



ABCD position statement on diabetic retinal screening following publication of the NSF for England and Wales

The Retinal Screening Sub-Group: C Walton, A Kilvert, REJ Ryder, S Olczak, D Nagi, A Robinson; on behalf of the Association of British Clinical Diabetologists

Introduction

The National Service Framework (NSF) Implementation document for England and Wales¹ sets a target that, by 2006, a minimum of 80% of people with diabetes will be offered screening for the early detection (and treatment if needed) of diabetic retinopathy as part of a systematic programme that meets national standards, rising to 100% coverage by 2007. The chosen modality for screening is digital photography. Digital photography has been selected because it fulfils the requirement of sufficient sensitivity and specificity and generates an audit trail thereby facilitating quality assurance. Is the NSF target achievable? More importantly, will the programme prevent loss of vision in people with diabetes and if so how do we measure this?

The current position

There is a variety of service provision, ranging from none to mobile vans, to static units and to optometrist schemes using either digital photography, slit lamps or both. An Association of British Clinical Diabetologists (ABCD) survey in 2000² showed that 25% of diabetes services had no structured retinal screening programme.

Current guidance

The National Screening Committee (<http://www.nscetinopathy.org.uk/>) and the UK National Screening Committee Diabetic Retinopathy Sub-Group (<http://www.diabetic-retinopathy.screening.nhs.uk/>) websites contain much useful background information including specifications for digital cameras, software and a workbook giving detailed guidance on the national framework for the screening service.

Summary

- The Association of British Clinical Diabetologists welcomes the National Service Framework (NSF) plan to develop an effective and comprehensive screening programme for diabetic retinopathy
- Responsibility for commissioning of a local retinal screening service lies with the primary care trusts (PCTs). Responsibility for ensuring that the service is provided and adequately resourced lies with the Strategic Health Authority. The following components are essential for the provision of an effective service:
 - **Leadership.** An individual with suitable skills and clinical experience should have overall responsibility. In many cases this will be a diabetologist or ophthalmologist. Where it is not, these clinicians should be very closely involved in planning to ensure that systems are in place for prompt treatment of sight-threatening retinopathy and integration with other aspects of diabetes care
 - **Revenue.** Capital funding will be available for equipment but PCTs must ensure that sufficient funds are available for the running of the service. This will include equipment maintenance costs and staff salaries. Retinal screeners/graders and administrative staff will be required. The job plan of the lead clinician should include time for direction of the service
 - **Co-ordination.** Central co-ordination will be essential to ensure that the service is comprehensive and efficient with robust quality assurance. This will require communication between the screening programme and primary care IT systems with appropriate software selection
 - **Existing local screening programmes.** Many districts will already have a retinal screening service in place. These may require upgrading to meet the standards set by the NSF and the National Screening Committee. Optometrist-based services will need to consider how to incorporate digital photography in a way which achieves the recommended quality assurance standards

Potential issues in the development of screening services

Leadership identification

In the NSF document the responsibility for retinopathy screening is given to primary care trusts (PCTs) who may not have the necessary expertise to run a retinal screening service. Input from diabetologists, public health physicians and ophthalmologists is essential and one of these may take the lead in planning the service. The lead clinician will

need time formally allocated within his/her job plan to fulfil this role. Where the diabetologist has the lead role, input from ophthalmology is required to ensure: (1) fast tracking of patients with retinopathy; and (2) ophthalmology participation in the quality control of the service. Where ophthalmologists take the lead, input from diabetologists is required to ensure that the local model is integrated with other aspects of diabetes care. The strategic health authority is responsible



ABCD position statement on diabetic retinal screening

for ensuring the development of the service and will need to bring together relevant parties to provide an integrated and planned approach. Responsibility for boundary areas between screening services will need to be carefully defined.

Integrating optometrists

The workbook of the National Screening Committee gives details of how optometry-based schemes should be constructed. Each optometrist participating in a scheme will be required to report, as a minimum, the digital photographs of 250 patients and will be sent the images of a further 250 patients to report for quality control purposes, with a weighting toward screen-positive cases. In current optometrist schemes, most optometrists examine fewer patients than this, so this may mean there is a need to identify a smaller number of specialist optometrists with larger case loads to undertake this work. This may diminish the positive features of current optometrist schemes, which include broad population coverage, accessibility and patient-friendly flexible appointments. The new framework will make quality control easier, but the resulting optometrist schemes may prove relatively expensive compared with non-optometrist schemes. The transition will be a challenge to those leading optometrist-based schemes. Optometrists are, however, well placed to provide non-photographic screening examinations to special patient groups who will otherwise not be screened – such as the housebound and people with early cataracts in whom adequate photographs cannot be obtained.

Funding

Capital funds are allocated to the retinal screening programme to purchase digital retinal photographic equipment and management software. The revenue is to be provided from the PCT's existing revenue stream. With the many demands on PCTs there can be no guarantee that such funding will be forthcoming nor will it be sufficient to build in essential requirements, such as robust quality control. The

inexorable increase in the number of people diagnosed with diabetes may mean that PCTs underestimate the revenue costs of screening and services with a single mobile screening unit may need to plan for a second unit within their 2003–2006 Local Delivery Plans. Services, which extend screening intervals beyond 12 months for funding reasons, will fail to meet the NSF targets. This is an area of substantial clinical risk.

