

Glaucoma Repeat Readings – how many repeats are needed?

Background

Local service redesign discussions across England are asking the same question:

When thinking about the operational delivery and achieving the best outcomes, how many repeats of intraocular pressure (IOP) are optimal?

For over a decade now many local glaucoma service redesign groups have been seeking to reduce the false positive referral rates from optical practice into hospital eye services (HES), implementing referral filtering services (case-finding & enhanced case-finding) services delivered from optical practice.

Current options across England:

- No Repeat commissioned. Referral based on sight test findings alone
- Single repeat by Goldmann-type applanation tonometry (GAT) on the same day as the sight test. Referral based on a single GAT reading
- Two repeats by Goldmann-type applanation tonometry. Once immediately following sight test and, if still raised, again on another day. Referral based on a repeatable GAT reading.

There are even a few services which offer a single repeat on a different day which ignores all the patient benefits of first contact care.

There is a need to reduce unwarranted variation in service delivery models and deliver a consistent approach.

The vast majority of commissioned services allow for 2 repeats and this is the LOCSU recommended pathway, supported by NICE guidance NG81 Nov 2017:

1.1.4 Before deciding to refer, consider repeating visual field assessment and IOP measurement on another occasion to confirm a visual field defect or IOP of 24 mmHg or more, unless clinical circumstances indicate urgent or emergency referral is needed. [2017]

There is already strong recommendation for commissioning a glaucoma repeat readings service. This is well evidenced, supported by eye health leaders and recommended by NICE.

The Clinical Council for Eye Health Commissioning (CCEHC) has published a portfolio of indicators for eye health and care (March 2018) which includes an indicator to measure the number of commissioners in England with a commissioned service.

<https://www.college-optometrists.org/uploads/assets/3d12f8dc-73ab-4ffa-8a3bdfdaf32c60ae/Portfolio-of-indicators-for-eye-health-and-care.xlsx>

What is the current situation?

The LOCSU glaucoma pathway builds on best practice, years of experience with audit and evaluation of existing services and supports the delivery of NICE.

LOCSU's Primary Eye Care Service includes Glaucoma Repeat Measures and Glaucoma Enhanced Case-Finding. These pathways improve referral quality by allowing the practitioner to repeat measurement before making a referral decision. If a referral is required, it will include the clinical data set as described by NICE (NG81) and will be sent electronically.

The table below provides high level information relating to services commissioned via a Primary Eyecare Company and the service outcomes over the past four years.

	Total	Discharged	Referred
2016-17	6724	76%	24%
2017-18	10516	75%	25%
2018-19	7494	77%	22%
2019-20 (Apr-Jan)	4349	70%	29%

Data source: LOCSU data repository (collation of Primary Eye Care Company service data)

The introduction of NG81 and the raised IOP threshold for referral accounts for the drop in activity in recent years, even though more services have been commissioned. For more information see LOCSU Case Study: 'Explore the impact of the NICE glaucoma guidelines on referral activity'.

Results / Benefits / Outcomes

NHS Evidence: Avoiding unnecessary referral for glaucoma: use of a repeat measurement scheme, published 22 December 2011

