

Diabetic Retinopathy R2 Audit: Plymouth DESP, EMIS Care

Sarah Eells (Screener/Grader)¹, Marc Lewis (Programme Manager)¹, Madhavi Paragati (Clinical Lead)^{1,2}

¹ Plymouth Diabetic Eye Screening Programme, EMIS Care. ² Royal Eye Infirmary, Plymouth Hospitals NHS Trust, Derriford Hospital

Introduction

This is a comparative analysis of Plymouth DESP R2 referrals to Hospital Eye Services over the period of one year (31/03/2015 to 01/04/2016) with a follow up period of one year. R2 is defined by NDESP as pre-proliferative diabetic retinopathy and the presence of one or more of the following: IRMA, Multiple blot haemorrhages, venous reduplication and venous beading. Pre-proliferative diabetic retinopathy is classed as a non-urgent referral and currently needs to be seen in HES within 13 weeks from screening to appointment time. The acceptable standard at the start of this audit was 100% within 18 weeks of referral.

Purpose

To evaluate our performance regarding our R2 referrals into HES. Analysing our accuracy of grading. Looking at the comparability to HES, any missed STDR and the timescale of patients being seen.

- Did we have a close agreement rate or are we over or under grading.
- How many referred R2s did HES agree with.

Therefore, as a result asking ourselves:

- Are we referring appropriately?
- Are we missing anything?
- Also, was the first HES consultation within the required time scale.

Method

91 patients who were graded as R2 by Plymouth DESP over the one year period were included in the audit. We looked at patients demographic data, previous results and referral to appointment time. The appointment results we looked at Plymouth DESP to HES comparable R grade, comparing lesions found and the outcome after HES appointment. We also looked at the subsequent appointment looking to see if we as a programme over or under graded, or had agreed the R grade.

Results

- 91 patients graded and referred for R2 in the period of one year between 31/03/2015 and 1/4/2016 included in the study.
- None of the referrals were for Under 25, they ranged between 25-89 with the majority being aged between 56-70.
- Male was the dominant gender (57 out of 91).
- Type 2 diabetes was noted in 69 out of 91 patients,
- Age, gender and diabetes type distribution are documented in Fig 1, Fig 2 and Fig 3 retrospectively.

