

COMMUNITY SURVEILLANCE OF PATIENTS WITH STABLE PROLIFERATIVE DIABETIC RETINOPATHY

AUTHORS

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INTRODUCTION

This study was undertaken to look at the attendance and outcomes of patients with stable proliferative diabetic retinopathy (R3S) who attend OCT screening in their community after being discharged from their local treatment centres (TCs). Until recently, RetinaScreen patients with proliferative diabetic retinopathy (DR) were retained in one of the six few TCs in Ireland. Patients often lived a significant distance from these centres and coupled with frequent appointments made DR monitoring and treatment a burden. The digital surveillance (DS) pathway provides Optical Coherence Tomography and moves these appointments closer to where patients live, for those that have stable proliferative DR.

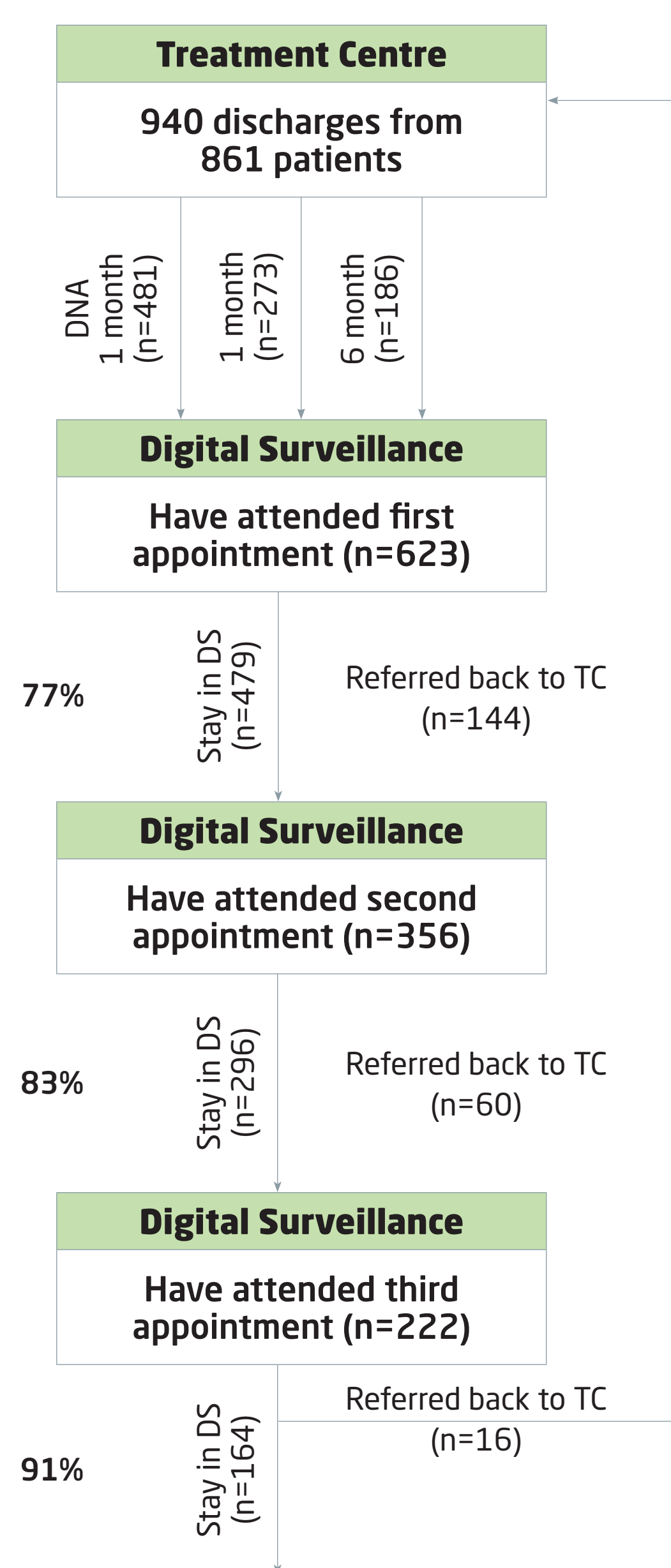
Non-attendance is an issue within both the screening programme and the TCs. Patients who repeatedly do not attend TC appointments are discharged back into the community. This study aims to examine the discharges into DS from completed treatment and non-attendance.

