Purchasing for Quality: the Providers' View

Preschool child health surveillance

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Though monitoring of child health and development is widely regarded as good practice, child health surveillance presents obvious difficulties for researchers. Screening procedures used to detect disorders among children in the community require validation against reference tests, which are themselves often hard to interpret. Uncertainty surrounds the natural history, scope for prevention, and practical significance of many developmental disorders. The paucity of research underpinning the different components of surveillance contributes to the variation in programmes both between and within countries.

Several recent developments have both reflected and promoted critical reappraisal of all forms of surveillance and screening. The implementation of *Working For Patients*,¹ with the development of audit and the creation of internal markets has intensified interest in the evaluation of health care activities in terms of cost effectiveness. The new contract for general practitioners presaged significant organisational changes.² The introduction of remuneration for child health surveillance has led to a large increase in the numbers of general practitioners undertaking such surveillance.³ The contract has helped to clarify the changing role of key participants and the importance of closer collaborative working. Responsibility for managing and monitoring the programmes is now shared between district health authorities (DHAs) and family health services authorities (FHSAs).

This article describes a "best buy" child health surveillance programme in the light of relevant literature and discusses some of the difficulties in implementing such a programme. The reports of the Joint Working Party on Child Health Surveillance (Hall reports⁴⁻⁵) are highly relevant. Though both editions of these reports have stimulated controversy,⁶⁻⁷ they constitute a pan-professional consensus that necessarily informs this paper.

Definitions

The use of terms such as "screening," "surveillance," and "assessment" engender continuing confusion and debate.⁸⁻¹⁰ The concept of surveillance is applied to whole populations as well as individual subjects. The phrase "child health surveillance" is

sometimes seen as overemphasising screening and detection at the expense of other elements of health promotion.¹¹ Butler suggests that surveillance is essentially synonymous with secondary prevention (which seeks to obstruct the development of disease by early detection).¹² More broadly defined, child health surveillance encompasses overseeing the physical, social, and emotional health and development of all children; recording physical growth; monitoring of developmental progress; offering and arranging interventions when necessary; prevention of disease by immunisation and other means; and health education.⁵

There are three principal components of child health surveillance. The first is screening, which involves examinations at key ages in apparently normal children to identify those children with significant abnormalities.¹³ The second is the developmental guidance and health education that occurs during contact between parents of preschool children and professionals. The third is assessment: the examination of a child by a doctor or health visitor at the request of a parent because of concern about the child's development, progress, or behaviour. Assessment is part of the continuing process of describing a child's level of performance in order to make appropriate educational provision.

This article is concerned with preschool developmental examinations. Antenatal screening and immunisations are not considered.

Specific recommendations

Table 1 shows the preschool surveillance programme recommended by the working party. It incorporates those procedures which can be supported in the light of available evidence. In individual cases parental concern or professional judgment may dictate that the child is seen on different occasions, the detection of defects being only one of the goals of surveillance.

More contentious are those procedures regarded by the working party as of uncertain value or not worth continuing (table 2). Its report acknowledged the dynamic nature of child health surveillance. The core programme will need to be modified to accommodate properly evaluated procedures of proven benefit. The following topics merit further brief comment.

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Table 1 *Preschool surveillance programme*

Age and assessor			
6–8 Weeks GP	6–9 Months Health visitor	18–24 Months Health visitor	36–48 Months Health visitor/GP
Review growth and development	Review growth and development	Parental concerns	Parental concerns
Parental concerns	Parental concerns	Measure length or height if possible	Inquire about vision, hearing, behaviour, language acquisition, and development
Measure weight and head circumference	Ask about vision and hearing	Confirm normal gait	Measure height
Check for congenital dislocation of the hip	Weight or length if indicated	Formal tests of vision, hearing, or language development only if concerned	Check for testicular descent and heart abnormalities
Inspect eyes	Look for evidence of congenital dislocation of the hip		Health education
Discuss immunisation	Check for testicular descent Observe visual behaviour Distraction test of hearing		

Hearing – Sweep audiometry at school entry is recommended, but further universal screening tests after this age are not justified.^{14 15} Though recommended, standard distraction testing at 7 to 9 months is often inadequately performed.¹⁶ Though it may be appropriate for high risk groups (children born to families with genetically determined hearing loss and children with a history of intrauterine infection, meningitis, or other neonatal problems), universal neonatal screening is as yet a research procedure.^{17 18}

Vision – Each child health surveillance visit should include an inquiry about visual ability and an inspection of the eyes, but the time-honoured tests of visual acuity before the age of 5 years (graded balls, hundreds and thousands, Sheridan-Gardner letters) are ineffective as screening tests.¹⁹ Cover testing for squint is poorly performed by people other than orthoptists and renders screening of little value.²⁰

Neurodevelopmental and psychiatric disorders – Early detection of conditions such as cerebral palsy, mental retardation, delay in speech and in language acquisition may be worth while, but no adequate screening tests exist.^{21–23} The main means of detection are response to parental concern and follow up of high risk children.²⁴ Child health surveillance provides the framework for early detection, but routine developmental screening can be discontinued.