Fig 1— Age

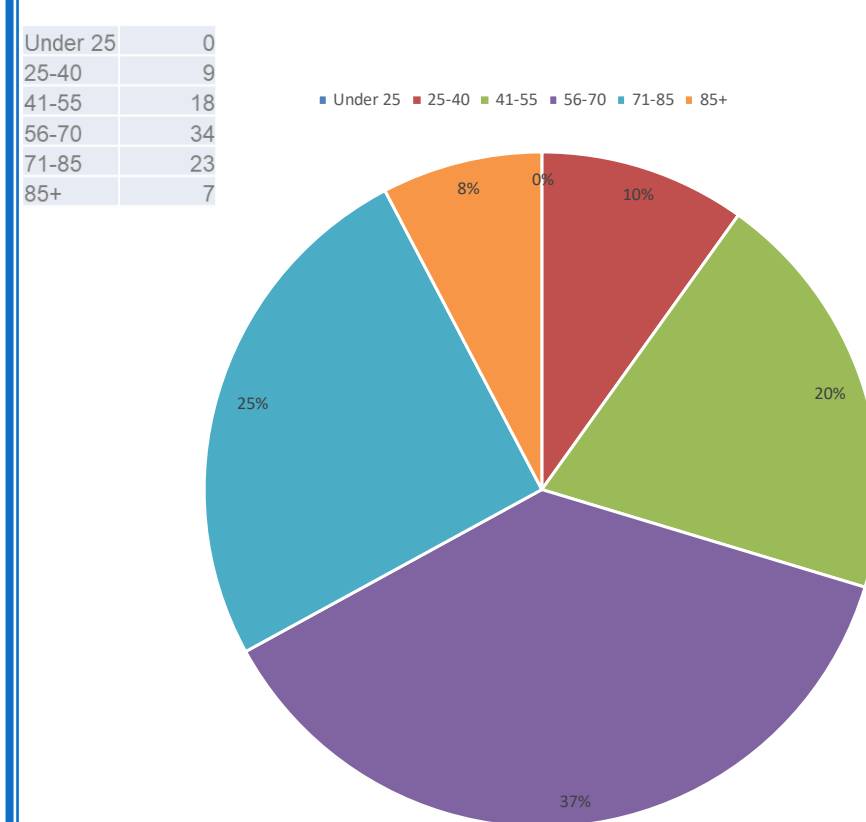


Fig 2 — Gender

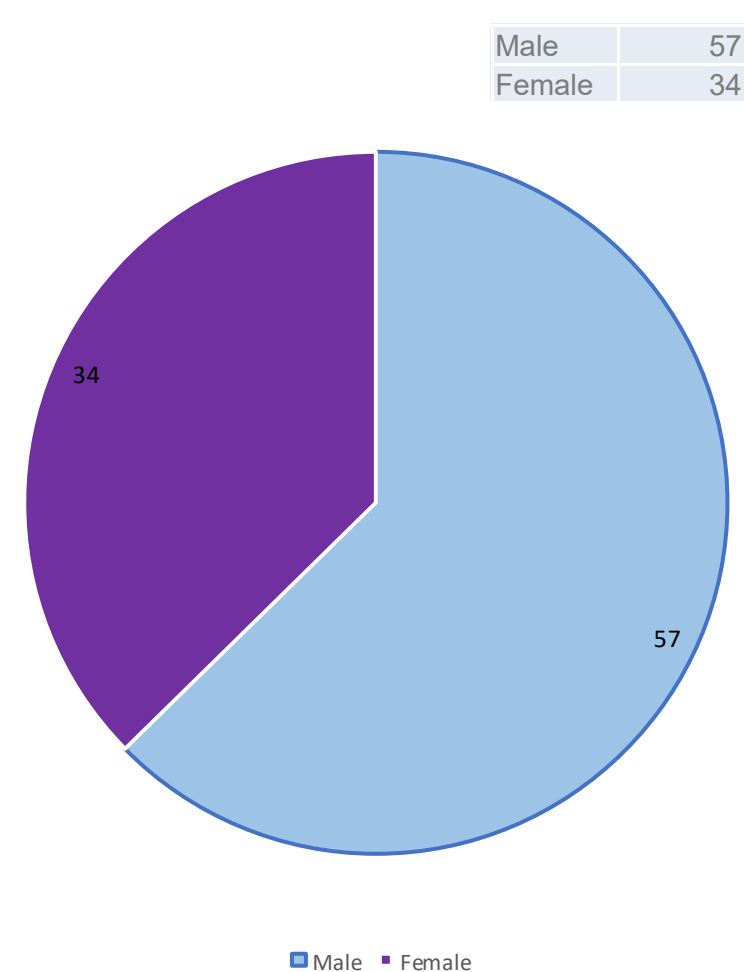


