Paediatric developmental screening: a survey of general practitioners

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SUMMARY. A questionnaire survey of 293 general practitioner trainers in England to investigate paediatric screening yielded a response rate of 86%. Paediatric screening sessions were being held by a practice member in the practices of 54% of respondents. In one-third of these practices the practice member was acting in the capacity of clinical medical officer. Of responding trainers 28% held sessions personally and these doctors did not differ significantly from the remainder in terms of sex, seniority, hospital paediatric experience or membership of the Royal College of General Practitioners. About one-third of the doctors holding sessions had spent six months or more working in hospital paediatric departments. First-hand experience of paediatric screening was gained by 60% of the current trainees.

Sixty-one per cent of trainers agreed with the view that developmental screening is an appropriate task for all general practitioners, while 71% saw it as an appropriate task for themselves. Eight-six per cent of trainers agreed that doctors should be paid for this service if trained for it, and 56% that they should be paid regardless of training.

Comparative figures were determined from a parallel survey of 333 non-training general practitioners of whom 225 (68%) replied. Paediatric screening sessions were held in the practices of 34% of respondents and personally by 21%.

It is concluded that there is a high level of interest in paediatric screening among general practitioners, but that there is a need for further expansion in postgraduate paediatric training.

Introduction

THE issue of pre-school developmental surveillance has been widely debated, particularly since the publication of the Court Report,[1] which introduced the term to general use. Surveillance means an integrated programme of preventive measures taken by health professionals, including screening of healthy pre-school children. The Royal College of General Practitioners' report *Healthier children — thinking prevention*[2] strongly advocated early integration of developmental surveillance into general practice. It recommended that individual general practitioners should as far as possible be involved in the screening of children on their own lists, that all general practitioners should be trained in this field, but that payment should be made available in anticipation of such a development. In support of this recommendation the RCGP, together with the General Medical Services Committee of the British Medical Association, has published a handbook.[3]

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Concern has been expressed that the RCGP is moving towards the integration of developmental surveillance into general practice without a full evaluation of the abilities or motivation of general practitioners for the task.[4] Indeed it has been stated that there are other health professionals who are more ready and able to carry out this task.[5]

The RCGP report[2] highlighted the present lack of knowledge in several areas, such as the extent to which general practitioners are already involved in pre-school developmental surveillance, their level of training and their degree of motivation to accept this role. A recent study[6] has provided valuable information about the varying extent to which child health work is carried out by general practitioners, clinical medical officers and health visitors in different districts. However, it takes no account of general practitioners who carry out this work in their own practices without remuneration.[7]

The aims of the present study were to ascertain by questionnaire to what extent general practitioners are currently providing pre-school developmental surveillance, and, in particular, screening, in their practices; to what extent the general practitioners who provide this service have had formal training in paediatric medicine; how much experience of this subject trainees are receiving; and what attitudes general practitioners hold on the subject.

Method

The study was planned primarily as a survey of general practitioner trainers. Each regional adviser in England and Wales was asked for a full list of the trainers in his region. The names of the 1729 trainers in 11 regions of England were obtained (lists for three regions of England and for Wales were not available). Two hundred and ninety-three trainers were selected at random, with each region represented proportionately, and no two individuals selected from the same practice. Trainers in Southampton were excluded as they had previously been used in a pilot study for this project.

To ascertain how representative trainers were of general practitioners as a whole, a parallel survey of non-training general practitioners in England and Wales was carried out. A random selection of 359 names was made by the Medical Direct Mail Organization from its list of 26 213 general practitioners. Only one member of each practice was included and trainers were excluded. This yielded a total of 333 general practitioners. For convenience their practices will be referred to as 'non-training practices' although some include a trainer.

Each general practitioner was sent a questionnaire with a stamped addressed envelope and covering letter. After two months, each non-responder was sent one reminder.

The results were analysed separately for trainers and non-trainers. The statistical tests used were chi-square for all categorical variables and Mann-Whitney U tests for continuous variables (opinion data).

Results

Response rate

Analysable responses were received from 251 trainers (85.6% response rate). In 13 cases it was apparent from the questionnaire that it had not been filled in by the person to whom it was addressed, but by another partner. Such responses were considered valid in respect of information about the practice, but not in respect of information about the individual's behaviour or attitudes. This reduced the number of responses for such data

to 238. Equivalent figures for non-trainers were 225 analysable responses (67.6% response rate), eight questionnaires filled in by someone other than the addressee and 217 responses valid for information about the individual.