Laboratory tests – Neonatal screening for phenylketonuria and hypothyroidism is well established. Better tests using DNA technology may make screening for cystic fibrosis appropriate in managing affected families in future.²⁵ Screening for haemoglobinopathy is advocated for people of certain ethnic minorities as part of a wider programme of prevention, diagnosis, and care.²⁶ Adequate support and counselling facilities are essential.²⁷ The cost effectiveness of such programmes is dependent on the size of the ethnic population. They are therefore not appropriate in all districts.²⁸

Health education – In future health education will require more professional time. Health education topics relevant to the preschool and school years include accident prevention, feeding practice, dental care, contraception, management of minor ailments, and use of health services.* A knowledge of normal development and behaviour is essential to help parents develop an appropriate level of suspicion. Too didactic an approach to education may alienate parents. Few aspects of health promotion activity in childhood have been adequately evaluated.^{29–33}

Parental involvement

The significance of parental concerns cannot be overemphasised. Parents, sometimes with the help of friends or relatives, are often the first to detect disability in a child. The development of parent-held child health records and the patients' charter reflect in different ways growing sensitivity to the view of users. Parents expect to be consulted about decisions affecting their children and are prepared to challenge professional expertise.³⁴

Screening tests can cause anxiety and change perceptions about health and normality.^{35–37} The concept of screening and the implications of a positive test are rarely understood,^{38 39} and parental anxiety is not necessarily allayed by a subsequent definitively normal test result.⁴⁰ It is both unethical and unwise to use screening procedures whose

Table 2 *Screening procedures/programmes of uncertain or no value*

Uncertain value	Discontinue or do not start†	Discontinue or do not start†
Inborn errors at 0–4 years	Squint at 4 years	Behavioural disorders
Cystic fibrosis	Amblyopia and refractive errors at 0–4 years	Asthma
Iron deficiency anaemia	Neonatal screening for sensorineural hearing loss*	Adolescent scoliosis
Familial hypercholesterolaemia	Conductive hearing loss at 2–5 years*	Asymptomatic bacteriuria and proteinuria
	Impedance testing at any age	Duchenne muscular dystrophy
	Colour vision testing at 5–10 years	Atlanto-axial instability
	Hypertension	Down syndrome

*Screening selected at risk groups may be beneficial, but population screening should not be instituted or should be discontinued.

†Poor clinical practice unsupported by published evidence.

* Accepted good practice unsupported by published evidence.

validity and potential for causing distress have not been assessed.⁴¹ Litigation may follow both false positive and false negative results.

Training

Effective screening programmes, as well as other aspects of child health surveillance, are dependent on a high level of performance by the staff involved. Knowledge of normal and abnormal development, of the value of various forms of intervention, of normal and abnormal parental behaviour, of the relationships between local child health services and other agencies, and of the roles and skills of colleagues is essential, as are practical skills in taking histories and in examination. In addition to thorough initial training, continuing education and opportunities for staff to exchange ideas, discuss problems, and update their knowledge are vital.⁵

The general practitioners' contract places responsibility on FHSA to assess the suitability of practitioners for inclusion on a paediatric list. Guidelines have been prepared jointly by the British Paediatric Association, the General Medical Services Committee, and the Royal College of General Practitioners.⁴² However, evidence suggests widespread variability in the choice of admission criteria.⁴³ The guidelines emphasise the importance of local training for those GPs without prior experience of surveillance. Such courses should be available in each district and should be approved by the regional adviser in general practice in liaison with his or her paediatric counterpart. Course contents vary from one district to another and GPs cannot be regarded as having undergone a common or core course of training (J Butler, personal communication).

Information

Accurate, timely, and relevant information is essential for managing and monitoring the different elements of the community child health service.

- Several different clinic records exist in most districts. GPs, health visitors, and clinical medical officers all keep written records, in addition to the record maintained by the DHA. Parent-held records ease the problems of overlap and inconsistency by ensuring that all relevant information about the child is brought together in a single portable record that is transferable whenever the child moves.⁴⁴
- Though most DHAs use the National Child Health System, (NCHS), all existing information systems have shortcomings.⁴⁵ Many districts are changing to new systems (particularly the preschool immunisation module of the NCHS). The chaos that usually accompanies such transitions could be minimised with decisive project management.
- The child health computer is used to generate appointments in accordance with the local schedule. When parents are no longer attending community clinics, appointments cards are routed through GPs

to allow the addition of the dates and times of their clinics. Many practices continue to use their own in house method for contacting parents in preference to the district's computer generated appointment system, a source of frequent confusion.

