Opportunistic developmental surveillance in general practice

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SUMMARY. The importance of the developmental surveillance of children is generally accepted. One method which could be used in general practice is opportunistic surveillance, where the doctor makes use of contacts with children in the surgery to assess their development, and offer advice and health education to parents where appropriate. This study describes an audit of opportunistic developmental surveillance in one general practice. It was found that 95% of a cohort of 78 children had been assessed at least once by the time they were one year old. In addition, at two points in the study, after one and two years, it was found that 81% of children aged two years or less in the practice had had a recent assessment. This level of surveillance compares favourably with reported attendance rates in clinics.

Introduction

CHILD health surveillance is the continuous and complete care of a child from birth to adulthood in the context of the child's family and home. As a complex mixture of diagnosing, treating, screening and counselling, such surveillance includes: overseeing health and physical growth; monitoring developmental progress; providing advice and support to parents; providing treatment for and referral of the child; providing a programme of effective infectious disease prophylaxis; and participating in health education and training in parenthood. The need for the symptomatic child to be treated is self-evident, and the benefits of an effective immunization programme are not disputed. However, the value of the remainder, referred to as developmental surveillance and traditionally the work undertaken in child health clinics, is more difficult to measure. The different components have been considered by the joint working party on child health surveillance. Those of proven or probable value have been included in the working party's recommended surveillance programme.

The developmental surveillance of children is increasingly being undertaken by general practitioners. In general practice advantage can be taken of opportunities during ordinary consultations to identify problems, offer advice and carry out screening procedures. Stott and Davis described a theoretical model for this process. This opportunistic approach has been shown to be effective for other preventive work in general practice. Bolden was the first to suggest an opportunistic approach to child health surveillance, and the professionals who designed the pre-school surveillance programme in Northumberland stated that the developmental guidance and health education given to parents might equally well be undertaken opportunistically.

It has been shown that children aged up to one year consult their general practitioners sufficiently often for such surveillance to be possible. To undertake the developmental surveillance of children opportunistically involves an extension of the consultation beyond the confines of dealing with the presenting problem, in order to make an assessment of the child's development in physical, psychological and social terms (Houston HLA, MD thesis, University of Wales, 1987). The extension must be appropriate to the consultation, for example not with a seriously ill child, and to the surveillance programme, for example not so frequently as to be needlessly repetitive. It is important to understand that the objective is not to make a detailed assessment at the consultation, but one sufficient to identify those children who need a more detailed examination either by the general practitioner or by referral to others.

This study was designed to measure the level of surveillance which could be achieved opportunistically and to determine whether this level was acceptable. However, the study did not attempt to evaluate the outcome of surveillance in terms of identification of abnormalities, as this would require very large numbers of children.

Method

The study was conducted in the general practice unit of the department of general practice, University of Wales College of Medicine. The practice is based in a health centre and has seven part-time principals caring for 7000 patients. At any one time there are three trainee general practitioners working in the practice and attached health visitors and district nurses are based at the health centre. The practice is centred in a large, relatively new housing estate (part council, part owner-occupied) on the outskirts of a small city.

Taking advice from several experts, the doctors and health visitors agreed on minimal criteria for the examination of children at different ages to enable the identification of those children who need a more detailed assessment (Figure 1). They designed an opportunistic child development record for inclusion in each child's medical record. This allowed the simple recording of each assessment and easy retrieval of information during further consultations with the child. The assessment could be carried out in full at one consultation or be made up of partial assessments at different times.

Opportunistic surveillance was introduced in the practice and monitored for two years. During this period the children registered with the practice did not receive any appointments for a routine examination by a doctor and thus the surveillance was entirely opportunistic. The children were offered appointments for immunizations when these were due. Each doctor joining the practice was given a full explanation of the method of surveillance. The work of the health visitors attached to the practice was unaltered. They continued their routine care, including home visiting, a weekly clinic at the health centre and offering a distraction hearing test for children aged seven to eight months. They were thus conducting developmental surveillance of children to the same extent as other health visitors in the district.

Cohort study

Infants born into the practice during the first year of the study and who remained in the practice until their first birthday formed

a cohort who had received opportunistic surveillance only. As each child reached its first birthday the medical record was examined to determine the actual assessments recorded by the doctors. This analysis demonstrated the surveillance achieved over a one year period for each child.

Point studies
At two points in the study, the first after one year, the second after two years, all the children aged two years or less registered with the practice were identified and a random sample (approximately one in three) selected. The medical records of these children were examined to determine what assessments each child had received. A child who had received an assessment for his or her present age group was categorized as having a current assessment, a child who had received an assessment during his or her previous age group was categorized as having a recent assessment and a child whose last assessment was more than one age group before the current age was categorized as not recently assessed. Because there is a constant turnover of patients in the practice some of the children in these samples would have only just registered with the practice.

The point studies were also used to determine the activities of the doctors in the practice. From the records of the samples the total number of assessments performed by each doctor were compared with the total number of contacts with that doctor at which an assessment would have been appropriate. This method was validated by finding a high level of both intraobserver (97%) and interobserver (96%) agreement when the same records were analysed again.

The opportunistic method of surveillance was discussed by the practice three times during the two years so that any practical problems or difficulties could be raised.

Results
Cohort study
There were seventy eight children in the cohort of one year olds. Nine children (11%) had received all four assessments, 16 (21%) had received three, 29 (37%) two, 20 (26%) one and only four children (5%) had received no assessment at all. The assessments were usually completed at one consultation but were sometimes summations of two or more partial assessments. Some aspects of the examination which are expected to remain constant (for example normal heart sounds) were not necessarily repeated at a second or third assessment, whereas those aspects which might change, for example gross motor development, were reassessed. The nine babies who had received four assessments were all being reassessed for a possible problem — the parents were worried about four children, three children had a possible abnormality and seven had a possible developmental problem (these were not mutually exclusive).

