Sir,

I was very interested in the report by Newsom and colleagues about screening for diabetic retinopathy.[1] This paper exemplifies the problems with screening tests evaluated in a 'clinical laboratory' rather than in the community. The authors have selected a patient group from a diabetic retinopathy screening clinic or a medical retina clinic. On the basis of this preselected sample they report a positive predictive value (PPV) of 0.98 and 0.99 for the detection of any retinopathy by digital colour photography and oral fluorescein angiography (OFA) respectively. However, the PPV of a screening test varies significantly with the prevalence of the disease in the population. In their study population the prevalence of any retinopathy is 91%; in the real world only approximately one-third of a population of people with diabetes have some retinopathy.[2] Thus, if applied to a screening programme, the PPV of digital colour photography is likely to be 0.72 and that of OFA 0.68 based on a prevalence of 0.33. The main comparator study they quote had a sample of 124 subjects and compared digital images with slit-lamp examination for the detection of sight-threatening diabetic retinopathy (STDR).[3] It is difficult to make meaningful comparisons of this study with Newsom *et al.*'s report, as they are measuring different end-points: any retinopathy by Newsom *et al.* and STDR by Kerr *et al.* Again, allowing for a realistic prevalence of 0.13 for STDR,[2] the PPV of digital imaging for STDR by Kerr *et al.*'s method would be 0.31.

Also, whilst it is expeditious to separate diabetic retinopathy and maculopathy in a study, this makes it difficult to extrapolate the results reported by Newsom *et al.* to a screening programme. A more meaningful end-point is the detection of STDR, as the aim of a screening programme is to identify treatable pathology. Results of pilot studies about screening tests need to be interpreted in the correct epidemiological context for them to be meaningful and to allow comparisons to be made across studies.

References

1. Newsom R, Moate B, Casswell B. Screening for diabetic retinopathy using digital colour photography and oral fluorescein angiography. Eye 2000;14:579–82.
2. Broadbent DM, Scott JA, Vora JP, Harding SP. Prevalence of diabetic eye disease in an inner city population: the Liverpool Diabetic Eye Study. Eye 1999;13:160–5.
3. Kerr D, Cavan DA, Jennings B, Dunnington C, Gold D, Crick M. Beyond retinal screening: digital imaging in the assessment and follow-up of patients with diabetic retinopathy. Diabetic Med 1998;15:878–82.

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Sir,

We are grateful for the comments of Mr Prasad, who commented that the screening test statistics may be affected by the demographic characteristics of a population. This issue of methodological standards is the subject of a widespread debate and has particular relevance in tests using continuous data.[1–3]

Our paper assessed the usefulness of both oral fluorescein angiography (OFA) and digital colour photography for diabetic retinopathy and diabetic maculopathy screening. The population was recruited from a screening programme and a retinal clinic giving a high prevalence of diabetic retinopathy within the test population.

The paper stressed that OFA should be considered as second-line screening test when diabetic retinopathy had been diagnosed and maculopathy was suspected. In this population a high prevalence of retinopathy would be expected and our population characteristics were comparable.

Further the sensitivity and specificity detected, in our study, for colour digital screening for diabetic retinopathy were comparable with previously reported data.[4] Our finding that digital colour photography by itself was relatively insensitive for detecting diabetic maculopathy may therefore be relevant to several screening programmes. It also should be noted that some are now using the negative predictive value (NPV) as the key measure of a screening test, as patients with disease who are screened negative have a strong case for compensation.

References

1. Reid MC, Lachs MS, Feinstein AR. Use of methodological standards in diagnostic test research: getting better but still not good. JAMA 1995;274:645–51.
2. Harper R, Reeves BC. Compliance with methodological standards when evaluating ophthalmic diagnostic tests. Invest Ophthalmol Vis Sci 1999;40:1650–7.
3. Harper R, Henson D, Reeves BC. Appraising evaluations of screening/diagnostic tests: the importance of the study populations. Br J Ophthalmol 2000;84:1198–202.
4. Kerr D, Cavan DA, Jennings B, Dunnington C, Gold D, Crick M. Beyond retinal screening: digital imaging in the assessment and follow-up of patients with diabetic retinopathy. Diabetic Med 1998;15:878–82.

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Sir,

We read with interest the recent report by Chang *et al.* of late clouding of an acrylic intraocular lens (SC60B-OUV, Medical Developmental Research, FL) following routine phacoemulsification.[1] In view of the significant number of these lenses that have been implanted, they speculated whether their case was unique, in particular with regard to the late post-operative onset of the clouding.

Unfortunately, we are able to report that this problem is in our experience very common. In our unit we have implanted 140 of the same intraocular implants during 1998. Implantation of this type of implant was discontinued when lens changes were first noticed in a patient. It is also our experience that the clouding does not develop in the immediate post-operative period but several months later. The clouding appears to consist of tiny vacuoles within the material of the implant and these vacuoles typically have a lamellar distribution within the optic of the lens. The haptics remain unaffected. The most