Fig 3— Diabetes type

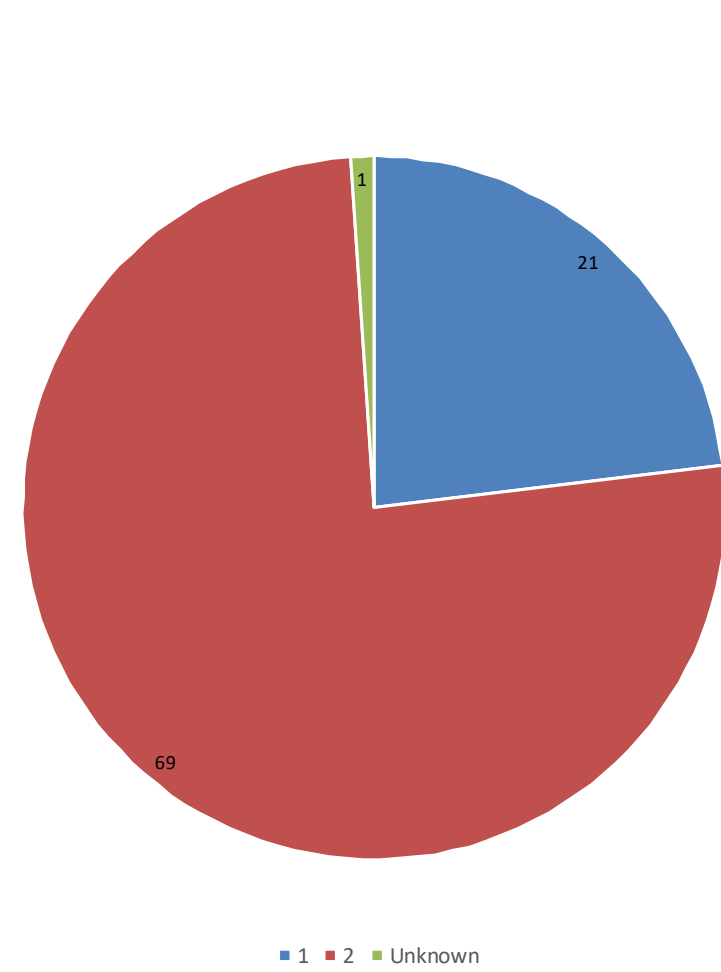


Fig 4— Referral to appointment duration

