

## Retinopathy

### Telephone intervention to promote diabetic retinopathy screening among the urban poor



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**T**he Vision is Precious study (summarised alongside) provides valuable insight into barriers to screening for diabetic retinopathy and suggests an effective intervention.

Conducted between 2001 and 2005 in low income, minority residents in the Bronx borough of New York City, US, the study compared telephone calls (up to seven per patient) versus written letter intervention in individuals who had not attended a diabetic retinopathy screening during the previous year. The focus of the telephone calls, conducted by trained, bilingual interventionists, was to elicit the barriers to screening attendance and to educate and motivate the individual contacted. Half the participants completed both a pre- and post-intervention survey using The Risk Perception Survey for Diabetes Mellitus (RPS-DM; available at: [www.aecom.yu.edu/diabetes/surveyinstruments.ae](http://www.aecom.yu.edu/diabetes/surveyinstruments.ae)), and the other half only the post-intervention survey. The primary aim of the study was to achieve screening within 6 months of intervention.

The two interventions resulted in only 19.5% in the print group and 33.8% of participants in the telephone group attending screening, reflecting the huge issues to be overcome in such patient populations. The telephone intervention, however,

was 74% more effective than the standard print model, showing that in this low-income, urban, minority population participation in diabetic retinopathy screening was significantly improved by telephone contact. Interestingly, telephone intervention was particularly effective in participants who were more realistic with regards to the risk of diabetes complications, in those whose initial worry about diabetes was higher and, surprisingly, in individuals with the worst glycaemic control; however, these two patient groups might be linked if the individual is aware that poor glycaemic control increases the risk of developing complications. Overall, the fourth phone call was the most effective, encouraging 18% participants to attend.

This study clearly demonstrates the value of a personal, tailored education and motivation programme for patients. The cost of providing this service was not presented in the paper, but is likely to be considerable. Participants received on average 3.2 phone calls and spoke to a health educator for 28.1 minutes during the 6-month study period. A total of 4147 calls were unsuccessful. The cost-effectiveness of such interventions, however, should be weighed against the social and economic cost of visual impairment resulting from lack of diabetic retinopathy screening, and should thus be carefully considered by health commissioners of screening programmes in this light.

### AMERICAN JOURNAL OF PREVENTIVE MEDICINE

#### Telephone intervention improves screening attendance

Readability	✓✓✓✓
Applicability to practice	✓✓✓✓
WOW! factor	✓✓✓

**1** Diabetic retinopathy screening, such as the dilated fundus examination (DFE), can detect disease early enough for treatment to be successful, which in turn can prevent serious eye complications or blindness; early screening, however, is suboptimal in people with diabetes, particularly those from a poorer or minority populations.

**2** Reminders to attend yearly retinopathy screening are usually sent to patients in writing; this randomized controlled trial, however, tested a tailored telephone intervention, to determine if this method is more effective at increasing rates of DFES. This study was performed in New York City, US.

**3** The authors devised a telephone request to attend a DFE in both English and Spanish, and studied the effect of this intervention in patients from minority groups over 6 months.

**4** The patients included in this study were on average 57 years old, 40% male, 39% on a low household income; with regards to ethnicity and language, 45% were black, 42% were either Hispanic or Latino, and 23% chose Spanish as their preferred language.

**5** A significant effect of the tailored telephone intervention was observed; 74% more patients attended for DFES compared with those receiving only the print intervention ( $P<0.0005$ ).

**6** Telephone intervention for screening was most successful in patients who had poor control of their disease.

**7** In low-income, minority populations, intervention by telephone significantly improves rate of diabetic retinopathy screening.

Walker EA, Schechter CB, Caban A et al (2008) Telephone intervention to promote diabetic retinopathy screening among the urban poor. *American Journal of Preventive Medicine* **34**: 185–91

### AMERICAN JOURNAL OF OPHTHALMOLOGY

#### CSME indicative of risk in patients older at diagnosis

Readability	✓✓✓✓
Applicability to practice	✓✓✓
WOW! factor	✓✓

**1** Studies have indicated that retinopathy might be an overall risk factor for cardiovascular morbidity.

**2** This population-based study of patients with type 1 and type 2 diabetes investigated the association

between prevalence of clinically significant macular oedema (CSME) and survival; factors contributing to death and age at diagnosis were also analysed.

**3** CSME developed in 5.9% of younger onset patients and 7.5% of older onset patients.

**4** Occurrence of CSME was not significantly associated with death by any cause ( $P=0.08$ ) in the younger patient group; however, in the older group presence of CSME was related to the rate of death, particularly that related to heart disease ( $P<0.01$ ).

Hirai FE, Knudtson MD, Klein BEK et al (2008) Clinically significant macular edema and survival in type 1 and type 2 diabetes. *American Journal of Ophthalmology* **145**: 700–6

## AMERICAN JOURNAL OF OPHTHALMOLOGY

### Triamcinolone acetonide injections are more effective for reducing DME

Readability	✓✓✓✓
Applicability to practice	✓✓✓✓
WOW! factor	✓✓

**1** Intravitreal injections with bevacizumab and triamcinolone are usually prescribed to treat diabetic macular oedema in patients with diabetes; however, the comparative efficacy is not known.