Retinal screeners

A new breed of health service professionals, retinal screeners, has evolved to support retinal photographic screening services. In several centres screeners now report photographs. A standardised curriculum for education and accreditation of screeners is therefore required and a competency framework for screeners is currently being piloted as part of the Skills for Health project (<http://www.skillsforhealth.org.uk>). Training and accreditation programmes are in their infancy. It is proposed that the NHS University will take over the supervision of training programmes, with local learning resource centres established within each strategic health authority, which will provide courses for all new screening personnel. Screening services should consider approaching their local Workforce Development Confederation officers to bid for funds for the education and accreditation of screeners. Bids, which specify that funds are for training and new workforce rather than training those in post already, may stand a greater chance of success although, clearly, funds will be required to assess the existing workforce for skills gaps and top-up training. The use of screeners as Level 1 (disease/no disease) graders may be facilitated by the incorporation of image analysis software but so far such software is not sufficiently robust to be recommended by the National Screening Committee. Screeners originate from diverse backgrounds and are on diverse pay scales, including medical technical officer, assistant technical officer and nursing scales. A professional organisation for screeners, the

British Association of Retinal Screeners (BARS) (<http://www.eyescreening.org.uk>) holds annual meetings with multidisciplinary attendance. A standardised pay scale is required for this new profession.

Registration and recall

The NSF recommends primary care based diabetes registers. Where the retinal screening service is based in secondary care there will be a need to interface with a variety of primary care systems and responsibility for registration and recall will need to be clearly defined. Appropriate software is essential for effective communication between primary and secondary care. How the management software systems approved by the National Screening Committee will cope with this challenge remains to be seen. This will drive the development of web-based software and integrated browsers – but these are not yet available.

Attendance

Screening which is not locality based is likely to have a higher rate of attendance failure and a policy should be in place to deal with this. Special sessions may be offered at the end of the year to accommodate people who have had difficulty in attending earlier appointments. Persistent defaulters may be screened opportunistically – for example, during hospital admissions – but, ultimately, responsibility to attend for screening lies with the patient. Special arrangements need to be made to screen patients in nursing homes, although it may be difficult to treat this group if sight-threatening retinopathy is detected.

Combining screening with education or annual review

Education of people with diabetes is a core aim of diabetes care and retinal images provide a potent tool in furthering education. Some screening programmes send out educators with screeners or combine other annual review examinations with screening.³ However, additional resources are essential for units with dual aims if screening targets are not to be sacrificed. Whichever model is adopted in a particular



PCT, screening, education and annual review examination should be part of a model which is as cohesive and holistic as available resources allow. The diagnosis of retinopathy should be the trigger for somebody to address all of the risk factors. Screening should not be done in isolation.

Ophthalmology services

It is futile to identify people with sight-threatening retinopathy if ophthalmology services do not have the capacity or structure to treat promptly. Many ophthalmology services cannot provide laser treatment within recommended timescales and the training and quality control issues are as important for ophthalmology departments as for retinal screening. To achieve the target of prevention of blindness a whole system approach, with attention to laser and fluorescein angiography waiting times, is essential.

Regional variations

Wales has an All Wales Diabetic Retinopathy Screening Service which is being rolled out across Wales by the Welsh Assembly Government as part of the Sight Preservation Scheme to improve the care of patients with diabetes and plans to cover all of Wales by 2006.

In Scotland a Diabetic Retinopathy Screening Implementation Group has made recommendations for implementation of

screening services in Scotland,⁴ which will result in a different process of screening. NHS boards in Scotland are responsible for ensuring that all appropriate people with diabetes aged 12 and over are offered screening. NHS boards which currently have slit lamp schemes will need to implement a digital camera scheme by 2006. There is no central funding for cameras, but there is central funding for IT support systems which will link in with the national diabetes register. There is a need for each grader to have 500 photographs re-examined by a Level 3 grader.

In Northern Ireland a Regional Diabetic Retinopathy Screening Implementation Group has been established to co-ordinate the service in the four health and social services boards. The arrangements for diabetic retinopathy screening will be different in each board but there is to be a central grading centre at the Royal Victoria Hospital in Belfast. Proposals exist for several static digital cameras in the Western Health and Social Services Board, mobile digital cameras in the Southern and Eastern Health Social Services Boards and a mixture of mobile and static digital cameras (possibly at selected optometrists) in the Northern Health and Social Services Board. Funding has been identified but there are current difficulties with recruitment of grading personnel and no appointments have yet been made.

Conclusion

Given the many obstacles to be overcome, it would be a surprise if the targets identified within the NSF were achievable within the designated time frame in all districts, especially those without established schemes. The approach taken, particularly relating to leadership, revenue and IT issues, will be central to the success or failure of the national programme. Diabetologists are in a unique position to assist in the rapid development and evolution of effective screening programmes and primary care organisations should embrace their contributions.

Acknowledgements

We are grateful for the comments provided by Dr Wendy Gatling and Dr Graham Leese, and for the information about regional variation in Northern Ireland provided by Dr Trevor Blair.

References

1. NSF for Diabetes. <http://www.doh.gov.uk/nsf/diabetes/>
2. Winocour PH, Ainsworth A, Williams R. ABCD survey of secondary care services for diabetes in the United Kingdom 2000; 1: Methods and major findings. *Diabetic Med* 2002; **19**: 327–333.
3. Sampson MJ, Shepstone L, Greenwood RH, *et al.* An integrated mobile foot and retinal screening programme for people with Type 2 diabetes managed in primary care. *Diabetic Med* 2002; **19**: 74–76.
4. <http://www.scotland.gov.uk/library5/health/drss-00.asp>