

# Study of out-of-hours visits to children

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**SUMMARY.** *Out-of-hours calls made to children by an urban practice were studied over a 12-month period. Out of a total of 1463 out-of-hours visits, 336 were to children, of whom 17 were admitted to hospital. The proportion of the out-of-hours calls which were to children is less than had been expected. This unexpectedly low level of out-of-hours visits to children and the type of conditions encountered should be taken into account when planning vocational training programmes.*

## Introduction

THERE have been many studies, both in the United Kingdom<sup>1-3</sup> and in other countries,<sup>4,5</sup> of the out-of-hours calls made by general practitioners. The studies show varying levels of out-of-hours visiting and also varying distribution by age groups. Many general practitioners consider that child care forms a large proportion of out-of-hours work. In addition many trainee general practitioners feel apprehensive about out-of-hours calls to see sick children. Very few studies have examined out-of-hours calls to children. In many training schemes for general practice the paediatric syllabus concentrates on aspects of acute care based on data obtained from hospital admissions. It was therefore decided to carry out a prospective study of out-of-hours calls to children in an urban group practice.

The aims of the study were as follows:

1. To measure the number of out-of-hours calls made to children in a large group practice and to compare these with the total number of out-of-hours visits made.
2. To identify the patterns of morbidity encountered.
3. To determine the hospital admission rate for children seen as a home visit.
4. To provide data for use in drawing up a syllabus for training in child care for the local vocational training scheme.

## Method

The study was carried out in an urban teaching practice in West Cumbria. The practice list size at the time of the study was 10 500 patients and the practice area was largely confined to the town of Workington, an industrial town on the fringe of the Lake District National Park. The practice has five principals and one trainee and operates its own internal out-of-hours rota.

The study population consisted of 1490 children aged up to 15 years and the study period was from 1 May 1983 to 30 April 1984. During this period each doctor recorded his out-of-hours visits to children and then completed a short questionnaire with the name, address and age of the child, the time of the visit, the diagnosis, brief details of the treatment given and whether or not the child was admitted to hospital. An out-of-hours visit was defined as one made between 18.00 hours and 08.30 hours the following day or during a weekend or on a public holiday. All admissions were to the Paediatric Unit at the West Cumberland Hospital, Whitehaven, which is 10 miles from Workington. All requests for home visits were recorded in the practice day book and so the total number of home visits could be determined.

## Results

During the 12-month period a total of 5336 home visits were made giving a visiting rate of 0.51 visits per patient. A total of 1067 visits were made to children giving a visiting rate for children of 0.71 visits per child. Visits to children accounted for 20.0% of all home visits. A total of 1463 out-of-hours visits were made (27.4% of the total) and of these 336 were to children. Thus 23.0% of all out-of-hours visits were to children and 31.5% of all home visits to children were made out of hours.

There was a slight seasonal variation in the visiting pattern; less visits were made per month in June, July and August than in the rest of the year when the number of visits per month was fairly constant. The majority of out-of-hours visits took place between 18.00 and 23.00 hours or during the day at weekends (301 visits) and only 35 visits took place between 23.00 and 07.00 hours when they attracted a night visit fee.

A trainee took part in this study from August 1983 to April 1984 and joined in the out-of-hours rota with the partners. In this period he made 32 out-of-hours visits to children.

Table 1 shows the number of out-of-hours visits made to children for each age group and also the number of children in each age group admitted to hospital. A total of 17 admissions resulted from out-of-hours visits (5.1% of out-of-hours visits to children). For comparison, data on hospital admissions were obtained from the Paediatric Unit, West Cumbria Health District, which is served by this Unit, has a total population of 138 500 of whom 27 600 are children aged up to 15 years. A total of 1452 admissions were made which is 5.3% of the population of children.

**Table 1.** The number of out-of-hours visits made to children and the number of admissions to hospital by age group.

Age (years)	Number of visits (%)	Number of admissions
<1	79 (23.5)	3
1-5	152 (45.2)	8
6-10	66 (19.6)	2
11-15	39 (11.6)	4
Total	336	17

The morbidity pattern for out-of-hours visits to children is shown in Table 2. Upper respiratory tract infections including tonsillitis and otitis media made up the largest single group of infections and this was followed by diarrhoea and vomiting and then exanthemata. Skin disorders were largely attacks of urticaria or cases of napkin rash and the presenting symptom was often a crying baby. Iatrogenic disorders were all febrile reactions to immunization. Upper and lower respiratory tract problems predominated the hospital admissions.