**2** This prospective case series study compared the efficacy of triamcinolone, a corticosteroid, with bevacizumab, an anti-vascular endothelial growth factor antibody.

**3** The researchers studied both eyes of 14 patients with bilateral diabetic macular oedema; participants were injected with 4 mg triamcinolone acetonide in one eye, and 1.25 mg bevacizumab in the other.

**4** Participants were monitored for 24 weeks after treatment; effectiveness of treatment was measured by changes in visual acuity, measured as a logarithm of the measured angle of resolution chart and average foveal thickness on optical coherence tomography.

**5** Macular oedema was improved in both eyes after one week of treatment; eyes treated with triamcinolone were significantly improved ( $342.6 \pm 85.5\mu\text{m}$  and  $0.33 \pm 0.21\mu\text{m}$ ), compared with bevacizumab ( $397.6 \pm 103.0\mu\text{m}$  and  $0.37 \pm 0.17\mu\text{m}$ ).

**6** Diabetic macular oedema recurred in both eyes within the 24-week study period, but the effect of triamcinolone lasted longer.

**7** Triamcinolone is thus more effective for treatment of diabetic macular oedema than bevacizumab.

Shimura M, Nakazawa T, Yasuda K et al (2008) Comparative therapy evaluation of intravitreal bevacizumab and triamcinolone acetonide on persistent diffuse diabetic macular edema. *American Journal of Ophthalmology* **145**: 854–61

## ACTA OPHTHALMOLOGICA

### OCT helps predict outcome after laser treatment

Readability	✓✓✓
Applicability to practice	✓✓✓✓
WOW! factor	✓✓

**1** Diffuse diabetic macular oedema is treated with grid laser photocoagulation. Optical coherence tomography (OCT) mapping can be used to measure retinal thickness and intraretinal morphological changes

before and after treatment.

**2** In this study, OCT measurements were obtained from participants with untreated diabetic macular oedema at 1, 3, and 6 months after treatment, in order to ascertain if OCT mapping is effective at predicting visual improvement after laser treatment.

**3** The authors concluded that the extent to which OCT could help to predict the success of laser treatment was apparent after 1 month; OCT can help predict overall final visual outcome and foveal thickness after treatment.

Soliman W, Sander B, Abd El-Naser Soliman K et al (2008) The predictive value of optical coherence tomography after grid laser photocoagulation for diffuse diabetic macular oedema. *Acta Ophthalmologica* **86**: 284–91

## CLINICAL AND EXPERIMENTAL OPHTHALMOLOGY

### Eye screening poor in Myanmar, despite awareness of risk

Readability	✓✓✓✓
Applicability to practice	✓✓✓
WOW! factor	✓✓

**1** The incidence of diabetes in the Asia-Oceania region is high, and it is estimated that half of the world's population diagnosed with diabetes in the future will be located in this region. Consequently, improving the standard of diabetes care in this part of the world is of vital importance.

**2** This study surveyed 100 GPs from the Myanmar Medical Association Registry, and 480 of their patients; overall, 99% of GPs and 86% of patients were aware of the risk of eye disease in patients with diabetes.

**3** Despite awareness of the increased risks with diabetes, 49% of GPs admitted to never examining patients' eyes, and of the patients who completed the survey, only 57% had seen an ophthalmologist.

**4** Eye screening rates warrant improvement in these regions, particularly in under-educated patients.

Muecke JS, Newland HS, Ryan P et al (2008) Awareness of diabetic eye disease among general practitioners and diabetic patients in Yangon, Myanmar. *Clinical and Experimental Ophthalmology* **36**: 265–73

## DIABETES CARE

### Retinopathy risk similar across ethnic groups

Readability	✓✓✓
Applicability to practice	✓✓
WOW! factor	✓

**1** Seven-field stereoscopic photographs of both eyes from a total of 1605 patients enrolled in the ADVANCE trial were studied in order to determine risk of eye disease in patients from different ethnic backgrounds.

**2** A total of 645 patients had retinopathy and severe diabetic retinopathy was observed in 35 patients; both retinopathy and vascular lesions were increased in patients of Chinese and South Asian origin, compared with Caucasian patients ( $P < 0.001$  and  $P < 0.005$ , respectively).

**3** Although prevalence of retinopathy and lesions was increased in certain groups, the general risk of these disorders is similar across ethnic groups studied.

Stolk RP, van Schooneveld MJ, Kennedy Cruickshank J et al (2008) Retinal vascular lesions in patients of caucasian and asian origin with type 2 diabetes. *Diabetes Care* **31**: 708–13

*‘Optical coherence tomography can help predict overall final visual outcome and foveal thickness after treatment.’*