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**Project:** Diabetes Care in General Practice – Retinal Screening  
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**Introduction:**

Globally, diabetes is reaching epidemic proportions and it is currently New Zealand's largest and fastest growing health concern. Diabetic retinopathy is a serious complication. In this disorder smaller blood vessels supplying the retina are damaged. Approximately 30% of people with diabetes have retinopathy and 10% have sight threatening retinopathy. Diabetic retinopathy is insidious with symptoms only presenting at advanced stages of disease. Therefore, retinal screening has a pivotal role in the early detection of diabetic retinopathy before there is permanent visual impairment or blindness. Canterbury District Health Board's (CDHB) diabetic retinal photographic screening service (DRPSS) is currently offered at the ophthalmology department and six community optometrists. Data from the three primary health organisations (PHOs) in Canterbury has revealed that only 65.1% of people with diabetes have received a retinal screen through the DRPSS within the recommended time frame. This study was designed to obtain information from people with diabetes who were recorded as not having had free retinal screening to ascertain what barriers they encountered.

**Aim:**

To investigate:

- Barriers to receiving diabetic retinal screening through the DRPSS
- Alternative pathways to receiving diabetic retinal screening

**Impact:**

Identification of barriers to accessing the diabetic retinal screening programme in Canterbury should provide evidence for intervention to improve diabetic retinal screening rates.

**Method:**

People with diabetes who were recorded as not receiving diabetic retinal screening through the DRPSS in the previous three years were recruited to the study population. Three hundred and five patients were randomly selected to participate in a mailed questionnaire which could be completed manually or through a link to an online survey. The questionnaire included a total of 11 open and closed questions regarding previous attendance and barriers. An information letter and consent form were included in the mail out. The responses were assessed for barriers to screening and whether alternative pathways had been accessed such as private ophthalmology or optometry. Comparison was made with referral data from the CDHB Referral Centre to analyse diabetic retinal screening attendance through the DRPSS.

**Results:**

The survey was completed by 86 of the 305 individuals contacted. Eleven percent had type 1 diabetes, 80% type 2 diabetes and 5% reported that they did not have diabetes. Ten percent of the responses were received via the online survey. Of the 86 respondents, 52% reported having received a free retinal screen since being diagnosed with diabetes and 37% did not. For the 32 respondents who said they had not received DRPSS screening, 76% stated they did not receive or did not recall receiving an appointment.

Respondents who had not received a free retinal screen and did not receive an appointment were more likely to report barriers to accessing the screening service. The most commonly reported barriers to attending a free diabetic retinal screen were transport issues, lack of referral or being unaware of the free service options. Furthermore, for respondents who received a referral but did not attend the appointment they reported having had their eyes checked elsewhere and the DRPSS being inconvenient. However, this aspect of the study was limited by the low response rate of 28%.

Interestingly, 90% of all respondents reported to have had their eyes checked by an optometrist or ophthalmologist, 83% of these within the last two years. However, it is not known if these visits included a diabetic retinal screen. It is important to note that the original study population consisted of 237 people of NZ/European, 26 of Maori and 13 of Pacifica ethnicities, whereas 73 respondents identified as NZ/European, with only four identifying as Maori, one as Pacifica.

Of the 52% that reported having received free retinal screening since being diagnosed with diabetes, 86% attended their retinal screening within the last two years. This falls within the recommended time frame outlined in the Ministry of Health guidelines. However, analysis of respondent responses compared to CDHB Referral Centre data revealed that only 29% of respondents that reported receiving free retinal screening had actually been screened through the DRPSS. This finding suggests there is a major misconception that diabetic retinal screening is covered as part of a regular eye examination.

**Conclusion:**

The findings from this study indicate that a large proportion of patients with diabetes are unsure as to what diabetic retinal screening is. Further education is required for health care professionals and for people with diabetes to ensure that these individuals are aware of the important role of diabetic retinal screening and the screening services available. Moreover, the mediocre response rate to the survey and the non-attendance for screening of patients invited by mail suggests that traditional forms of communication are currently inadequate. Thus, different forms of communication such as email or text should be considered to better connect with all patients with diabetes. Further research is suggested on a larger sample of diabetic patients, whether screened or not, to obtain sufficient data on barriers and facilitators which would enable the DRPSS to develop in a way that increases overall and equitable access.