Characteristics of responders and non-responders

Where possible, information about all the general practitioners in the study was obtained from the *Medical directory* and *Medical register*. Among trainers, non-responders did not differ significantly from responders in respect of sex, year of graduation or RCGP membership. Among non-trainers, the non-responders had qualified a mean of four years earlier than the responders, reflecting a greater number of retired doctors among this group, but they did not show any other significant differences.

Screening behaviour by practice

Screening sessions were defined as special sessions for the purpose of screening children registered with the general practitioner's own practice. A member of the practice held such a session in 136 training practices (54.2%) (Table 1). Practice size and location (urban versus rural or London versus other) had no significant influence on this percentage. Of sessions held in training practices, 44 (32.4%) were held by a practice member acting in the capacity of clinical medical officer. Of the 115 training practices not holding sessions 21 (18.3%) had plans to introduce them, and in 106 of these practices (92.2%) children were examined routinely by a clinical medical officer. In only nine training practices (3.6%) was there no indication of children being examined routinely by a doctor. In 72 training practices (28.7%) combined screening and immunization clinics were held.

Table 1. The number of practices holding special screening sessions.

	Training practices		Non-training practices	
	Total no.	No. (%) holding sessions	Total no.	No. (%) holding sessions
All practices	251	136 (*54*)	225	77 (*34*)
Large practices (10 000+ patients)	118	69 (*58*)	59	29 (*49*)
Small practices (<10 000 patients)	130	66 (*51*)	162	46 (*28*)**
Urban practices	112	68 (*61*)	114	35 (*31*)
Non-urban practices	138	68 (*49*)	108	41 (*38*)

**$P<0.01$ for large versus small non-training practices.

Seventy-seven non-training practices (34.2%) held special screening sessions (Table 1). Training and non-training practices differed significantly in this respect ($P < 0.001$). Large non-training practices (10 000 patients or more) were significantly more likely than small non-training practices to hold sessions. The proportion of sessions held by a practice member acting in the capacity of clinical medical officer (25, 32.5%) was similar to that for training practices.

The frequency of sessions varied, but one session per week was the most common (99 training practices; 72.8% of those holding screening sessions). The number of scheduled visits per child to see a doctor ranged from none to nine, with a median of three (Figure 1). The figures for non-training practices were similar.

One question related to the ages at which pre-school children and adolescents were routinely invited to attend for examination. These ages showed considerable variation. In 131 training practices (96.3% of those holding sessions), children were invited when aged between four and six weeks, but an invitation to attend at adolescence (as recommended in the RCGP report) was issued in only three training practices (2.2%). The figures for other ages were intermediate between these. Similar figures were obtained for non-training practices.

The professional who conducted each part of a child's assessment was determined (Figure 2), but no attempt was made to differentiate between assessments at different ages. It can be seen that systems and developmental examinations were carried out mainly by doctors, height and weight measurements mainly by health visitors or nurses and vision and hearing testing by a mixture of health professionals.

Non-attenders at developmental screening clinics are contacted by a variety of methods. In the present study these methods included a visit from the health visitor in 123 training practices (90.4%) and a visit from a doctor in only four (2.9%). The figures for non-training practices were similar.

