

Health needs of preschool children

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Bax, M., and Hart, H. (1976). *Archives of Disease in Childhood*, 51, 848. **Health needs of preschool children.** An epidemiological study of disease in a geographically identified population of 250 children is reported. 22% had not seen their general practitioner (GP) at all in the past year, while 20% had seen him four times or more. The vast majority of these visits were because of an infective illness; and developmental and behavioural problems were rarely presented to GPs. 53% of children had not been to hospital since birth, but 11% had been at least four times. Respiratory infections and middle ear disease were the commonest illness reported, and nearly 3% had an infected or discharging ear at the time of examination. 15% of 3 year olds had speech and language problems. 18% of children over 2 years were thought by the examiners to have a behavioural problem, half being assessed as mild, the remainder as moderate or severe.

The preschool Project at the Thomas Coram Research Unit (TCRU) looks at the needs of children under 5 not only in terms of health, but also in terms of educational, social, and welfare needs. We report an epidemiological study of disease in a group of under-5 children, together with a study of their contact with medical services.

Methods

Two geographical areas in London were selected for study. They have very different populations and the findings were distinct. We report here only results from the Camden area. The area is that serviced by one health visitor. Our own research unit is associated with a preschool nursery centre, which is roughly in the centre of the area. The area contains a well-known children's hospital, together with a handicapped children's centre. Within walking distance there is a district general hospital and accompanying medical school and also just north of the area there is a specialist ear, nose, and throat hospital. Two other large hospitals are within walking distance, and the families living in the area have visited about 9 hospitals within the immediate area. There are about 12 general practitioners in the area, but none of them run their own child health clinic. The child health service is based on an area health authority clinic in an annex to the children's hospital.

Two groups of children were excluded from the survey. They were the children of resident staff at the children's hospital, many of whom were only there for

6 months' appointments and whose parents might have biased the sample. Another group were children of postgraduate students from overseas living in flats belonging to the University of London. Many were here for a short period of time and were therefore excluded. After these families had been excluded the social class distribution within the area still differed significantly from national figures (Table I), with an excess of social classes II and III (nonmanual) in the area. Any urban area in the United Kingdom now has a mixed population racially, but the proportions vary widely from district to district. Countries of origin of the father of the children were as follows: 60% came from the United Kingdom (approximately half had been born in London), 7% from the Republic of Ireland, 1% from the West Indies, 10% from Europe (many from Cyprus), 4% from the Indian subcontinent (mostly from Bangladesh), 9% from other parts of the world.

A team of social interviewers (under the direction of Peter Moss) identified all the families with children aged 5 and under in the health visitor's area. Previous census data were available and house-to-house calls were made. All children living in the catchment area and aged under 5 years on 1 June 1974 were included in the study. Our research health visitor, Miss J. Thompson, established contact with all the families and arranged for the children to attend for routine assessment. We saw 97% of the children in the catchment area, 2 or 3 of whom had to be interviewed and examined in their own homes, but the majority came to the clinic. The social interviewers saw the majority of the families in the area and details of their findings will be published elsewhere. At the clinic visit a detailed medical, be-

TABLE I
Social class distribution (%)

	I	II	III non manual	III manual	IV	V	Other
Present study	7	27	17	32	12	2	4
National figures*	5.6	18.4	10.4	37.3	15.4	5.7	6.2

*Based on 1971 census figures for families with dependant children.

havioural, and developmental history was taken and a full paediatric examination carried out. Follow-up visits are continuing. Developmental aspects of the examination we used were based on that set out by Egan, Illingworth, and Mac Keith (1969), but with some personal modifications.

Results

We report here on what contact the families have had with medical services before the establishment of the research unit in the area. 97% of the children aged 5 and under in the area were seen by the medical survey and most of these had detailed interviews with the social interviewers from the unit.

Contact with GPs. Table II shows the number of occasions the child was taken to the general practitioner (GP) in the past year. We have so far checked these data against one general practice, and there is some over, and some under-reporting of attendance, though the average number of visits shows a close correlation. Mothers who had made several visits had forgotten some of them, but there were also occasions when there were no notes on the doctor's file and the mother was certain she had attended. We therefore present the mothers' recollection of how often they went to their doctor, and we believe this does not depart very far from the truth. Our consultation rates for GPs are somewhat lower than previous reports (Office of Population Censuses and Surveys, 1972, 1974). We recorded the reasons why the mother

TABLE II
Visits to GP in last year

No. of visits					
0	1	2	3	4+	Total
55	70	53	20	52	250
22%	28%	22%	8%	20%	100%

Medical reason for visit 193 children (77%); behaviour problem 5 children (2%); developmental problem 5 children (2%).

had been, and again these correlated reasonably well with what we found on the practitioner's notes. We have grouped attendance at the GP in one of three categories: either a 'medical' reason, a 'developmental' problem, or a 'behavioural' problem; the vast majority were medical. Some attendances might have been for behavioural or developmental problems, but if they presented as 'medical' problems, that was how we categorized them. Thus a child we felt had encopresis was taken to the GP with 'constipation' which he treated with laxative, so he (and the parents) regarded this as a medical problem. 5 children paid one visit to their GP with a behavioural problem and 3 children had been with a developmental problem. One child had attended twice. Table III gives

TABLE III
Drugs in last year from doctor (%) (n=251)

	None	× 1	× 2	× 3+
Cough linctus	63	21	8	8
Bowel medicine	95	4	0.4	—
Sleep medicine	93	4	0.8	0.4
Antibiotics	{ 51	29	7	4
	{ 5 × to 8 × = 7.8			

20% had bought colic medicine from chemist; 40% had bought aspirin from chemist.

details of the drugs the mothers reported their children taking in the previous year. The great majority of the prescribing by general practitioners was of antibiotics, and most of these were prescribed for respiratory infections and/or ear infections. Some details of the rate of complaint based on historical information are given later.

