Outcomes of Glaucoma Repeat Reading Services (GRRS) in Primary Care Optometry in England from 2021 to 2025

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Introduction

- Glaucoma Repeat Reading Services (GRRS) are a form of glaucoma referral filtering service used in primary care optometry following routine sight tests.
- Endorsed by NICE[1] and GIRFT,[2] GRRS aims to reduce false positive referrals to Hospital Eye Services (HES).
- While previous evaluations have shown deflection rates between 63–79%,[3-6] these were limited to single localities and are over a decade old.
- This study reviews GRRS outcomes from 2021 to 2025 across 26 Integrated Care Boards (ICBs) in England, adding 2024-25 activity to previously presented outcome data.

Methods

- An Integrated cataract service offers end-to end care for patients identified as having cataract and includes and Enhanced Cataract Referral Service and Post-operative Cataract Service (see figure).
- The Glaucoma Repeat Readings Service (GRRS) enables accredited practitioners to repeat measurement of raised intra-ocular pressure or potentially glaucomatous visual field defects that would otherwise require a referral to specialist glaucoma services. and the year numbers at the bottom of the figure need sorting, removing the extra 2 from the end of the years.
- It is used in cases where these findings appear in isolation, without other signs of glaucoma in contrast to the case-finding assessment of GERS (see figure below).
- Patients aged ≥18 years with intraocular pressure (IOP) ≥24mmHg and normal optic disc appearance were eligible for GRRS.
- Three pathway variants are active across England so were included in the evaluation
  - Pathway A: Repeat Goldmann Applanation Tonometry (GAT) on two occasions and/or visual fields (VF) if initial VF was suspect.
  - Pathway B: Single repeat GAT, no VF repeat
  - Pathway C: Repeat GAT on up to two occasions, no VF repeat
- Outcomes included discharge or referral to secondary care after one or two GRRS assessments.

Levels of Glaucoma Referral Filtering Services

Level 1: GRRS (Glaucoma Repeat Readings Service)	For patients with raised IOPs and/or visual field defect with no other signs of glaucoma.
Level 2: GERS (Glaucoma Enhanced Referral Service)	For patients with raised IOPs and/or visual field defect and/or other signs of glaucoma.

GRRS: **28,274** patients

69.5% (19,643) assessed and discharged

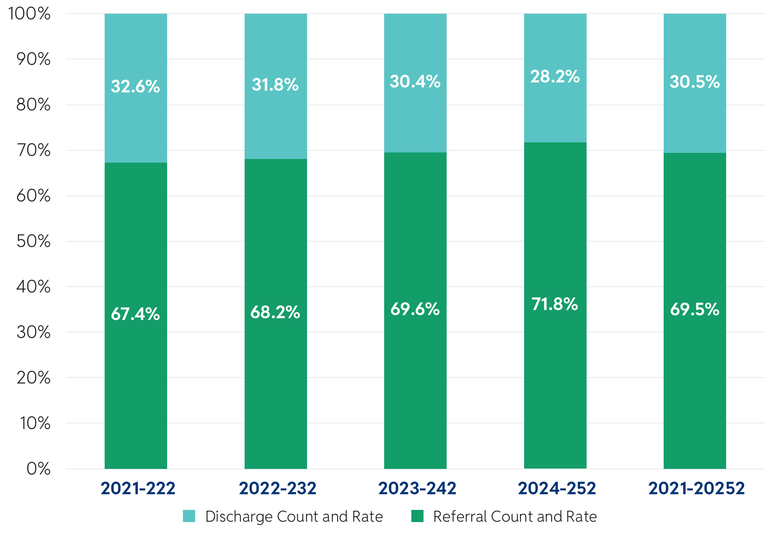
59.7% following 1st assessment

9.8% following 2nd

30.5% (8,631) referred to secondary care

Results

- 28274 patients (age 65.6±13.4 years, 53% female) entered GRR between 1st April 2021 and 31st March 2025
- 69.5% were discharged with no secondary care referral required
- Pathway type A, allowing the full service pathway of a second repeat IOP AND repeat visual fields remains the far most utilised, with 87.7% of patients seen in this pathway (2.2% in pathway B and 10.2% in pathway C)
- The relationship between pathway type and discharge rate was significant, $\chi 2(2, 28247)=17.22$, $p=0.0002$.
- Pathway A had the highest discharge rate (Pathway A, 70.2%, Pathway B, 61.8% and Pathway C 68.5%)
- 699 patient experience responses were corresponding with the period of evaluation
- 99.1% of patients would recommend the service to a friend or family member
- 95.1% of patients rated their overall experience a 6 or 7 out of 7, with 7 being "excellent" (19.1% 6/7, 76.0% 7/7)



Conclusions

- Glaucoma Repeat Readings Services (GRRS) are an effective first-level filtering pathway, discharging nearly 70% of patients and significantly reducing unnecessary referrals to secondary care. This helps alleviate well-documented [1,2,7] demand and capacity pressures on specialist glaucoma services, allowing focus on patients with genuine need and reduce waiting times.
- Currently commissioned in 26 of 42 ICBs in England, GRRS could be more widely adopted, both in areas without provision and through improved uptake where services exist.
- All patients should have access to glaucoma referral filtering. The most commissioned pathway variant, which includes a second IOP reading and repeat visual field test, achieves the highest discharge rate. However, variation across pathways introduces unnecessary complexity. Pathway A, the most effective model, should be adopted as the national standard.
- Expanding commissioning and uptake of the full GRRS pathway, especially when paired with a Level 2 Glaucoma Enhanced Referral Service (GERS), could further reduce pressure on HES. *(See poster: "Outcomes of Glaucoma Enhanced Referral Services (GERS) based in Primary Care Optometry in England from 2021 to 2025.")*

References

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