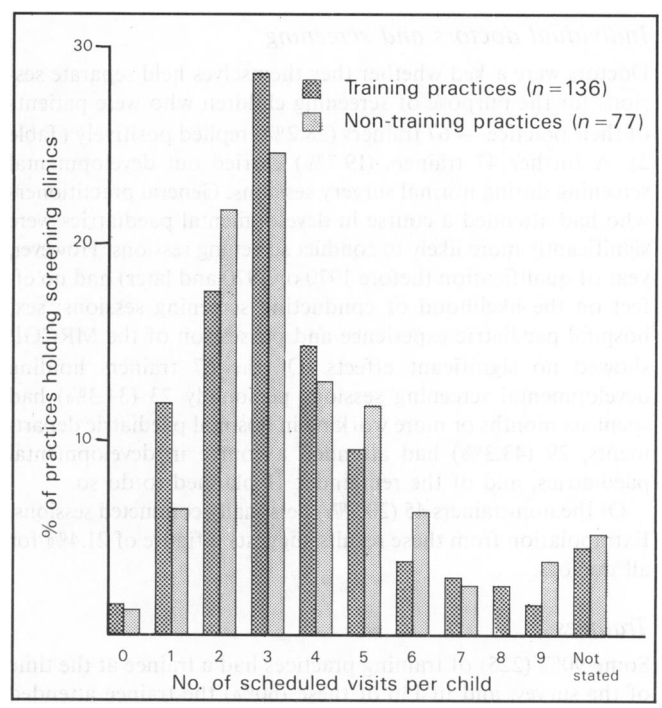

Figure 1. *The number of scheduled visits to see a doctor per child as a percentage of the practices holding screening clinics.*

Practice records systems

Age–sex registers were held by 221 training practices (88.0% of all responding practices). This included 125 of those training practices (91.9%) in which child screening clinics were held. Two hundred and ten training practices (83.7%) stated that they had a policy of indicating immunization status prominently in childrens' notes, and 106 (42.2%) that their childrens' notes contained information provided directly by health visitors. Fewer non-training practices (129 practices, 57.3%) than training practices held an age–sex register.

Responsibility for child screening sessions

An individual general practitioner took responsibility for child

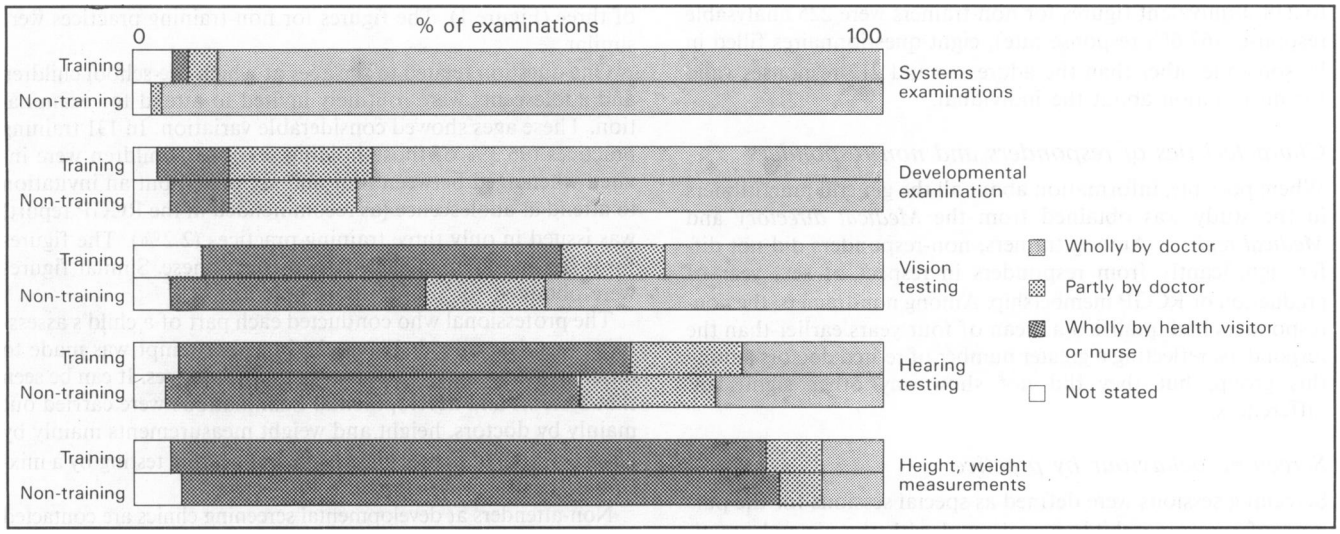

Figure 2. *Percentage of professionals conducting examinations for training (n = 136) and non-training (n = 77) practices.*

screening sessions in 66 training practices, that is 48.5% of those in which such sessions were held.

