waiting list at below 12 weeks. With some cases, such as referrals with IOP of >30 mmHg, we try to see the patient within 48 hours of receipt of the referral.

A band 7 orthoptist undertaking this work removed the need to employ an additional staff grade ophthalmologist. Using this staff cost saving the service has expanded. Currently there are 1.3 WTE orthoptists seeing approximately 500 new referrals and 2000 follow-ups a year, which represents all the new referrals for glaucoma including visual field testing, a weekly joint clinic with the consultant, all HRT imaging requests and pachymetry measurements required by the eye unit, and any requests for phasing. In addition we have trained a 1 WTE Band 2 orthoptic technician to test visual fields instead of the orthoptists, and to capture HRT images and perform optical pachymetry.

The orthoptic glaucoma service provides patients with a fast-access, streamlined approach to their care. No complaints have been received in the 7 years the service has been running.

At present The Welsh Assembly Government want glaucoma services such as these to be taken into the community.[4] We have been included in the local discussions and time will tell if we are able to pioneer the first orthoptic-led community service.

I thank Mr K. N. Rajkumar, Consultant Ophthalmologist, Princess of Wales Hospital, Bridgend and Mrs C. Hawke, Head Orthoptist, Princess of Wales Hospital, Bridgend.

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Vision screening: a benchmarking audit

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Summary: A benchmarking exercise carried out in 2006 found that despite the recommendations for an orthoptist-led vision screening service[1–5] many primary care trusts were not providing comprehensive vision screening (vision testing of every child of one age group). Where screening is carried out it is not always orthoptist-led and tests may be performed by health visitors, school nurses and school nurse assistants. Selective testing (testing a proportion of an age group using risk criteria) is being organised by health promotion groups and school health advisors rather than clinicians. The assessments vary from questions to identify children at risk[6] to the recommended crowded logMAR letters test, but many children are being tested with single optotype pictures or letters. The exercise highlighted the inequality of access to screening for children from neighbouring primary care trusts, and in London it was generally the most deprived areas with the greatest health needs which had the least provision.

Introduction

The publications that state orthoptists are the preferred professionals to carry out vision screening are a welcome endorsement of their expertise.[1–5] A British and Irish Orthoptic Society (BIOS) survey of heads of service in 2006 showed that 76 services had one or more forms of screening (16 had primary orthoptic screening of 3- to 3½-year-olds and 35 for 4- to 5-year-olds; 51 provided secondary screening). A report from the Optometry Association[7] recommended a nationwide review of the availability and effectiveness of vision screening for children. To establish what orthoptic services were available, a questionnaire was designed and distributed to orthoptic heads of service.

Method

The questionnaire was sent to 199 UK orthoptic departments in May 2006 asking for details of vision screening services which existed in the previous year. Questions related to the professionals carrying out the screening, age tested, location, tests used, results of audits, referral pathways, methods used to improve attendance and costs of the service. A further telephone survey was carried out of the 31 primary care trusts (PCTs) in the London region.

Results of the questionnaire

Twenty-five heads of service returned the questionnaire, all from England. They represented 60 PCTs (20% of all PCTs in England) and 13.93% of the total live births in England.[8] The regional distribution of responses was as follows: Trent, 12; Northern, 4; Southern, 2; London, 6. There were 28 types of orthoptic screening, with some services providing a different service to neighbouring trusts. Fig. 1 shows the breakdown into types of orthoptic screening. Nineteen services had additional primary health visitor screening using verbal questions (11 used a questionnaire to assess risk factors and 15 referred due to family concern); one protocol had been agreed by an orthoptist.

Fig. 2 shows the age screened and Fig. 3 the vision tests used by the health professionals. Three health visitor services assessed corneal reflections and two performed the cover test. A second screening occurred from a school nurse in 84% and an orthoptist in 38.5%. Screening from all three professionals occurred in three services.