METHODOLOGY

The study looked at the data of patients who were discharged from TCs into DS from its inception in 2019. The data was extracted from NEC's OptoMize programme that is used when processing patients. These data included information on age, diabetes type, duration of diabetes, DR grade and the reason for discharge. Patient were included in this study if they were discharge with stable retinopathy or discharged for non-attendance.

Summary statistics and non-attendance rates were calculated from the discharges. A logistic regression was carried out to determine factors with re-referral to treatment centres at their first DS appointment.

Figure 1: Flowchart of patients referred into DS



RESULTS

A total of 940 discharges from 861 patients were recorded during the study period. Approximately two-thirds were male and 43% had Type 2 Diabetes. Just over half were discharged for non-attendance (Table 1). Those with Type 2 were on average older and had a shorter duration of diabetes than those with Type 1.

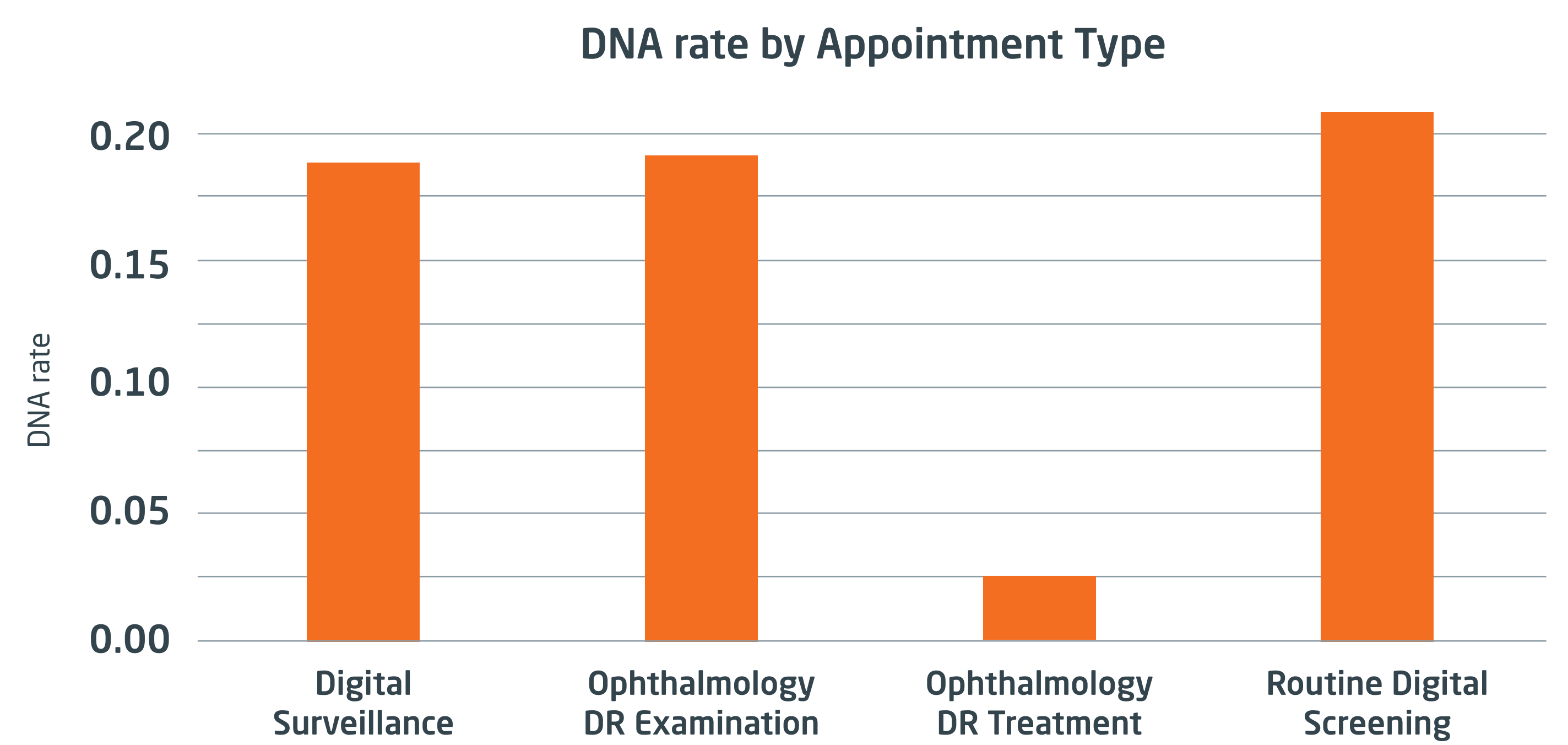
Table 1: Summary Characteristics of Population