Individual doctors and screening

Doctors were asked whether they themselves held separate sessions for the purpose of screening children who were patients of their practice — 67 trainers (28.2%) replied positively (Table 2). A further 47 trainers (19.7%) carried out developmental screening during normal surgery sessions. General practitioners who had attended a course in developmental paediatrics were significantly more likely to conduct screening sessions. However, year of qualification (before 1970 or 1970 and later) had no effect on the likelihood of conducting screening sessions; sex, hospital paediatric experience and possession of the MRCGP showed no significant effects. Of the 67 trainers holding developmental screening sessions personally 23 (34.3%) had spent six months or more working in hospital paediatric departments, 29 (43.3%) had attended a course in developmental paediatrics, and of the remainder 11 planned to do so.

Of the non-trainers 45 (20.7%) personally conducted sessions. Extrapolation from these results suggests a figure of 21.4% for all doctors.

Trainees

Some 90% (225) of training practices had a trainee at the time of the survey, and in 136 of these (60%) the trainee attended screening sessions within the practice and had the opportunity to examine children at these sessions. Of the trainees, 60 (27%) had attended a course in developmental screening, a further 56 (25%) intended to do so and the remaining 109 (48%) had no plans to attend such a course.

Opinions

A series of statements was offered and respondents were asked to indicate their degree of agreement or disagreement by the use of a 3.5 cm linear analogue scale. While there was a relatively high level of agreement that developmental screening was an appropriate task for some general practitioners, fewer doctors felt strongly that it was an appropriate task for them personally, and even fewer saw it as appropriate for all general practitioners (Table 3). Among trainers, those who currently held screening sessions, those who had attended a relevant course and those who had read *Healthier children — thinking prevention*[2] were more likely to regard developmental screening as an appropriate task for themselves. There was a relative consensus among trainers that general practitioners who provided a developmental screening service should be paid for doing so if they have

Table 2. Characteristics of respondents personally holding child screening sessions.

	Trainers		Non-trainers	
	Total no.	No. (%) holding sessions	Total no.	No. (%) holding sessions
All respondents	238	67 (*28.2*)	217	45 (*20.7*)
Qualification date[a]				
Before 1970	179	50 (*27.9*)	129	27 (*20.9*)
1970 or later	57	16 (*28.1*)	87	17 (*19.5*)
Sex				
Male	221	58 (*26.2*)	179	33 (*18.4*)
Female	16	8 (*50.0*)	37	11 (*29.7*)
Membership of RCGP[a]				
Member	114	36 (*31.6*)	38	8 (*21.1*)
Non-member	123	30 (*24.4*)	178	36 (*20.2*)
Hospital paediatric experience				
None	92	23 (*25.0*)	81	11 (*13.6*)
< 6 months	16	3 (*18.7*)	15	5 (*33.3*)
6 months	61	22 (*36.1*)	51	10 (*19.6*)
> 6 months	33	12 (*36.4*)	33	11 (*33.3*)
Attended course in developmental paediatrics	64	29 (*45.3*)**	62	26 (*41.9*)
Read *Healthier children — thinking prevention* wholly or in part	128	35 (*27.3*)	71	20 (*28.2*)

**$P<0.01$ for GPs who have attended a course versus those who have not. [a]Source: *Medical directory.*

Table 3. Opinions of trainers and non-trainers on aspects of screening.

Statement	Mean level of agreement[a]		Trainers		Non-trainers	
	Trainers	Non-trainers	Total no. responding	No. (%) agreeing	Total no. responding	No. (%) agreeing
Developmental screening of children is an appropriate task for:						
All GPs	4.9	4.4	195	119 (*61.0*)	174	89 (*51.1*)
Some GPs	7.2	6.8	191	169 (*88.5*)	162	135 (*83.3*)
Me	5.8	5.4	185	131 (*70.8*)	154	94 (*61.0*)
GPs who provide a developmental screening service should be paid:						
If they have had special training	7.1	6.8	214	184 (*86.0*)	179	144 (*80.4*)
Regardless of training	4.7	4.7	204	114 (*55.9*)	179	98 (*54.7*)

[a]Score on scale 0–9, 0 = disagree, 9 = agree, 4.5 = neutral.

had special training. The idea that doctors should be paid for this service regardless of training produced less agreement — trainers holding screening sessions were significantly more likely to agree with this opinion while those who had attended a developmental screening course were less likely to agree. There was no significant difference in the views expressed by younger and older trainers or between members and non-members of the RCGP.