Seventeen services had school nurse primary screening over 4 years of age (see Fig. 2). Of these 88% were comprehensive screening services, 73% were trained by

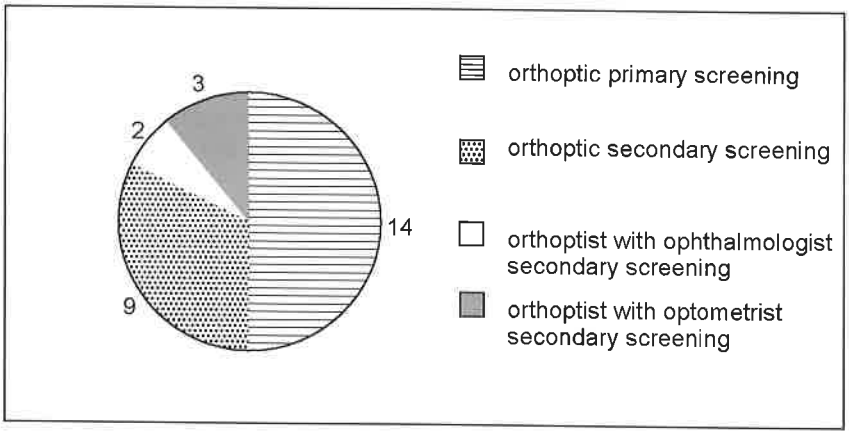

Fig. 1. Types of orthoptic screening undertaken.

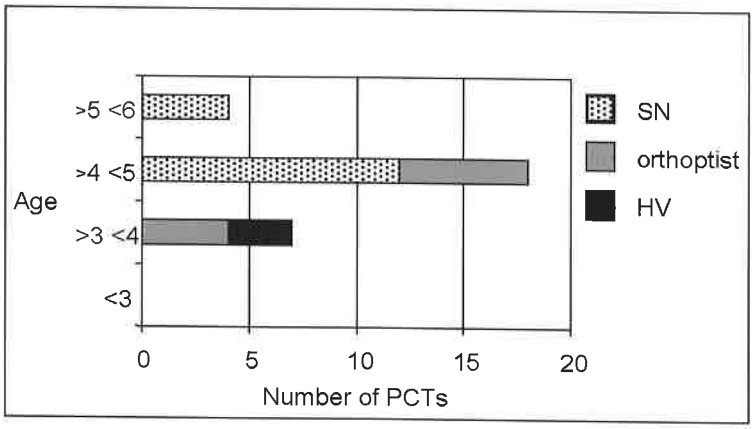

Fig. 2. Age of children screened and by whom. SN, school nurse; HV, health visitor.

orthoptists and 81% used an orthoptic-agreed protocol. The referral protocols for those children who failed screening varied, with some services advising referral of children with bilateral vision loss to the optometrist and unilateral loss to the orthoptist.

No areas had primary optometrist screening.

Location of orthoptic screening

The 14 orthoptic primary screening services were held in schools (6), health centres (7) or a community hospital (1). For orthoptic secondary screening, services were held at multiple sites, community clinics, health centres and acute units.

Personnel carrying out screening

Seventeen services provided whole-time equivalent (WTE) staffing data for orthoptic screening; staffing ranged from 0.1 to 2.78 WTE (mean 0.743) split between 1 and 14 orthoptists (mean 3.76). The PCT was the employer in one service, the acute trust in six, and 13 had a service level agreement with the PCT. Four employed optometrists from 0.1 to 1.5 WTE and 14 employed clerical staff ranging from 0.1 to 19 WTE.

Costs

No service was able to give a breakdown of costs either per case or of the service as a whole. Some balanced the orthoptic staff from the acute service against administration provided by the community service as cost neutral. Six services carried out audits and calculated the proportion of referrers to the service (school nurse range 2–60%, health visitor range 25–70%, general practitioner range 7–19%) and the discharge rates (primary screening range 7.2–80%, secondary screening 27–60%).

Tests performed

Eleven primary orthoptic screening services incorporated full orthoptic diagnostic tests, two included the MTI screener or photo-refractor, one used comprehensive cycloplegic retinoscopy and one tested solely visual acuity.

Five services provided treatment as well as diagnosis in the community clinics ranging from annual refraction, occlusion, orthoptic exercises and treatment for specific learning difficulties.