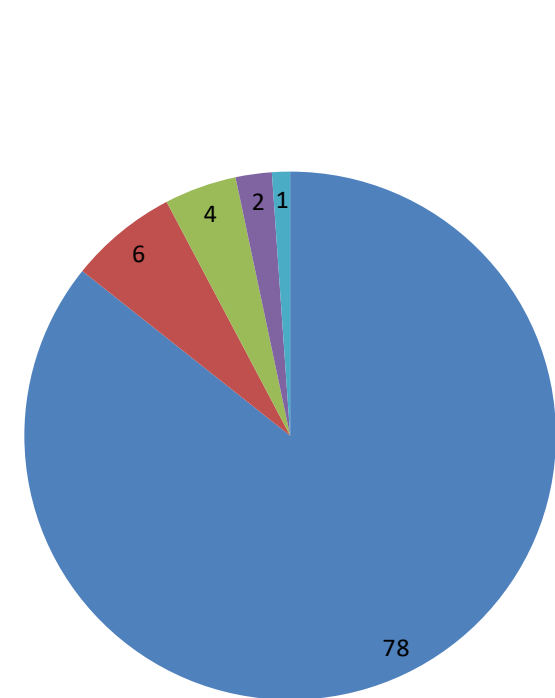


Fig 5 — Referral Lesions

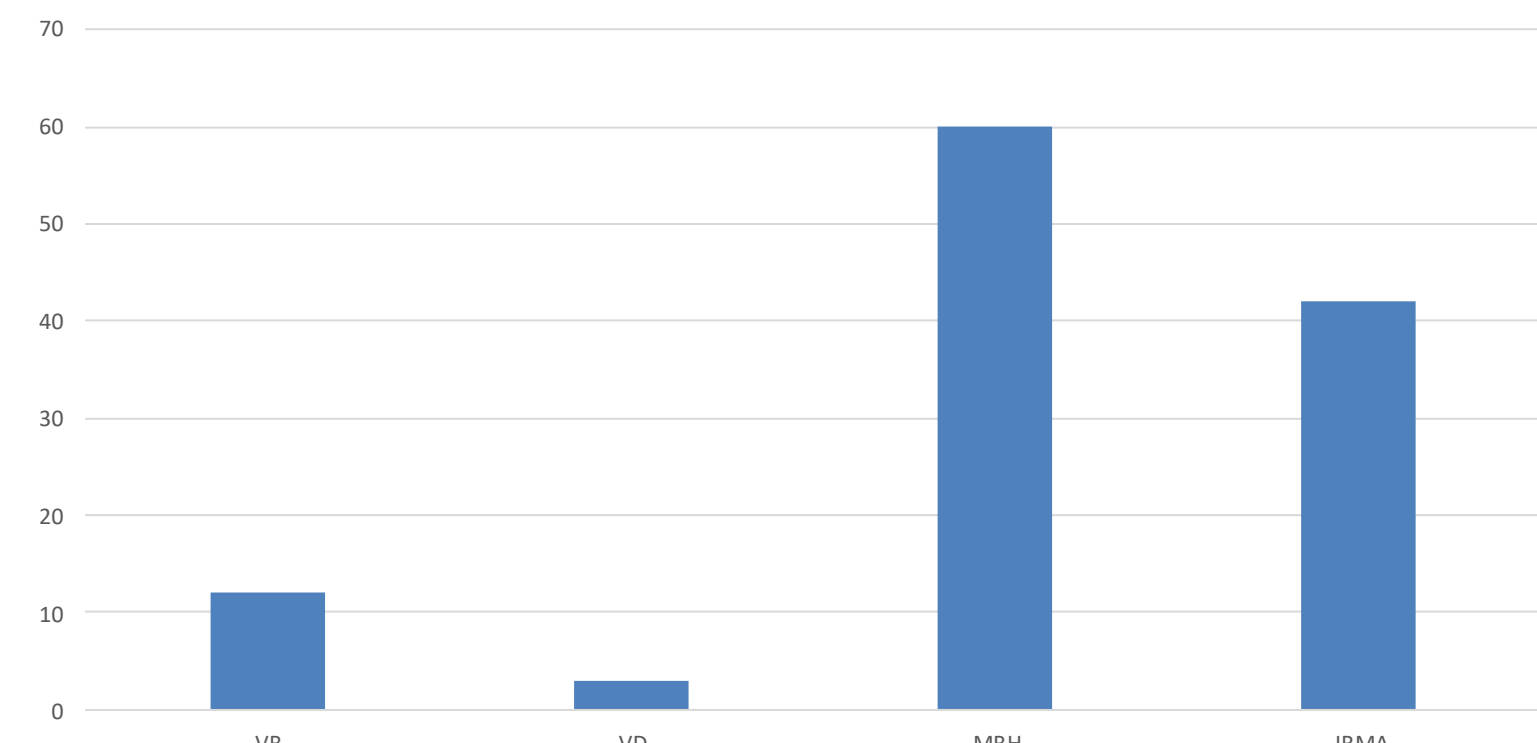


