Opportunistic surveillance of child development in primary care: Is it feasible?

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SUMMARY. The authors postulate that effective developmental surveillance of children, both in terms of detection of abnormalities and in maternal counselling, can be carried out by taking advantage of opportunities during ordinary consultation to identify problems and to offer advice. The results presented in this paper are part of a more detailed study in progress to compare such an opportunistic method of health surveillance with the traditional method of regular age-linked examinations provided by clinical medical officers. From a retrospective analysis of the medical records of 58 children who had reached their first birthday and who had been registered with the study practice since their birth, the authors suggest that, based upon attendance rates, opportunistic assessment of development by a general practitioner or a health visitor is more likely to encompass those children most at risk than assessment at clinics.

Introduction

SCREENING is a process in which individuals from a defined population are submitted to a specific test or tests designed to detect an abnormality. Surveillance is used to denote a continuing process of care. Assessment implies a more extensive investigation of an already defined problem.

It is generally agreed that screening children for abnormalities cannot be justified according to accepted criteria.[1] Nevertheless it is also generally accepted that health surveillance of children is an important activity which is a complex mixture of both screening and counselling[2] and includes: oversight of health and physical growth; monitoring of developmental progress; providing advice and support to parents and treatment and referral of the child; providing a programme of effective infectious disease prophylaxis; participation in health education and training in parenthood.

The method by which the health of children is kept under surveillance must ensure that: (1) all children are

seen; (2) individual children are seen at reasonably regular intervals; (3) it is acceptable to the child/parent.

Traditionally, health surveillance has been provided for children under the age of five years by clinical medical officers through the medium of regular age-linked examinations. More recently it has been suggested that general practitioners should, as part of their role in preventive medicine, undertake the health surveillance of children in their own practices.[2-4] The method of surveillance described most commonly is regular routine assessment of children at certain ages by general practitioners, or the general practitioner paediatrician in conjunction with the health visitor. This involves setting aside regular sessions for the examinations, sending and resending appointment cards and, to achieve a worthwhile attendance rate of 70–95 per cent, visiting non-attenders at home.[5-9] Those general practitioners who provide such a service are in favour of this approach mainly because they feel the parents see it as worthwhile.[10]

Preventive care can, however, be approached alternatively by taking advantage of opportunities during ordinary consultations to identify problems and to offer advice. Stott and Davis (1979) described a theoretical model for this process.[11] We postulate that equally effective developmental surveillance both in terms of detection of abnormalities and in maternal counselling can be carried out using this opportunistic approach.

However, before such an opportunistic method of the health surveillance of children can be introduced and compared with the traditional methods it is necessary to:

1. Show that almost all children are seen sufficiently often and at sufficiently regular intervals.
2. Provide the practitioner with a simple *aide-mémoire* designed to enable him/her to identify easily and quickly those children who require more detailed and thorough assessment.
3. Design and evaluate ways in which the data derived from such an opportunistic method of surveillance can be recorded.

This communication presents the result of an attempt to measure the first of the above points in the context of the work of a single practice. They are part of a more detailed study which is currently in progress.

Methods

1. A retrospective analysis was made of the medical records of 58 consecutive children (33 male, 25 female) who had reached their first birthday and had been registered with the practice since their birth. The following data was extracted:

a) Number of consultations excluding those for routine immunization;
b) Age of baby at each consultation;
c) Place of consultation (home or surgery);
d) Whether the parent was single;
e) Whether the mother's and baby's records contained reference to major family problems (marital problems, etc.).

2. A retrospective analysis was made of the health visitor's records of the same cohort of children. The following data were extracted:

a) Number of contacts;
b) Place of contact;
c) Type of contact (Denver test, hearing test, etc.).

Results

The 58 children had a total of 1,025 contacts (averaging 17.7 per child) with either the general practitioner or the health visitor. There were 527 contacts with the general practitioner (averaging 9.1 per child) and 498 (averaging 8.2 per child) with the health visitor (Table 1); 96.5 per cent of the cohort were seen at least four times by either the general practitioner or health visitor. The least number of contacts between any child and either the general practitioner or health visitor was three and the most 46 (Table 1). In general, those children seen least frequently by a general practitioner were seen more frequently by the health visitor, and vice versa. The contacts between the

Table 1. The number of contacts between 58 babies and a general practitioner (GP) or the health visitor (HV) in the first year of life.

	Total number of contacts	Average number of contact for each baby	Range
GP contacts			
At surgery	413	7.1	1–20
At home	114	2.0	0–25
Total	527	9.1	1–25
HV contacts			
At clinic	227	3.9	0–18
At home	271	4.7	0–21
Total	498	8.2	0–21
Total number of contacts	1,025	17.7	3–46

Table 2. The number of consultations between 58 children and a general practitioner during the first 12 months of life.