Hospital contact. Table IV shows the number of visits to the outpatient or casualty department of hospitals made by these children. Most attended with one problem, but about 50 of the children had two conditions for which they were taken into hospital, usually on separate occasions,

TABLE IV

Visits to hospital including casualty since birth (%)
(*n* = 251)

0	1	2	3	4-7	8+
53	22	8	6	6	6

Of these 32% had one condition; 12% had two; 2% had three.

and 4 children on three separate conditions. Table V gives the rate of hospital admission for the group. 5% of the children had been admitted for surgical operation and 16% for a medical condition.

TABLE V

Hospital admissions since birth (%) (n = 251)

0	1	2	3 to 7	8+
79	15	4	2	0.4

5% for a surgical operation; 16% for a medical condition.

Contact with child health clinic. It was more difficult to assess the use that had been made of the child health clinic before our arrival in the area. Social interviewers from our research unit asked questions about child health clinic attendance, as it was felt that if doctors in the clinic asked the questions they might get untruthful answers; but, inevitably, the two surveys started at the same time and it was difficult sometimes for the social interviewers to ascertain whether parents reported a visit as part of the survey or whether they would have attended the clinic anyway.

Table VI is based on a study of the clinic notes

TABLE VI

Use of child health clinic

Attendance at clinic for routine check-ups of children who were known to the clinic

6 w	70%
6 m	57%
1 yr	58%
18 m	46%
2 yr	49%
3 yr	47%
4½ yr	38%

Average number of clinic visits by children known to the clinic at different times during first 5 years

1st year	8
2nd year	2.7
3rd year	1.3
4th year	1.1

During the 1st year of life 57% made 0-9 visits, 32% made 10-19 visits, and 11% made 20+ visits. 2 children made over 30 visits.

at the start of the survey, and gives the percentage of children attending for planned routine checks. These are given as a percentage of the number of children who had passed the chronological age at the time we studied the notes. Clearly, this gives only a rough estimate of the attendance, as some children living in the area were not known to the clinic, but some may have attended another clinic. A proportion of those children who missed one developmental check might have been seen at the next, so that some of those who missed the 18-month check were picked up at 2 years, but in general it is clear that clinic attendance, as reported in other surveys (Ministry of Health, 1967) falls off once they reach the age of 2 years. The rates at this clinic compared with those reported from other well-staffed areas (Paterson, 1972), and are certainly higher than those in less favoured areas.

Physical illness. Table VII gives some of the previous illnesses reported to us by the parents.

TABLE VII

Children's illnesses reported by parents in Camden (n = 251)

3%	Fits	} 6.4% × 3 in last year
18%	Bronchitis	
(10%)	(with wheezing)	
18%	Ear infection	
7%	Eczema	
9%	Squint	

The assessment of bronchitis is always difficult, as any upper respiratory tract infections accompanied by a severe cough may be regarded as bronchitis by parents. However, 6.4% of the children were reported as having had three or more attacks in the last year. A large number of children had been treated for ear infection at one time or other; 2% had had more than three attacks in the last year. It is interesting that such a large number of parents reported that they felt their children had squints. Only about half of these had been investigated, and the parents had not in fact drawn the attention of doctors to the squint in many instances. Probably in about half of these cases full diagnostic examination at the time when the parents thought the child was squinting would have been negative. 20% of parents with children over 2 years were concerned about their child's speech development.

Table VIII gives some of the findings at our examination. As one could predict, only 2 children in the area have a physical abnormality likely to cause chronic handicap. One has a triple X

TABLE VIII

Abnormalities found on physical examination (n=251)

1%	Infections of nose and throat
5%	'Skin disease'
3%	'Ears infected/discharge'
0.4%	Heart lesion
0.8%	'Lungs'
1%	Umbilical hernia
0.4%	Hare lip
0.4%	XXX chromosome disorder
2%	Squint

chromosome disorder and accompanying mental subnormality, and one has cleft lip and palate.