Fig 12 — Referral Lesions

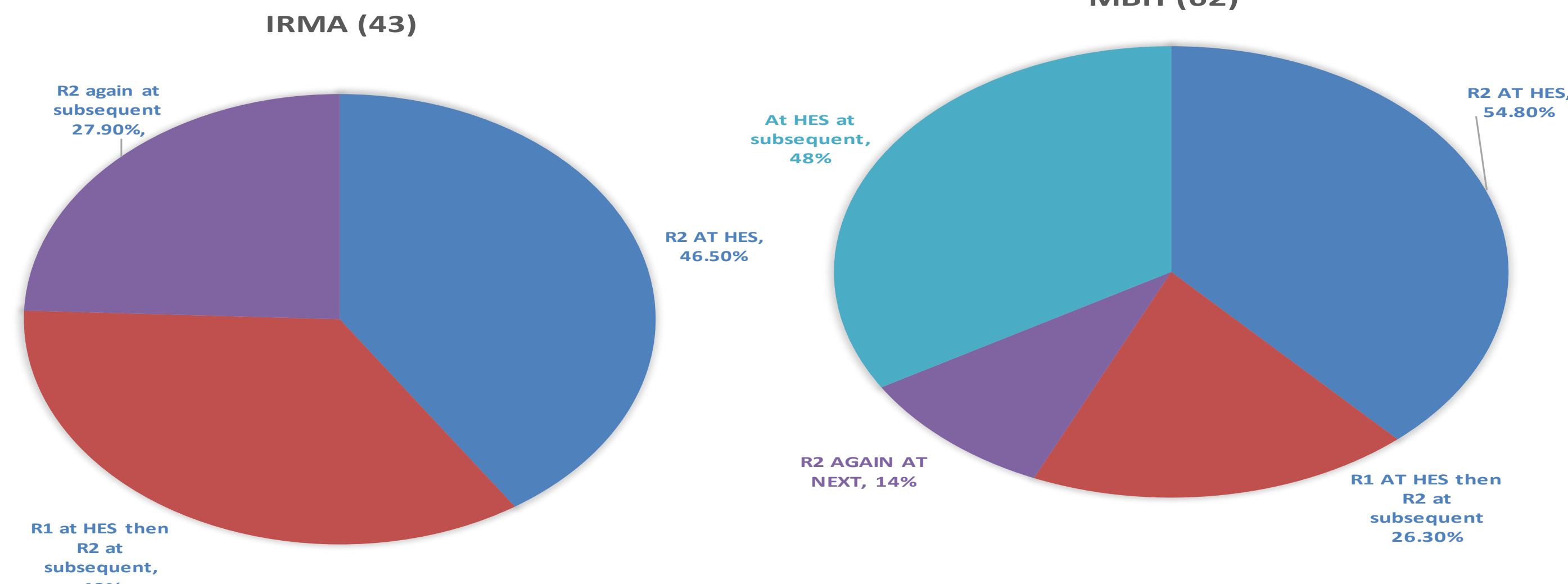
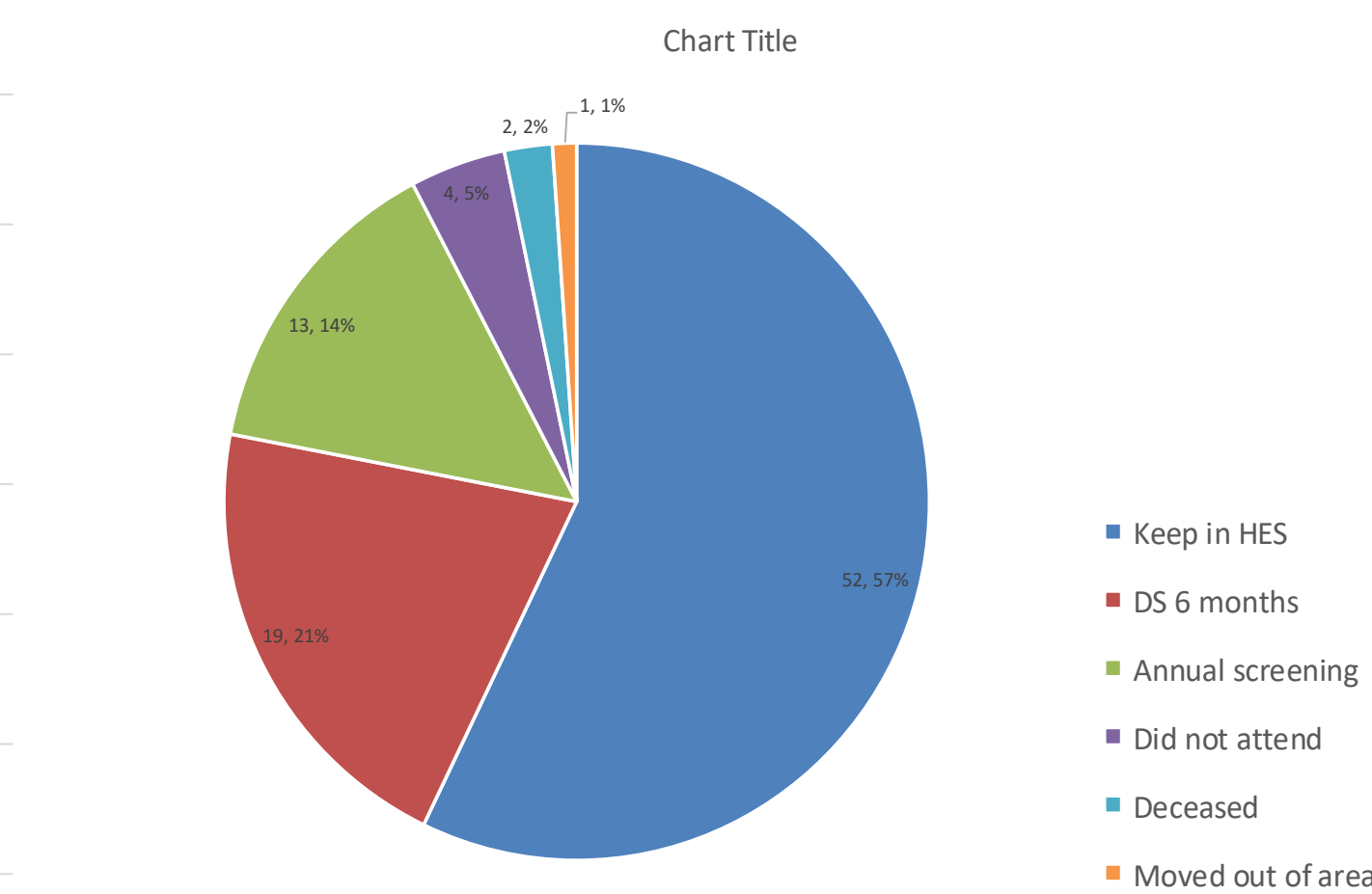


