Childhood Screening Programmes

In the past screening tests have played a major role in the CHS programme, with regular tests for hearing vision, growth, CDH, development, etc. because common sense dictated they were a good idea. The purpose of a good screening programme is to distinguish those at relatively high risk of a condition at a time when they have no reason to suspect it from those with a lower risk and to provide appropriate management that changes outcome in a favourable way. Because there was enormous variation in the conditions sought, adequacy of tests provided and evidence base, the National Screening Committee was set up in 1996 and in 1998 antenatal and child health subgroups were constituted. The remit of the NSC was to look at programmes, not just tests, already in place with a view to recommending whether they should continue, be improved or scrapped. The latter has probably been the most difficult. The committee also looks at proposals for new programmes. It may support or reject their introduction or call for more evidence to be gathered. To make this assessment more systematic the NSC judges each programme against 19 criteria, though not all are appropriate for every programme.

Over the first two years of its existence, the Child Health subgroup examined numerous programmes in place and some that were proposed. Its main conclusions were as follows (an asterix indicates one or more HTA reports are available):-

PKU and hypothyroidism*
These conditions have been screened for in the UK and numerous other countries for may years. The programmes have been refined over the years and will act as models for screening for any other metabolic diseases that might be introduced.

Medium chain acyl-CoA dehydrogenase deficiency (MCADD) and other metabolic disorders*
A case has not yet been made for screening for metabolic disorders other than PKU. Work is being commissioned on MCADD and some other conditions will be reviewed over the next two years.

Sickle cell disease*
There is evidence from non-UK populations that prophylactic penicillin given as a result of early diagnosis can reduce invasive infections with encapsulated organisms, in particular the pneumococcus. This may become even more important with the advent of conjugate pneumococcal vaccines. It is recommended that universal screening of all neonates for sickle cell disorders should be implemented. In areas where there are large populations for at-risk ethnic groups, this will be by making use of the blood spot already collected. Where this is not so, ethnicity will be assessed and testing done selectively. Details of the implementation are being considered by a working party recently set up.

Cystic fibrosis*
The evidence for screening is finely balanced with some suggestion that growth and lung function may be improved in screened populations. The NSC felt that this was not definite enough to justify the introduction of routine screening. However on the basis that a significant, though minority, part of the population was being screened and it would not be appropriate to stop this, the Minister has decided that universal screening for CF will be introduced. An implementation group will be set up to look at the best way of doing this.

Congenital dislocation of the hip
A number of workshops were held where screening for CDH was considered. The evidence for continuation is not as good as for most other screening programmes in place, but it was

felt the programme should continue as follows. All babies should have their hips examined clinically at birth and again at around 4-8 weeks. Those who are clinically abnormal should have an ultrasound examination. Some babies in high risk groups, should have ultrasound irrespective of the clinical findings. Family history and breech presentation are high risk factors, but more work needs to be done to elucidate others.

Vision and ocular disorders

There is a surprising lack of information on the value of many aspects of this part of the programme. On the evidence available, the NSC has recommended that

the programme of screening for retinopathy of prematurity (ROP) should continue

newborn screening for media opacities and other eye anomalies should continue, but training and supervision must be improved.

a repeat examination should take place between four and six weeks

orthoptists should screen children in the age group four to five years, with the aim of testing all children by the age of five. All other *routine* vision testing in children less than five should cease. This has major implications for the orthoptic services and these will have to be considered before the programme is introduced.

the seven year old test should cease

all other tests of vision in school age children should continue unchanged, i.e. none abandoned where carried out, but no new ones introduced, until further evidence has become available.

Hearing impairment*

The current Infant Distraction Test (IDT) fails to fulfill the criteria for a good screening test. Even in ideal circumstances it has poor sensitivity and specificity and cannot identify children before the age of 7-9 months. Since early identification results in better outcome for children, and targeted neonatal screening only detects about 50% of cases, it was recommended that universal neonatal hearing screening (UNHS) should be introduced. A number of pilot sites have been set up and a country wide programme will be rolled out taking into account any lessons learnt. Where a district still has IDT, this should continue until UNHS has been implemented. The school entry sweep test will continue at least until further evidence of its value has been gathered.

Growth monitoring

This topic is highly controversial and there is a surprising lack of evidence on its value. A consensus was reached at a multidisciplinary meeting that weight should be checked in all infants and young children when they attend for routine appointments, e.g. immunisations. Height and weight should be checked at school entry, i.e. approximately 5 years old. While there are increasing concerns about what has been termed the ‘epidemic’ of childhood obesity, current evidence does not support routine screening for it.

Development, speech & language, behaviour

Although in the past much time and effort has been expended on screening for these disorders, it is clear that with the present instruments available, screening cannot be justified. This applies to screening for developmental delay, autism, speech and language disorders and behaviour problems.

Health promotion and primary prevention

Although there is an impression that screening programmes are probably better researched than health promotion and primary preventative strategies this is not so. Immunisation probably has the best evidence base of any health care related activity, contrary to what you may read in the newspapers. There is also substantial evidence supporting the

effectiveness of domiciliary health visiting*. Health promotion and primary prevention are detailed in the relevant sections.

Who does what

We have avoided detailed discussion of this. More important than the job title are the competencies of the person carrying out the procedures. In this as in many fields of medicine, some functions carried out by doctors would be better done by midwives and health visitors. As mentioned above, some aspects of vision screening are more appropriately performed by orthoptists rather than doctors or health visitors. Whoever carries out the components of the programme, initial training and regular updating will be essential.

Useful links

HTA reports: http://www.soton.ac.uk/~wi/hta
NSC publications: http://www.doh.gov.uk/nsc/library/lib_ind.htm
NHS Centre for Reviews and Dissemination:
http://www.york.ac.uk/inst/crd/listcomp.htm

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