Non-trainers did not differ significantly from trainers in their opinions. Among non-trainers, RCGP members were significantly more likely to regard developmental screening as a task for some general practitioners, but significantly less likely to regard it as an appropriate task for all general practitioners than non-members. Non-trainers with more than six months' hospital paediatric experience, those who had attended a course in developmental screening and those who had read *Healthier children — thinking prevention* were significantly more likely to see developmental screening as an appropriate task for some general practitioners and for themselves.

Comments were invited, and a variety of themes emerged including conflicting priorities, financial and time constraints in general practice and the apparently low pick-up rate of abnormality in developmental screening clinics. A number of doctors said that their practices had attempted to run clinics but had given up because of frustration, boredom or the advent of a service run by a clinical medical officer. A recurring theme was the need for better communication between general practice and community medical services.

Discussion

This is the first study which has attempted to look at the behaviour and attitudes of a large cross-section of general practitioners towards paediatric screening. The study suggests that approximately 54% of training practices and significantly fewer non-training practices (34%) provide a developmental screening service involving the partners. The figures are lower than those obtained by Baker[8] but do not include practices in which the service is provided solely by a visiting clinical medical officer. Interestingly, two-thirds of the practices providing a screening service do so other than as a clinical medical officer, that is, broadly speaking, without payment. Furthermore an estimated 21.4% of doctors (trainers and non-trainers combined) are personally involved in such sessions. Wright noted a similar figure in 1969 — 21% of family doctors ran 'well-baby' sessions.[9] It is of interest that younger practitioners do not appear to have taken up child health clinics to any greater extent than their older colleagues.

The RCGP report[2] recommends that each child in a practice should be seen routinely by a doctor on at least four occasions. In this study, this was the policy in only 34% of those training practices in which screening was carried out by a general practitioner. This may have been because doctors felt that for some visits it is more appropriate for a child to see other professionals.

In 48% of training practices which held screening sessions, one general practitioner took responsibility for them. It can be concluded that the concept of a general practitioner with a special interest[1] has found some support, though not necessarily in its original spirit of a general practitioner paediatrician.

There is a need for more extensive postgraduate training facilities in paediatric screening and surveillance, whether or not the service is to be extended. This need has been repeatedly stressed.[10] Even among those doctors in this study who are involved in screening, less than half had attended a relevant course, and two-fifths had had less than six months' hospital paediatric experience. It may be argued that hospital paediatric posts have shortcomings as a preparation for paediatric surveillance; however, unless and until full-time training posts in community paediatric medicine are introduced, hospital posts constitute the only extended supervised work in paediatrics for a majority of future general practitioners. Furthermore, this study suggests that only about 60% of trainees have first-hand experience of working in pre-school developmental clinics within their training practices — this figure includes practices in which such tuition is provided by a visiting clinical medical officer and is comparable with that of Wilmot,[11] who noted that 74% of a sample of 50 trainees had experience of preventive paediatric activities in their teaching practices.

The opinions of the doctors indicate that a large proportion, but by no means all, see developmental screening as an appropriate task for themselves, while not surprisingly, a larger proportion see it as an appropriate task for at least some general practitioners. Nonetheless, there remain a significant minority who do not regard developmental screening as an appropriate task for any general practitioner.

The method of payment for general practitioner screening sessions is an area of controversy. The RCGP report[2] proposes that initially all such sessions should be paid, regardless of training. The cost to the National Health Service of this proposal

has been estimated at some £35 000 000.[12] The proposal was greeted with diffidence by the respondents in this study. We suggest that general practitioners are less likely to embrace pre-school screening solely for financial reward, than out of a conviction that they are doing it well and that it is of value. Further research is needed before such a conviction can be justified.

A likely criticism of any study of this kind is that response bias may be a problem but in the case of the trainers, non-responders appear similar in every measurable respect to responders. Any inaccuracy in the figures for screening is likely to be a slight overestimate. The other likely criticism is that the behaviour of doctors as perceived by themselves has been studied, rather than as observed by others. This is inevitably one of the limitations of a study of this kind. This study indicates the need for independent observations of the qualitative aspects of pre-school screening in general practice.

The profession and the Department of Health and Social Security need to consider many factors in deciding future policies for child health. A crucial factor is the readiness of general practitioners for any changes which may occur. We hope that, in setting out to describe this, the present study has contributed to the continuing debate.

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