Is there variability in visual acuity of patients with diabetic maculopathy recorded in the Digital Diabetic Eye Screening Service compared to the Hospital Eye Service?

N. Bilkhu, H. Wharton, M. Clarke, A. Syed and P. Dodson
Departments of Diabetes & Ophthalmology, Heartlands Hospital, Birmingham UK

Introduction
The main aim of diabetic eye screening is to detect patients with sight threatening changes and refer them to the Hospital Eye Service (HES) for monitoring or treatment.
• Accurate measurement of visual acuity (VA) is an integral part of screening as it can affect patient outcome.

Aim
To determine whether VA recording is reliable and reproducible between screening and HES.
• This is particularly important to those with referable maculopathy (R1M1) defined by macular haemorrhages/microaneurysms (H/MA’s) within one disc-diameter (1DD) of the fovea with VA >6/9, in the English Diabetic Eye Screening Programme (EDESP).

Methods
A retrospective analysis of East and North Birmingham patients referred to HES for the first time from screening for maculopathy over a 15 month period. VA was recorded using Snellen at Screening and HES appointments.
• Data on 193 eyes of 140 patients were analysed.

Comparison of VA at screening, first HES, and year follow-up HES appointments (Figure 2), shows less variability between VA’s recorded in HES.
• More variability is shown for VA’s <6/12 between screening and first HES appointment.

Results
• 170 eyes had maculopathy defined by the presence of macular exudates, and 23 eyes had maculopathy defined as H/MA’s within 1DD with VA >6/9.

Variability of VA recorded at screening and first HES appointment. (Figure 3).

From screening to first HES appointment 35 eyes (19%) of 193 eyes showed an improvement in visual acuity, where 12% of eyes improved by one line, 6% improved by two lines, and 1% improved by three lines.

Conclusions
• VA recorded during the screening process and HES shows a considerable variability when using Snellen recording (Figure 3).
• This is important particularly for those patients with referable maculopathy, due to H/MA’s within 1DD with VA >6/9, in which a third of patients show that on a repeat of VA’s, would not necessitate eye clinic referral.
• Therefore, training to achieve accurate VA testing at screening should be beneficial to thereby prevent unnecessary eye clinic referrals. This data is supported by Maling et al. 1