- Discrepancies between the child health computer system and FHSA register, clerical coding errors, incomplete returns, and the inclusion of non-resident children as residents are among the factors that may falsely lower uptake rates for immunisation and surveillance.⁴⁶
- The opportunistic examination by GPs of children who miss appointments needs to be communicated to the district computing centre if the child is not to be wrongly designated a non-attender. An unpublished study suggested that forms are filled in less completely by GPs than by community medical officers or health visitors (S Hallworth, personal communication). The accurate completion of forms and cooperation with the district information centre should be an absolute prerequisite to inclusion on the paediatric list.
- In many districts the question of who has access to child health surveillance data for the purposes of management, evaluation, and audit is ill defined, and managers and medical advisers in FHSAs are often overlooked.

Audit and monitoring

Audit and monitoring are among the more important uses of child health surveillance data. The barriers to audit of child health surveillance are theoretical and organisational.

Central to the audit cycle is the requirement to set good but attainable standards. These are difficult to establish when the link between positive health outcomes and elements of the developmental examination often have to be assumed. Progress in conceptual understanding has been made in developing outcome measures for child health surveillance.⁴⁷ The feasibility of incorporating simple outcome measures within a district wide audit of child health surveillance has been shown,⁴⁸ but most measurable adverse outcomes occur too rarely to allow statistically reliable year on year comparison within and between districts, let alone between examination centres.⁴⁹ None the less, much can be done. For example, how many districts monitor coverage rates against "minimum" standards for the proportion of children who should be checked at 6 weeks, 8 months, and 3 years?

Child health surveillance involves professionals who are often isolated. Many of them work part time. The ethos of audit and the availability of training or support have been slower to percolate through to community medical officers in particular (North West Thames Regional Health Authority, unpublished report). The picture is changing with the burgeoning interest of funding agencies in collaboration or interface audit. An important first step at district level

is establishing a multidisciplinary child health surveillance audit group. This may subsume, but should certainly include, representation from any existing child health computer users group. Notwithstanding professional concerns about how district data may be used and the potential encroachment of managerial priorities, those responsible for monitoring child health surveillance must be represented.

Organisation and service delivery

A named person should have overall responsibility for the surveillance programme.⁵ Such an appointment would have to be made jointly by the health authority or board and the FHSA. This coordinator could not have direct managerial responsibility for the various professional groups involved but would require their support and recognition.

As with family planning services, "dual provision" can be problematic. Though parents should have the choice to attend either their family doctor's clinic or health authority clinic, they should not have the choice to attend both. Given a choice, most parents choose to attend their GP's clinic. The levels of activity below which community clinics are regarded as no longer cost effective will vary from district to district.

Wherever child health surveillance is provided, clinics should be regular. The doctor should not be seeing adult patients at the same time. Though some practices may

discourage parents from bringing children with acute illnesses, the clinics should always be "open access" in the sense of encouraging unscheduled attendance by concerned parents.

Conclusion

Those closely involved in purchasing or providing child health surveillance will be aware of the inadequacies of information systems, the need for greater involvement of GPs, and the potential for fragmentation of community child health services. The adoption of the Hall report should improve the quality of districts' surveillance programmes. The relocation of much of this work within the context of family practice allows greater continuity of care to be achieved for the child. The box lists the issues that purchasers should address. Evidence is appearing that more critical commissioning can help to integrate the complex array of services that contribute to effective child health surveillance.⁵⁰

Key issues for purchasers of child health surveillance

Establishment of shared principles – for example, that child health surveillance is the responsibility of the primary health care team; that regular clinics are held at which the doctor and health visitor are present; that primary health care teams, district information centre, DHA, and FHSA cooperate in exchanging data

A named person to have overall responsibility for the surveillance programme and to be appointed jointly by the FHSA and DHA

The schedule of child health surveillance activities to be consistent with the recommendations of the Hall report and agreed between FHSA and DHA

A local working party representing all key agencies to approve and regularly update the schedule and to advise the named person in respect of audit and monitoring

Regular feedback of data to service providers

Regular training programmes for those involved in child health surveillance, preferably shared between doctors and health visitors

Agreed criteria for including GPs on FHSA child health surveillance list

Establishment of minimum database reconciling FHSA and DHA databases for purchaser's monitoring purposes (for example, coverage of screening tests, outcome data)

Parental sovereignty acknowledged by regular users' surveys, accurate written information about screening tests, and use of parent held records

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