Fig 7— Outcome at HES



Fig 8—outcome at HES



- We looked at the patients subsequent screening after discharge.
- Of the 13 that were put on AR to see if any had STDR. 3 were found to be R1, 8 were R2, 1 was deceased and had no information.
- Of the 30 found to be over graded we found 9 to still be R2, 1 was graded R3A (originally kept in HES, DNA and screening community 18 months later and 9 remained in HES. Fig 9 and 11.
- Of those agreed R2 patients, 17 were found to still be R2. Fig 10 and 11.
- Those under graded remained in HES. Fig 11.

Fig 9

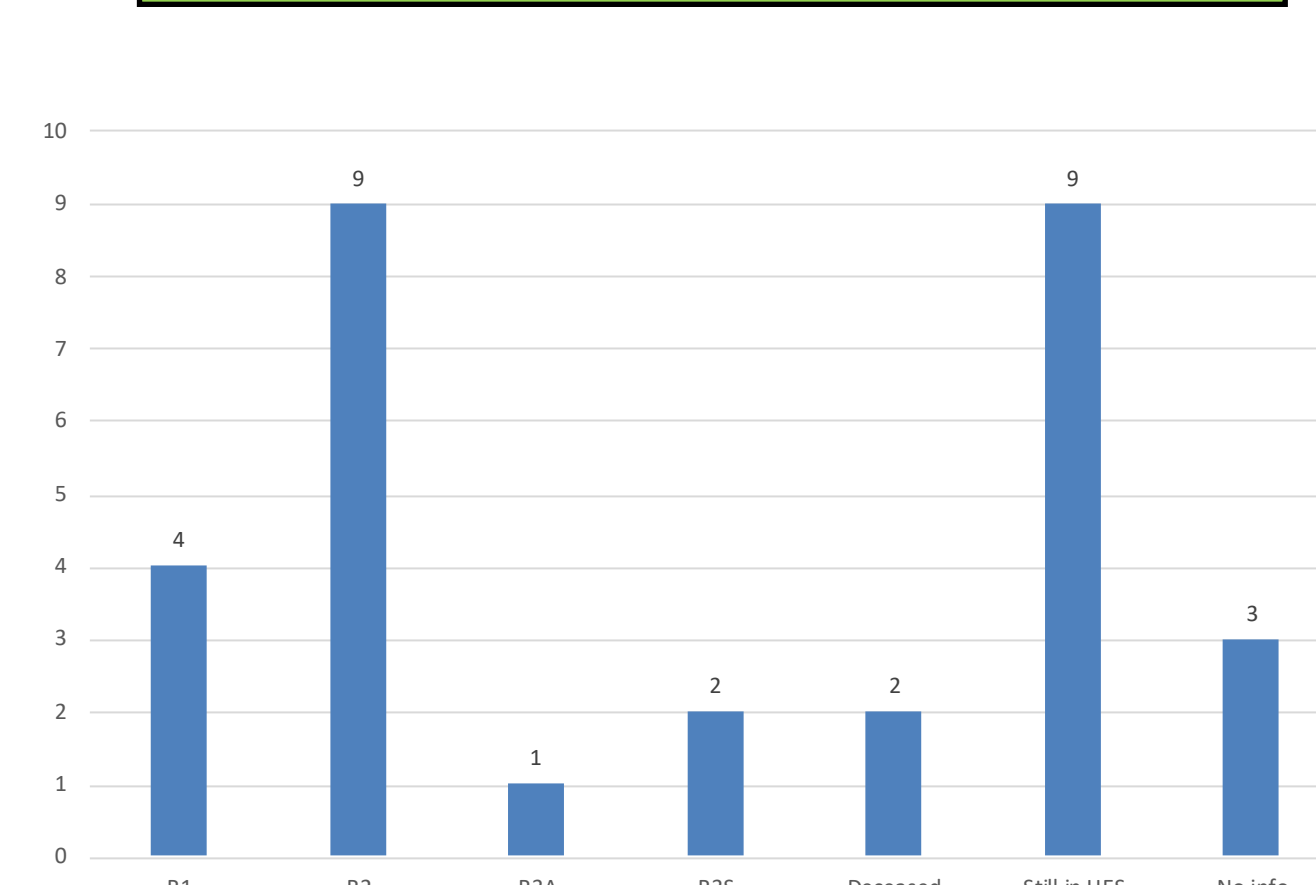


Fig 10

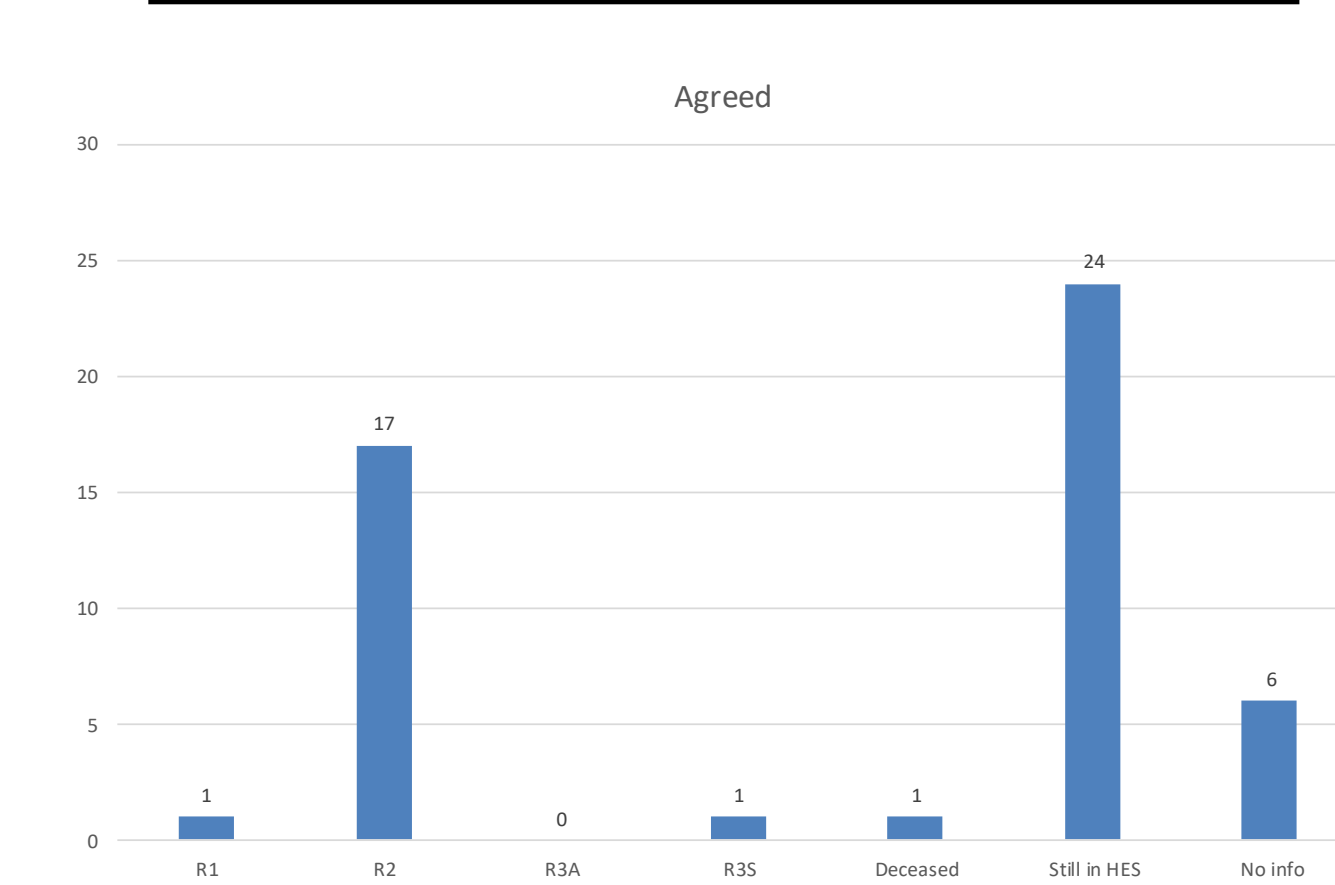


Fig 11— subsequent screening comparison

	HES Grade	Overgraded	Agreed	Undergraded
None Given		1		0
R1M0		16	4	0
R1M1		12	1	0
R2M0		27	5	0
R2M1		23	4	0
R3AM0		2	0	0
R3AM1		1	1	0
R3SM0		1	1	0
R3SM1		1	2	0
Remaining in HES			9	24
Deceased			2	1
NO info			3	

- The following Fig 12, is a look at the R2 lesions found, looking to see if the different grade at HES was associated with certain lesions eg. IRMA harder to see on Slit Lamp.
- 26% of MBH featured patients were graded as R1 at HES and then 14% were graded R2 again at subsequent screening. This is compared with 40% of IRMA featured patients graded R1 at HES and then 27% of those patients were graded R2 again at the subsequent screen.