## Discussion

General practice literature has little direct data on the level of out-of-hours work among children. Gilbert described a study in Southampton where 11.3% of out-of-hours visits were for patients up to 15 years of age and 14.2% of these were given a 'serious' diagnosis, that is an illness which is a major threat to life or livelihood.<sup>3</sup> Hardman made the observation that

**Table 2.** Morbidity pattern for out-of-hours visits to children.

	Number of children	Percentage
Infections	205	61.0
<i>Details and symptoms of infections</i>		
Viral upper respiratory tract infection	55	
Tonsillitis	26	
Otitis media	23	
Lower respiratory tract infection	19	
Croup	12	
Diarrhoea and vomiting	32	
Exanthemata	26	
Pertussis	3	
Glandular fever	2	
Urinary infection	3	
Wound infection	1	
Herpetic stomatitis	3	
Asthma	14	4.2
Skin disorders	14	4.2
Headache	13	3.9
Other undiagnosed symptoms	64	19.0
Accidents	12	3.6
Iatrogenic disorders	4	1.2
'Social' calls	10	3.0

'children are responsible for the largest proportion of late calls'<sup>6</sup> and Tulloch in a study of out-of-hours calls in an Oxfordshire practice felt that 'children were the group most over represented' accounting for 41% of calls.<sup>7</sup> This study does not agree with their conclusions and in fact the relatively low level found for out-of-hours visits made to children was surprising. In a study in New Zealand 21.4% of all calls were for patients aged up to five years.<sup>8</sup>

Very few studies describe the morbidity encountered during visits to children. Pridan found that the majority of visits for upper respiratory tract disorders were to babies and toddlers.<sup>4</sup> Richards and Campbell found acute otitis media, febrile sore throat and acute bronchitis to be the most common diagnoses for those aged up to 10 years.<sup>8</sup> Crowe in his analysis of out-of-hours calls in Leicestershire gives respiratory disorders (24.5%), digestive disorders (19.5%) and accidents (19.0%) as the most common diagnoses for those aged under 15 years.<sup>2</sup>

In terms of preparing trainee general practitioners for a career in general practice, morbidity patterns and admission rates for children are interesting as they show differences between the diseases encountered in general practice and during a six-month hospital post in paediatrics. The small number of out-of-hours calls to children made by the trainee in this study was surprising. It is suggested that those responsible for schemes of vocational training should take note of the differences in disease patterns between hospital and general practice paediatrics. They should also recognize that a trainee during his practice component may only gain limited experience of dealing with children out of hours, particularly in a large group practice.

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## Infertility and the IUD

Women who use an intrauterine device (IUD) are at increased risk of acute pelvic inflammatory disease, but the relation between the IUD and subsequent infertility has not been established. Two studies from the USA have shown an association between use of the IUD and infertility but a lower risk with copper IUDs than other types.

Contraceptive histories in 4185 white women were compared — 283 nulliparous women with primary tubal infertility, 69 women with secondary tubal infertility, and 3833 women admitted for delivery at seven collaborating hospitals from 1981 to 1983. The relative risk of tubal infertility associated with IUD use was calculated by means of multivariate logistic regression to control for factors such as region, year of menarche, religion, education, smoking, and reported number of sexual partners. The adjusted risk of primary tubal infertility associated with any IUD use before a first live birth was 2.0 (95% confidence limits, 1.5 to 2.6) relative to non-use. Users of the Dalkon Shield had an adjusted risk of 3.3 (1.7 to 6.1), users of the Lippes Loop or Saf-T-Coil had a risk of 2.9 (1.7 to 5.2), and users of copper IUDs had a risk of 1.6 (1.1 to 2.4). Women who reported having only one sexual partner had no increased risk of primary tubal infertility associated with IUD use. The adjusted risk of secondary tubal infertility associated with use of a copper IUD after a first live birth was not statistically significant (1.5; 95% confidence limits, 0.8 to 3.0), whereas the risk from similar use of noncopper devices was significant (2.8; 1.3 to 5.9). It was concluded that tubal infertility is associated with IUD use, but less so with copper IUDs.

In another study 159 nulligravid women with tubal infertility were interviewed to determine their prior use of an IUD. Their responses were compared with those of a matched group who conceived their first child at the time the infertile women started trying to become pregnant. The risk of primary tubal infertility in women who had ever used an IUD was 2.6 times that in women who had never used one (95% confidence interval, 1.3 to 5.2). The observed difference between cases and controls was not uniform for different types of IUD. The relative risk associated with use of a Dalkon Shield was 6.8 (1.8 to 25.2), and that associated with use of either a Lippes Loop or Saf-T-Coil IUD was 3.2 (0.9 to 12.0). The smallest elevation in risk was found among users of copper-containing IUDs (relative risk, 1.9 [0.9 to 4.0] for all women who had ever used a copper-containing IUD). The relative risk for women who used only a copper-containing IUD was 1.3 (0.6 to 3.0). Thus use of the Dalkon Shield (and possibly of plastic IUDs other than those that contain copper) can lead to infertility in nulligravid women.

Sources: Cramer DW, Schiff I, Schoenbaum SC, *et al.* Tubal infertility and the intrauterine device. *N Engl J Med* 1985; **312**: 941-947. Daling JR, Weiss NS, Metch BJ, *et al.* Primary tubal infertility in relation to the use of an intrauterine device. *N Engl J Med* 1985; **312**: 937-941.