Point studies
Fifty eight children were sampled for each point study. In each sample 47 children (81%) were either completely up-to-date with surveillance or had received a recent assessment (Table 1). Table 2 shows that older children were still receiving surveillance.

Doctor activity
The 10 doctors as a group took 35% of the potential opportunities to assess a child's development in the first year and 23% of the opportunities in the second year. There was a wide variation in the 20 values noted; two were very low (0% and 3% of opportunities taken) while two indicated very frequent assessment (69% and 80%). The remaining 16 values were between these two extremes (14–59% of opportunities taken).

| Table 1. Level of assessment among the two samples of children aged two years or less. |
|-----------------------------------------------|-----------------|
| Record shows:                                 | Number (%) of children |
| Current assessment                            | End of first year (n = 58) | End of second year (n = 58) |
| Recent assessment                             | 41 (71)          | 43 (74)          |
| No recent assessment                          | 6 (10)           | 4 (7)            |
|                                              |                  |                  |
| Table 2. Breakdown by age of the level of assessment among the second sample of 58 children. |
| Record shows:                                 | Number of children by age in months |
| Current assessment                            | 0–5 | 6–11 | 12–17 | 18–23 |
| Recent assessment                             | 9   | 12   | 10    | 12   |
| No recent assessment                          | 1   | 0    | 1     | 2    |

Difficulties for the practice
The problems discussed at the practice meetings were mainly administrative, for example unavailability of the medical records or the absence of the developmental surveillance record from the main record. However, some were practical, for example not having a supply of disposable nappies in the consulting rooms. Neither lack of time nor disruption of surgeries were reported as major problems, though both had been expected by the practice. The doctors reported that most children were seen so frequently that the time to perform the assessment could usually be chosen to suit the doctor. There were only a few children who were seen infrequently and for whom time had to be made, perhaps during a busy surgery, but as the numbers were small this was not an important problem.

Discussion
This study has shown that the level of developmental surveillance achieved opportunistically in general practice can be as good...
as that achieved by routine age-linked examinations, the commonly accepted method. Ninety five per cent of the children in the study had received at least one assessment by the time they were one year old. This compares well with clinic attendances of 73-90%.14-16 Further, the assessments performed covered all developmental areas which contrasts with Bain’s finding that general practitioners performed an adequate physical examination but at the expense of additional tests of child development.17

The point samples showed that 81% of children aged two years or less in the practice had received a recent assessment. As 10% of these samples would have included infants who had only recently registered with the practice, this figure demonstrates that opportunistic surveillance can work in a general practice situation and not just for a special study cohort for whom extra effort might be made. Opportunistic surveillance is a continuous process and in this study surveillance was shown to continue beyond the first year with the development of older children still being monitored. Thus, this method offers an advantage over age-linked examinations which always end at the last ‘normal’ result. There is also an economic advantage as the administrative and postal costs of holding a clinic are avoided. There is no doubt that expanding the consultation to undertake developmental surveillance will lengthen the consultation, but this was not found to be a problem because of the frequency of contacts with this age group.

This study was conducted in a university department of general practice which is not a typical practice. Perceived advantages were good administrative support and an established opportunistic approach to some other screening procedures but the large turnover of trainee practitioners meant the method was tested in less than ideal circumstances. After completion of the study the practice decided to continue opportunistic surveillance. Because four of the cohort of 78 children (5%) had not received an assessment the practice decided to introduce a safety net — any child who has not been assessed by the age of eight months is now identified and offered an appointment at the surgery.

Opportunistic surveillance can respond to change necessitated by new developments or knowledge. For example, the recommendations in Health for all children2 may lead to changes in surveillance programmes. The content of an opportunistic programme can be altered by changes to the minimal criteria and corresponding changes to the child development record. The structure is extremely flexible, allowing the inclusion of items for assessment at any age.

For opportunistic surveillance to comply with the new contract for general practice18 all the doctors involved would need to be included on the child health surveillance list held by family practitioner committees, and thus would need to be adequately trained and experienced. This may be seen as a disadvantage of the method in terms of time taken to obtain the necessary training but each practitioner can then include such skills in a generalist approach to patients, and in addition practitioners can be mutually supportive. The new contract also specifies that certain examinations should be offered to children, and that the results should be sent for centralized recording, according to local and national policies. The notification is easily done at the time of the opportunistic assessment, but children not assessed by the specified age would need to be offered an assessment. This would necessitate an extension of the safety net already incorporated in the study practice.

Doctors had to perform more assessments during the first year because at the start of the study every child immediately became ‘due’ for an assessment. However, once the method was established fewer assessments were necessary to maintain the level of surveillance. That such good levels of surveillance were achieved and maintained by doctors taking 23% of potential opportunities to conduct an assessment during the second year of the study can be explained partly by frequency of contact with the children and partly by doctors selecting the most appropriate time to perform assessments. The amount of surveillance undertaken by each doctor varied greatly with two doctors apparently doing no, or few, assessments. The other doctors were able to compensate for this because the practice did not operate a personal list system and because children of this age were seen frequently.

It is not suggested that this method should be adopted by all practices. Many practices have been conducting age-linked routine examinations with excellent results.15-17,19,20 However, this study has shown that opportunistic developmental surveillance is possible and that the complete care of the child can be undertaken by the doctor that the family have chosen to consult. This continuity is surely beneficial to the child and family as fragmentation of child care is minimized, and also to the doctor who provides the service considered by many as ideal.12,21,22

References

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