Fig 6— HES grade

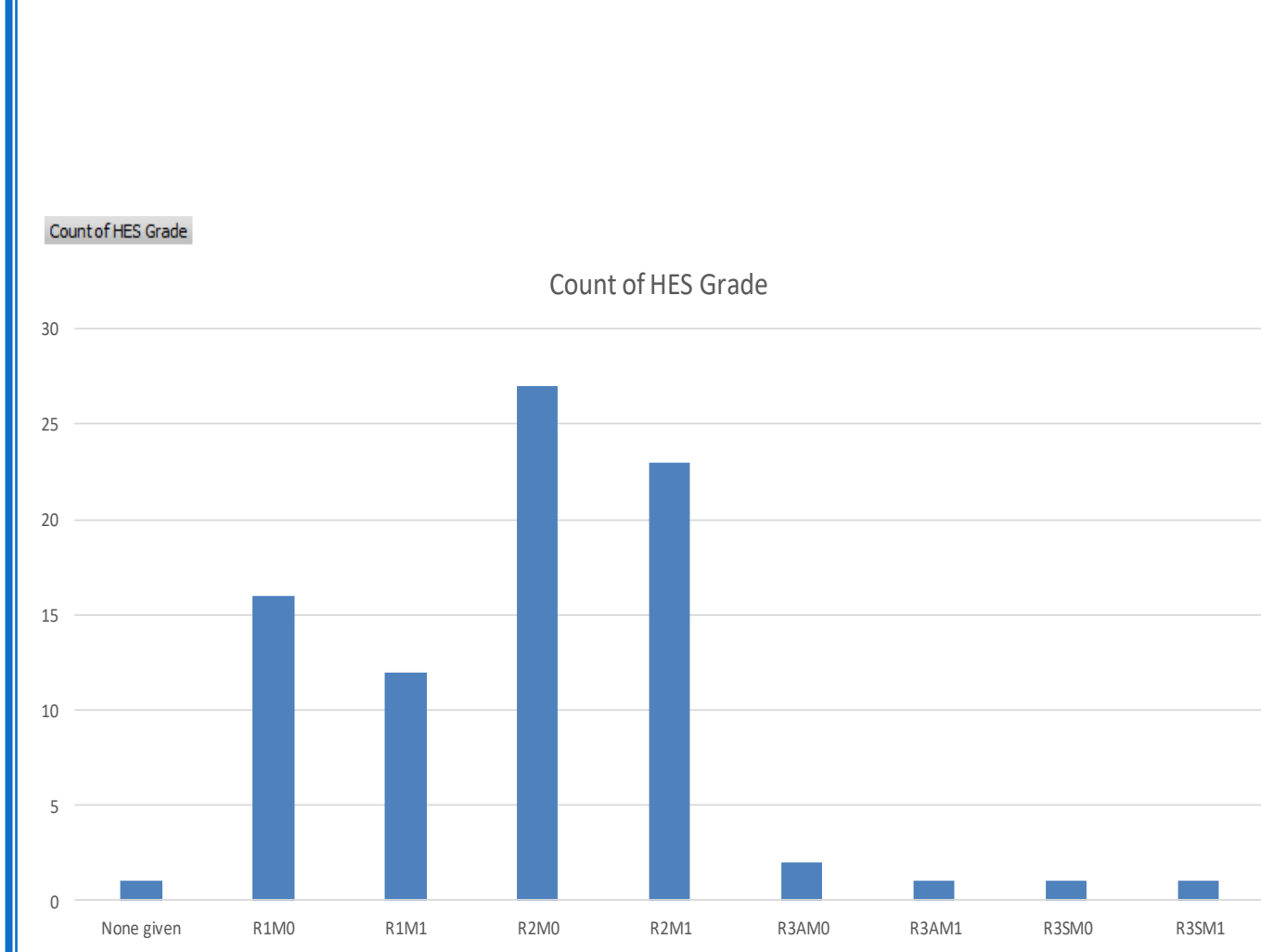
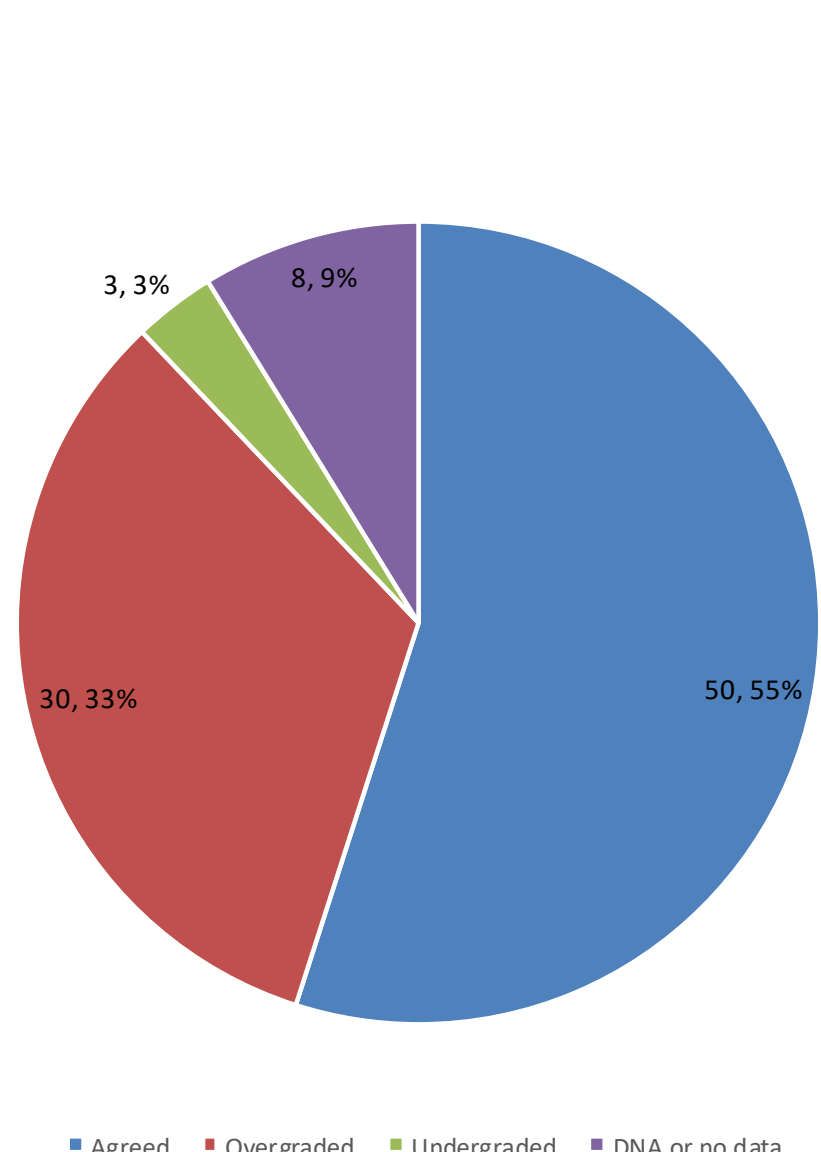


Fig 7— Agreement of R grade



Conclusion

In conclusion

- The DESP-HES agreement rate for R2 referrals were at 55% (50), We over-graded 33%(30) under-graded 3% (3).
- Of the 30 over-graded at the subsequent screening 9 were graded again as R2 by the DESP. 8 patients put back on annual recall by HES were graded as R2 at the subsequent screening.
- The R3A patients remained under HES and the R3S graded patients at HES were regraded as R3S at the subsequent screening.
- The patients were seen by various different clinicians in HES, whom may have had different opinions regarding what constitutes an R2 patient.
- The mean duration from referral time to appointment time 82 days

Overall, we believe that this demonstrates that our grading was broadly in line with how the HES was classifying patients and overall our level of grading was safe in respect that there wasn't much STDR not picked up by screening.

Taking into account the lesions and what was found on the subsequent screen there is a possible difference between Plymouth DESP and HES grading of R2 with a 55% agreement rate. However, 57% remained in HES after the appointment. With regards to under-grading (3%), Plymouth DESP did miss R3A (2 patients –no suspicious R3a features reviewing the images, 1 patient –suspicious); all patients were reviewed in HES within the time scale.