Developmental disorders. The developmental aspect of the paediatric examination is necessarily age appropriate. In carrying out the developmental items, the doctor was required to make an assessment of whether the particular aspect of the child's development was 'definitely' or 'possibly' abnormal. The largest and most important group of children identified here (Table IX) is the group of children with speech and lan-

TABLE IX

Incidence of neurodevelopmental problems

	At 3 years (n=53)	At 4½ years (n=44)
Gross motor	0%	0%
Fine motor	4%	0%
Vision	2%	2%
Hearing and listening	0%	26%
Speech and language	15%	5%

guage problems. The reliability of our assessments has been checked by independent assessment using the Reynell Test by our psychological colleagues, Martin Hughes and Gill Pikerton, and by our speech therapist, Pam Stephenson. There are good correlations. We shall be reporting on this group of children in more detail later. It seems that two-thirds of the children whose speech and language is delayed at 3 years catch up by 4½, but this does not mean that these children can be ignored, as Ingram (1963) has shown that children who are not talking at 3 later present with another neurodevelopmental problem, namely delay in learning to read. At least 15% of children aged 3 should have careful developmental assessment.

Behaviour problems. Behaviour problems of these children have been analysed for the under-2 age group (excluding information from the 6-week consultation) and over-2 age group. Some relevant findings are given in Tables X and XI.

TABLE X

Children's behaviour problems under 23 m (n=64)

Cries + +	1%
Difficulty settling to sleep	
on 2-3 nights a week	7%
on 4+ nights a week	10%
Night waking	
on 2-3 nights a week	1%
on 4+ nights a week	17%
Mother worried about behaviour	7%
Doctors assessment	
Mild	4%
Moderate	3%
Severe	0%

TABLE XI

Children's behaviour problems over 23 m (n=140)

Difficulty in settling to sleep	
on 2-3 nights a week	6%
on 4+ nights a week	7%
Night waking	
on 2-3 nights a week	6%
on 4+ nights a week	11%
Temper tantrums	
1-4 weekly	18%
Daily	13%
3+ daily	4%
Mother worried about behaviour	16%
Doctor's assessment	
Mild	9%
Moderate	9%
Severe	0.7%

The overall role of sleep disturbance relates closely to data published by Bernal (1973). In the 2+ age group (Table XI) sleeping problems have become less common, but temper tantrums and food fads have developed. It is noteworthy that the number of mothers who were worried about their child's behaviour has doubled. The number of children who we (as doctors) thought had abnormal behaviour on the basis of the history has more than doubled. It is worth stressing that these children's behavioural problems do not occur in isolation, and are related to the mother's mental health; 21% of the mothers had taken pills for depression in the previous year; 10% reported that life was not worth living; and 2 mothers had attempted suicide in the last year.

Discussion

General practitioners spend a great deal of their time with families with young children. As Table IV shows, children are also heavy users of

outpatient and casualty facilities. We are investigating the quality of the service they receive in this way, but it is clear from our data that children's 'medical' problems attract a good deal of time and energy. The same is not true of the 'behavioural' and 'developmental' problems of children. A number of developmental problems had been the subject of concern and treatment by the clinic doctors in the past and one child had, for example, been referred to the language class at the local handicapped children's centre. However, a proportion of the developmental disorders which we identified were among those children who had been nonclinic attenders; behavioural disorders increase after clinic attendance drops in this age group.

Our purpose in presenting these data at the moment is to draw attention to three issues which we think are very important at the moment when child health services are being reorganized. The first is the question of cover. We have shown that, with the help of an efficient and extremely hard working health visitor, it is possible to achieve virtually 100% success and see all the children in the area. Our health visitor is working out of a traditional child welfare clinic and had a geographical area to service. While the concept of health visitor attachment to GPs is not one with which we would disagree, we are concerned with the loss of 'geographical' coverage. A number of the families who we saw were not on any GP's list in the area and had not been attending GPs regularly. In areas where all health visiting is GP attached, some method of identifying those newcomers to the area whose health cards are missing within the administrative machinery, often for some months, is needed to bring them to the attention of local health services.

The second issue is that of medical competence. The doctor who sees a mother with an under-5 child must be competent to deal not only with the child's problems, but also to recognize any problems the mother may have. It is clear from our data that behavioural and developmental problems are often not taken to the GP. If they are, then they masquerade as a medical problem. For example, we know of one child in the area who attended her GP twice with her father, who complained that the child was constipated. She was then referred to a hospital where treatment with suppositories for constipation was prescribed. In fact, the father of this child was rather disturbed and far from suffering from constipation, the child was encopretic. The onset of encopresis at the age of 3 was probably due to the fact that the father sat

her on the toilet every day and beat her while she did not perform. None of the children with behaviour disturbances in this age group have been referred to child psychiatrists, and yet, all child psychiatrists, whatever their theoretical orientation, believe that behaviour disturbance originates in the early years of life. General practitioners commonly lack training in the management of developmental and behavioural problems. The problems presented by these children ought to form the basis of undergraduate paediatric training in our view.

The third issue concerns the development of services. If the developmental and behavioural problems of these young children are to be treated, preschool provision for the children is essential and therapists of one sort or another must be available to work with individual children who present difficulties. Few areas in the country at the moment can provide such facilities, but we hope in later reports from our unit to outline how we think help for these children could be provided. The difficulties we are observing are the precursors of problems of behaviour and learning in the older school child. At later ages treatment of such problems is extremely difficult and expensive. While we lack the evidence that earlier help will be effective, the expansion of preschool services for children seems to us to make economic and medical sense.

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