	Type 1 DM	Type 2 DM	P
n	539	401	
Age (mean (SD))	54.56 (13.14)	68.93 (11.69)	<0.001
Duration (mean (SD))	37.53 (11.24)	22.04 (10.29)	<0.001
Sex = Male (%)	325 (60.3)	309 (77.1)	<0.001
Worst Grade (%)			0.422
No Grade (DNA)	278 (51.6)	203 (50.6)	
R3SM0	198 (36.7)	141 (35.2)	
R3SM1	60 (11.1)	51 (12.7)	
Ungradable	3 (0.6)	6 (1.5)	
Screening Outcome (%)			0.198
Discharge ICO to DS 1 month	146 (27.1)	127 (31.7)	
Discharge ICO to DS 1 month non-attendance	278 (51.6)	203 (50.6)	
Discharge ICO to DS 6 month	115 (21.3)	71 (17.7)	

The non-attendance rate at DS appointment was 18.6% which was slightly lower than that of hospital examination (TC) appointments (19.0%) and Routine screening appointments (20.7%).

For those re-referred to TCs, almost all were for DR (98%) and the remainder were for non-DR. Of those re-referred, 73% were originally discharged for non-attendance.

Figure 2: Rates of non-attendance within DS and TCs



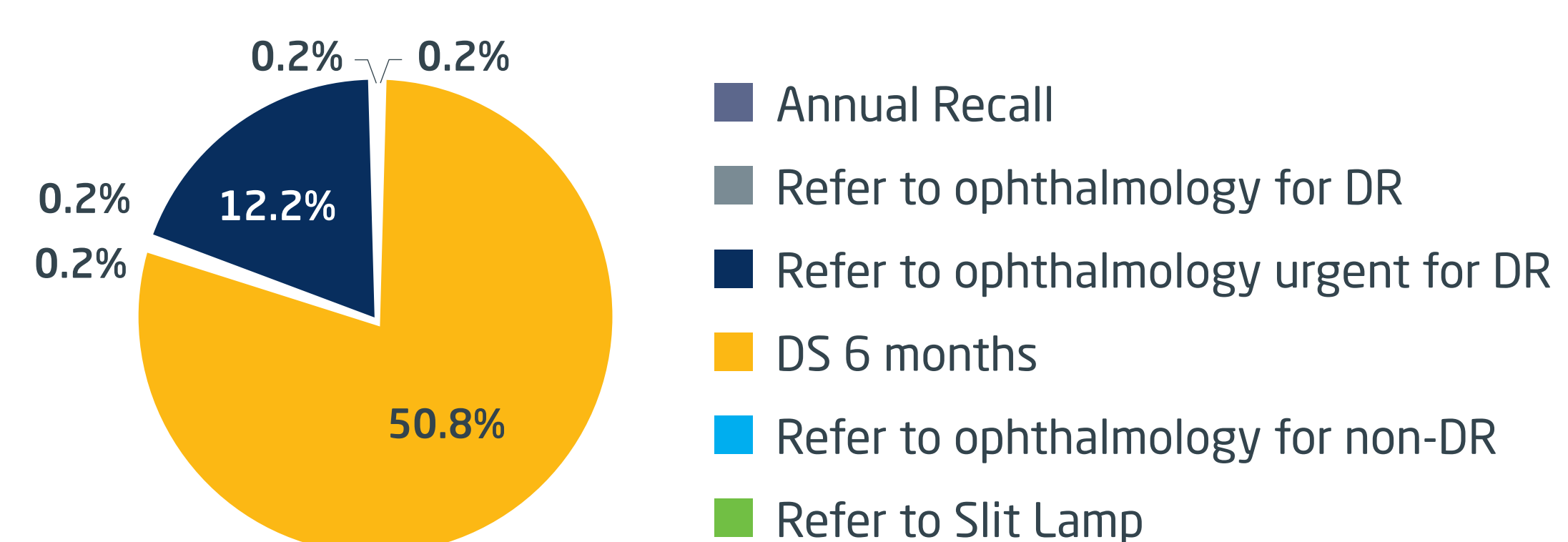
If a patient was discharged from TCs for non-attendance they were much more likely (OR1.56) to be re-referred on their first DS appointment. Age, Diabetes type and Sex were not significantly associated with re-referral.