	Total number of contacts	Average for each baby	For each three month period, the total number of children consulting (n = 58)
0–1 months	81	1.4	
1–2	35	0.6	49 (85)
2–3	35	0.6	
3–4	37	0.6	
4–5	42	0.6	47 (81)
5–6	47	0.8	
6–7	32	0.6	
7–8	55	1.0	48 (83)
8–9	50	0.9	
9–10	38	0.7	
10–11	42	0.7	47 (81)
11–12	59	1.0	

general practitioners and the babies were fairly evenly distributed throughout the 12 months, over 80 per cent of all the children being seen at least once in any three-month period (Table 2).

Three of the babies' mothers were recorded as having severe family problems. The average number of consultations of these children with a general practitioner was more than double the average for the cohort as a whole. This was not so in respect of contacts with the health visitor (Table 3).

Table 3. The number of contacts for mothers with family problems (n = 3).

	Total number of contacts	Average for each baby	Average for each baby in cohort (from Table 1)
GP contacts			
At surgery	38	12.7	7.1
At home	36	12.0	2.0
Total	74	24.7	9.1
HV contacts			
At clinic	11	3.7	3.9
At home	14	4.7	4.7
Total	25	8.4	8.2
Total number of contacts	99	33.0	17.7

Ten of the babies came from single parent families. The average number of consultations between those babies and the general practitioner was greater than for the cohort as a whole. This was not so in respect of the contacts with the health visitor (Table 4).

The children of women of high parity did not show any tendency to have fewer contacts with the general practitioner and health visitor than those of women of lower parity (Table 5).

Table 4. For the single-parent families (n = 10), the number of contacts between babies and the general practitioner or health visitor.

	Total number of contacts	Average number of contacts for each baby	Average for each baby (from Table 1)
GP contacts			
At surgery	107	10.7	7.1
At home	25	2.5	2.0
Total	132	13.2	9.1
HV contacts			
At clinic	49	4.9	4.7
At home	41	4.1	3.9
Total	90	9.0	8.2
Total number of contacts	222	22.2	17.7

Table 5. Average number of contacts with general practitioner and health visitor of children from families of stated size.

No. of sibs	0	1	2	3	4	5	6
No. of children (n = 58)	1	20	13	12	6	5	1
Average number of contacts with GP and HV	29	15.1	14.4	22.1	15.2	23.8	21

Discussion

Good data about consultation rates in childhood are lacking.[12] The attendance rate (9.1 per annum) of this cohort of babies with a general practitioner during the first year of life is somewhat higher than the annual consultation rates for children aged 0–1 year (8.0) recorded by Logan.[13] But attendance rates are always higher than consultation rates[14] and this cohort also contained more males (57 per cent), who tend to have a higher consultation rate than females, and approximately three times more single-parent families than the national average.[15]

It is suggested that these figures support the hypothesis that children in the first year of life are seen sufficiently often and sufficiently frequently by either a general practitioner or a health visitor to make it possible to undertake opportunistic assessment of development. Moreover, the figures for attendance recorded here compare favourably with those for attendance at clinics. For example, in a study of children in south-west England and south Wales showed that approximately 70 per cent of children attended a clinic five or more times in the first year of life[16] compared with over 95 per cent of children of this cohort who were seen by either a general practitioner of a health visitor. Furthermore, a reduced attendance rate at clinics has been recorded of high risk children such as those of unmarried mothers and women of high parity[17-20] whereas the data from this cohort confirms the views of Acheson,[19] that the lack of clinic visits by these at-risk groups is made up by increased visits to the doctor. We suggest that, based upon attendance rates, opportunistic assessment .of development by a general practitioner and health visitor is thus likely to encompass those children most at risk more efficiently than by assessment at clinics.

This method of developmental assessment involves an opportunistic extension of the consultation beyond the traditional confines of simply dealing with the presenting complaint.[9,21] It requires that the doctor has to ask himself/herself the following questions whenever a child is either brought to him/her or accompanies a parent: 'Is a child in this family at greater risk of developmental delay than the average child?' 'Does the child appear to be and behave in a normal way for its age, either from my own observations or from what the mother or, less commonly, reports tell me?'

It could be argued that it is difficult to assess development in an ill child, and this is undoubtedly true to some extent. Nevertheless, this argument should not detract from the value of opportunistic surveillance since the objective is not to make a detailed assessment but to define those children who need a more detailed assessment.

There is no doubt that expanding the consultation in the manner suggested may marginally lengthen the consultation but this has to be accepted if primary medical care is to encompass primary health care, and it has to be weighed against the time involved in conducting repeated developmental clinics for all children instead of selected children.

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