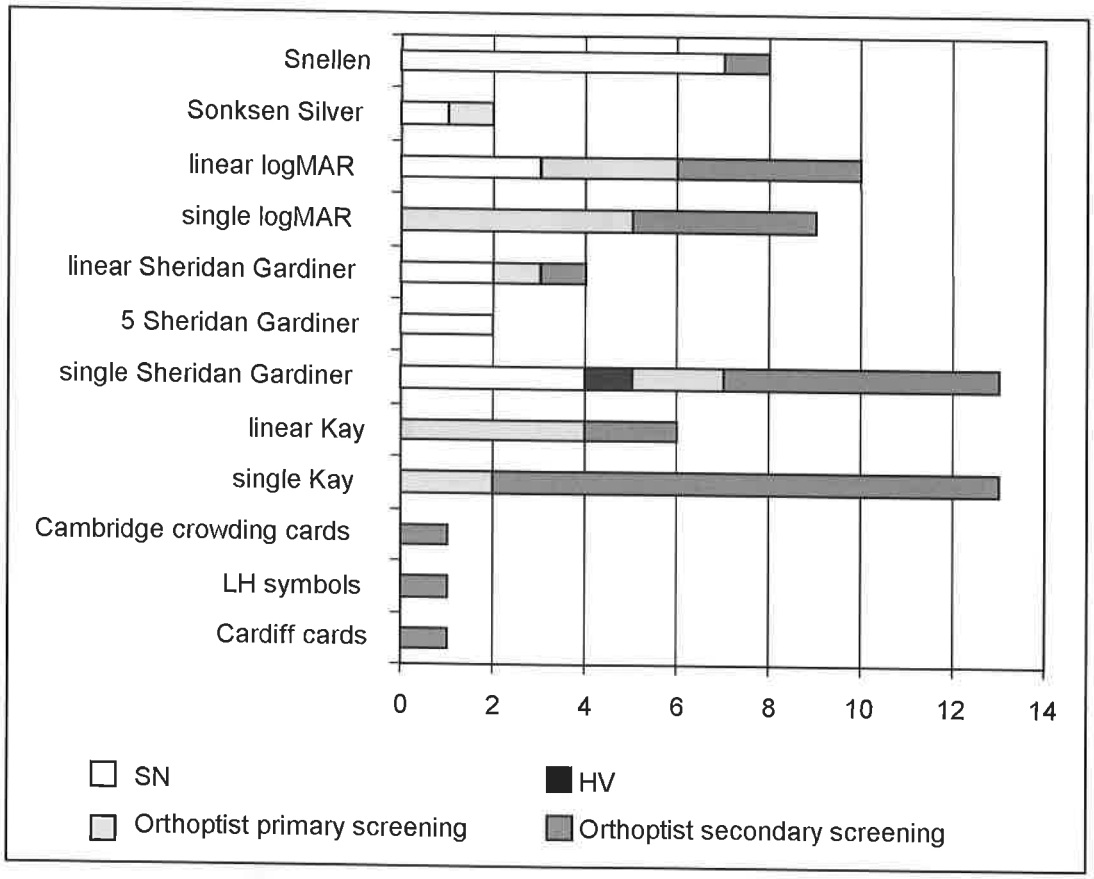

Fig. 3. Vision tests used by health professionals. SN, school nurse; HV, health visitor.

Attendance rate

Thirteen services had audited the attendance patterns in clinics and had taken steps to improve attendance, such as telephoning 3 days before the appointment to remind parents to attend and sending an invitation for the parent to telephone for an appointment. The percentage uptake in schools was improved by using a parental opt-out strategy. Where comprehensive screening occurred in state schools no comment was made regarding how home-tutored or privately educated children were included in the screening programme.

Future plans

During 2006–2007 five pre-existing services were suspended, two business cases were pending approval and 11 had plans to increase the service the following year. Due to difficulty in recruiting orthoptists three planned to train health care assistants and nursery nurses to carry out vision tests.

Results of the telephone survey

A telephone questionnaire was conducted by the author gaining information from orthoptists working in each of the 31 PCTs in the London strategic health authority (NHS London). Details were requested about the type of vision assessments carried out and by whom. Fig. 4 shows the percentages of the total 4-year-old population in NHS London (108 410 4-year-olds in 2006)[7] who receive some form of screening. The results show a minimum of 10 461 (9.65%) 4-year-old children were not receiving a vision test. Generally the areas of London with high rates of child poverty had the least provision.