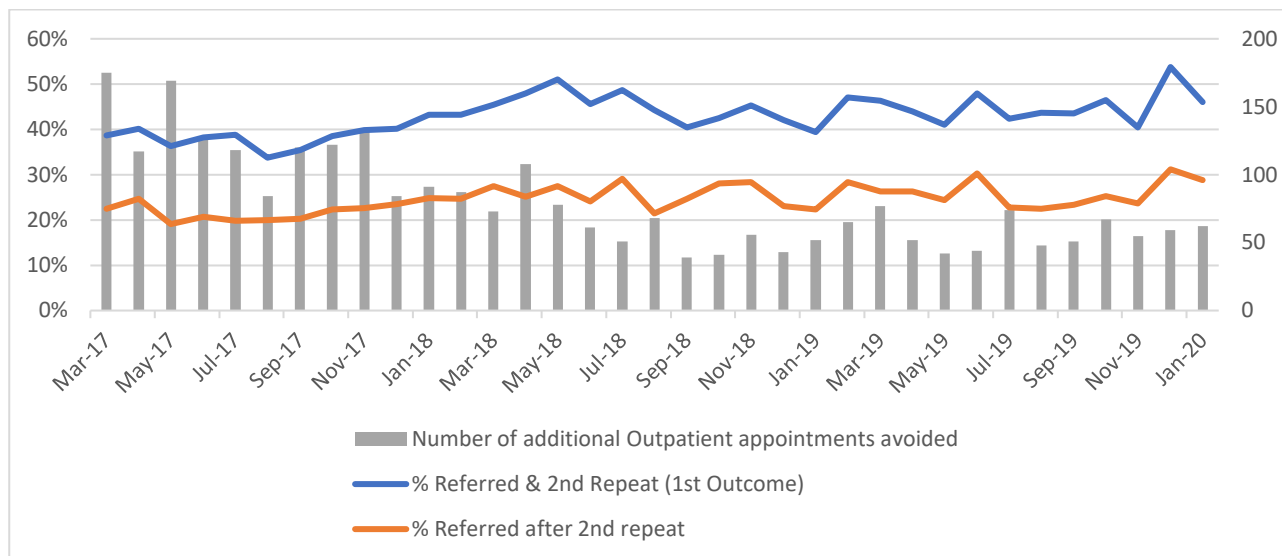
"Clinical quality is improved through providing appropriate repeat testing in primary care to reduce the number of false positives, thereby refining referrals to the hospital eye service."

"The use of repeated measurements by optometrists, before instigating a referral to the hospital eye service, has huge potential to reduce unnecessary referrals to the benefit of commissioners, the hospital eye service and the patients. The cost implications of patients attending hospital, both in terms of transport and indirect costs, needs to be considered"

"Savings of up to 62% against the hospital eye service tariff have been achieved."

This research was completed prior to the revised NICE guidelines NG81 issued in 2017 which raised the IOP threshold for referral.

Unpublished evidence:



Data source: LOCSU data repository (collation of Primary Eyecare Company service data)

- Data analysed from Primary Eyecare Companies (sample size 21,799) shows the number of outpatient appointments avoided by having a second repeat compared to a single IOP repeat.
- The above data also hints at the impact of the NICE guideline [NG81] issued in November 2017 which increased the referral threshold as well as recommending more sophisticated case-finding services in primary care. Further information on the impact of this change can be found in the LOCSU Case Study 'Explore the impact of the NICE glaucoma guidelines on referral activity'.
- Primary Eyecare Service Ltd data for Q1 & Q2 of 2019/20 (sample size 372) suggests that for every 100 people entering a glaucoma repeat reading service:
 - 40 people would be referred if a single GAT is offered
 - 29 people would be referred if a second repeat is offered
 - Offering the second repeat delivers a 28% reduction in referral activity.
- A small but well-established service in Tameside & Glossop reported (2018/19 annual report) that 179 Patients entered the glaucoma IOP repeat service with 50 ultimately referred. If the second GAT repeat wasn't offered a further 22 referrals would have resulted. This represents an increase of 44% on the referral rate.
- The 2018/19 annual report for Heywood, Middleton And Rochdale (full repeat measures service IOP and visual field repeats) shows that 87.62% of patients were retained exclusively in Primary Care in this service, avoiding 85 hospital outpatient attendances locally. If the second IOP repeat had not been commissioned in this area, a further 18 patients would have been referred to the HES.
- Stockport data for the same period also shows the benefit of a second repeat of IOP with contact tonometry with an additional 31 patient outpatient appointments avoided locally in 2018/19. (locally 46% of patients having a second repeat of IOP avoid the need for referral).

Benefits:

- Earlier intervention for patients
- Decrease in referrals to Hospital Eye Services
- Improved referral accuracy and quality with a reduction in false positives
- Better use of existing skills within primary care.

Conclusion

Repeating IOP on a further occasion reduces the number of referrals into HES.

Conversely, if a service were commissioned across a wide area that did not allow for a second repeat, this would lead to an increase in referral activity in the areas with a well-established repeat readings service already following the LOCSU pathway.