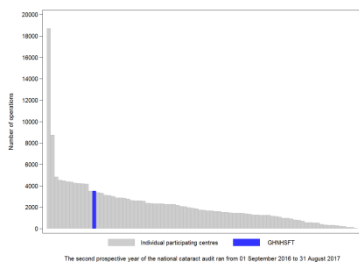


Figure 4: Case complexity adjusted PCR.

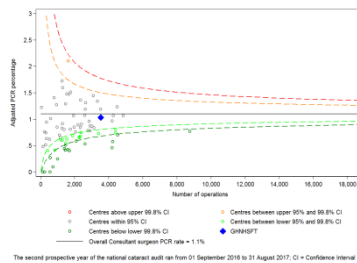


Figure 6: Case complexity adjusted VA loss.

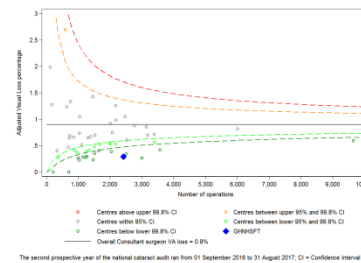


Table 1: Patient demographics and the percentage of operations performed by grade of surgeon.

	All 82 participating centres	GHNHSFT
<b>Number of patients</b>	<b>149,447</b>	<b>3,098</b>
Patients age at surgery (years)		
Median	76.4	77.5
Range	18.0 – 107.7	24.8 – 99.1
Percentage of patients who are		
Females	57.1	57.9
Males	42.6	42.1
Not recorded	0.3	0.0
<b>Number of operations</b>	<b>184,807</b>	<b>3,521</b>
Percentage of operations performed by		
Consultant surgeons	63.5	52.0
Career grade non-consultant surgeons	9.2	18.1
More experienced trainee surgeons	23.0	24.3
Less experienced trainee surgeons	4.4	5.5

Table 2: Ocular co-pathology / known PCR risk factors, PCR and visual acuity.

	All 82 participating centres	GHNHSFT
<b>Number of operations</b>	<b>184,807</b>	<b>3,521</b>
Percentage of eyes with an ocular co-pathology / known PCR risk factor	41.0	40.8
Percentage of operations with preoperative VA data	91.2	92.8
Posterior Capsule Rupture (PCR)		
Unadjusted for case mix PCR rate	1.38	1.68
PCR case complexity index	1.70	1.79
Case complexity adjusted PCR rate	0.89	1.03
<b>Number of operations for postoperative VA</b>	<b>153,555</b>	<b>2,989</b>
Percentage of operations with postoperative VA data	75.5	86.0
Percentage of operations with both preoperative and postoperative VA data	71.4	80.8
Visual Acuity Loss (VA loss)		
Number of operations eligible for VA loss	98,493	2,416
Unadjusted for case mix VA loss rate	0.61	0.29
VA loss case complexity index	0.86	0.90
Case complexity adjusted VA loss rate	0.64	0.29

## Conclusions:

GHNHSFT offers good quality cataract surgery and compares favourably with other participating NOA centres, particularly in preventing post-surgery visual acuity loss.

## Acknowledgments:

We would like to thank both the hospitals and the staff collecting the data for participating in the national ophthalmology audit.

All NOA participating centers are listed on the RCOphth NOD website ([www.nodaudit.org.uk](http://www.nodaudit.org.uk)).

It is with deep regret that we note the death of 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.