

Diabetic retinopathy research could reduce screening costs

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Research carried out at the Peninsula College of Medicine and Dentistry (PCMD), University of Exeter, has concluded that it would be a safe and cost-effective strategy to screen people with type 2 diabetes who have not yet developed diabetic retinopathy, for the disease once every two years instead of annually.

The research is supported by funding from the National Institute for Health Research Peninsula Collaboration for Leadership in Applied Health Research and Care (NIHR PenCLAHRC). It is published today on-line in [Diabetes Care](#).

Diabetic retinopathy is a common complication of [diabetes](#). It occurs when high [blood sugar levels](#) damage the cells in the [retina](#) and, if not treated, can lead to [blindness](#). In all but some cases diabetic retinopathy has a typically slow rate of progression and can take years to develop.

The research team developed a model that simulated the progression of retinopathy in type 2 diabetes and related screening, in order to predict the rates of retinopathy-related sight loss. The model used data from the Royal Devon & Exeter NHS Foundation Trust in the South West of the UK and the research team generated comparative 15-year forecasts to assess the differences between current screening policies and those proposed by the findings of the study.

The study concluded that it is safe to screen [type 2 diabetes](#) patients who have not been diagnosed with retinopathy every two years rather than

annually, because the research team found that the proportion of patients who develop retinopathy-related sight loss was no different between the two screening intervals.

Proposed savings for the Royal Devon & Exeter Hospital, for which 3,537 of the patients it screens for retinopathy fell into the remit of this study, would be a reduction in costs from £1.83m a year to £1.36m. The study predicts savings of around 25 per cent based on standard assumptions of screening costs.

According to Diabetes UK, some 2.8m people in the UK have diabetes and 10 per cent of them are diagnosed with retinopathy.

The UK's National Institute for Clinical Excellence introduced guidelines for annual screening, but admits that this frequency is arbitrary and has welcomed research to investigate appropriate intervals between screening appointments.

The study was led by Dr. Daniel Chalk, Associate Research Fellow in Applied Operational Research, Peninsula Collaboration for Health, Operational Research and Development (PenCHORD), PCMD. He said: "This is not the first study to investigate screening for diabetic retinopathy, but it is the first to focus on the group of type 2 diabetics who have not yet been diagnosed for the condition. [Diabetic retinopathy](#) typically develops at a very slow pace, and as a consequence we wanted to identify whether or not there was any merit in reducing the frequency of screening from annually to every two years."

He added: "We found that there was no perceivable difference in the effectiveness of screening annually or every two years for this particular patient cohort, which would suggest that it would be safe and cost-effective to increase the screening interval to two years. In order to support this, an effective recall system and campaign to impress upon

patients the continuing importance of such screening would be beneficial – a lengthening of the screening interval in no way undermines the validity of the screening process itself."

Provided by The Peninsula College of Medicine and Dentistry

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