In those areas with comprehensive screening (50.6% of children) this included primary screening by invitation to health centres where the failure to attend rates can be 60%; and did not include those privately educated and home-tutored (for example 349 and 9 respectively of the 3467 4-year-olds in Hillingdon PCT). Of the 39.67% who received selective screening there were no records as to the level of selection.

Discussion

This benchmarking exercise has highlighted the inequality in England of vision screening for children. Provision ranges from one service providing three screening contacts by three professionals to other services providing no comprehensive contact after the 8-week developmental check. Possible reasons for this discrepancy include the cost pressures on PCT budgets. In the 3rd edition of *Health for All Children*[1] the working group felt: 'the consensus of current literature does not appear to justify testing visual acuity in 3- to 4-year-old children by health visitors, community paediatricians, or general practitioners. Testing by orthoptists appears to be much

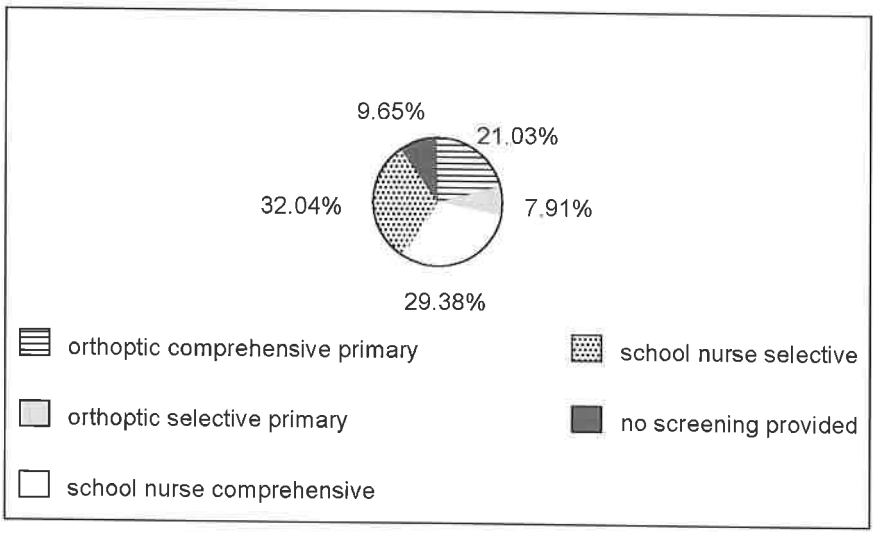

Fig. 4. Screening provided in the London Region for 4-year-olds.

more effective and is recommended as the best way of screening vision'. Some PCTs were quick to take this advice and ceased health visitor screening but did not replace it with orthoptist-led primary screening. At the same time the changing role of the school nurse, who has to check weight, height and hearing, as well as be involved in child protection issues, has reduced the time they can allocate to vision testing. This has resulted in selective testing of vulnerable children rather than comprehensive screening, and the use of health advisers and assistants.

The Royal College of Ophthalmology and the British and Irish Orthoptic Society endorse the recommendations of the National Screening Committee with respect to Vision Screening in Childhood.[3–5] PCTs need to be made aware of the risks of undiagnosed visual defects in young children and the inefficiencies of false positive referral rates to the acute sector in areas which do not have orthoptic-led screening.

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A surviving pre-school vision screening service

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Summary: A pre-school screening programme that operates in south Derbyshire is described. Its advantages and disadvantages are discussed.

Introduction

The first Hall Report in 1989 questioned the validity of pre-school screening.[1] The publication of the report by Snowdon and Stewart-Brown[2] made it difficult for some departments to maintain existing programmes or implement new ones. In south Derbyshire we have retained our screening programme for almost two decades, even though it is out of step with current thinking on screening policy.

The service was established in 1989 with an innovative and ambitious design and continues in virtually the same format today. Children attend a local health centre at 3½ years of age and have an examination consisting of orthoptic assessment and cycloplegic refraction performed by an accompanying optometrist. Glasses are prescribed at the screening visit if required.

Demographics

The service operates at 18 clinics, covering a mix of city and county-based areas, and requires a total of 65 sessions per month. Children are invited to attend as near as possible to the age of 42 months. Attendance averages 57%. Those that do not attend (DNA) are not generally given another appointment unless this is requested by the parent.

The two local primary care trusts currently fund