Table 2: Results of logistic regression

	Estimate	Conf Int	p
Age	1.01	0.99-1.02	0.310
Diabetes Type (T2DM)	1.30	0.99-1.97	0.221
Sex	1.41	0.94-2.16	0.104
DNA Discharge from TC	1.56	1.05-2.36	0.031

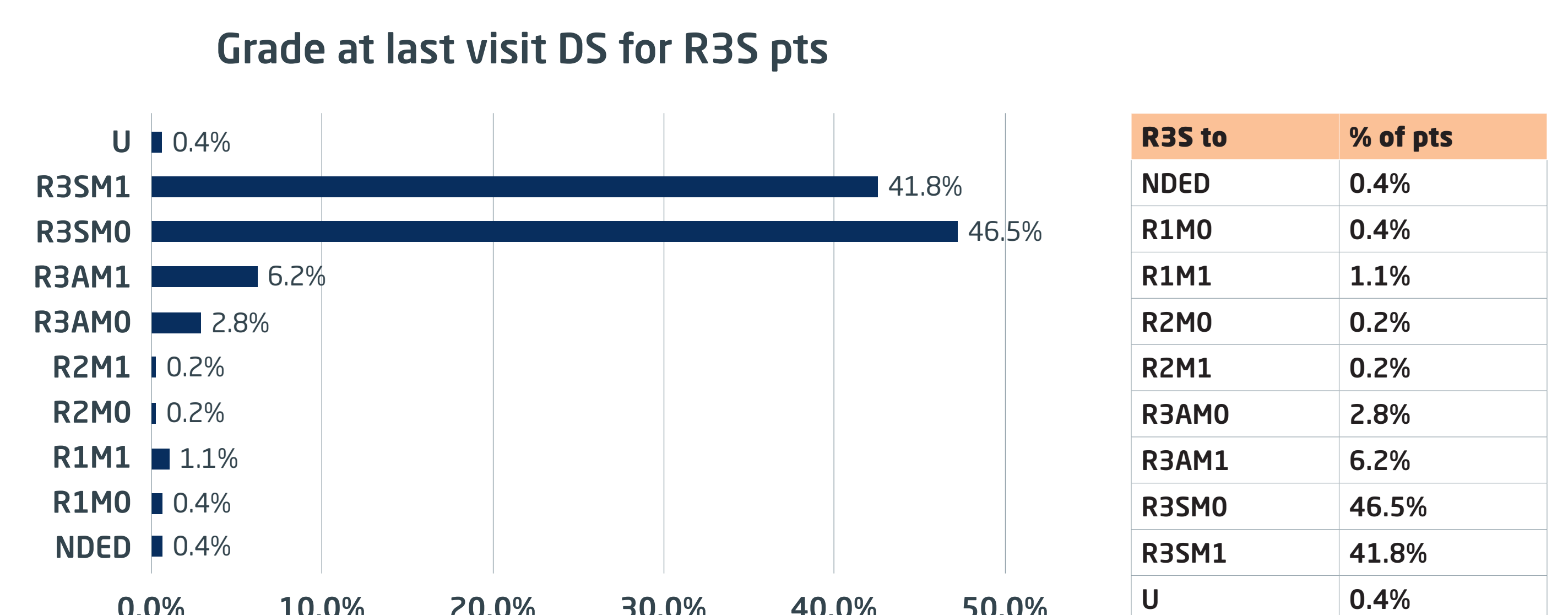
Looking at the outcomes of these patients we see that 50.8% remain in the DS pathway, and 12.2% are returned to ophthalmology urgently.

Figure 3: Final outcomes of R3S pts attending multiple appointments in DS



Examining the progression of this patient cohort we see that 88.3% remain stable, with only 9% progressing to active proliferative retinopathy.

Figure 4: Showing the progression in grade of the R3S patients



CONCLUSION

Preliminary data show that a significant majority of patients remain in DS once discharged and that the vast majority remain stable. The non-attendance of patients with document proliferative DR presents a challenge for both treatment centres and for digital surveillance which is within the patient's local settings