The doctor's deputizing service in a single-handed practice

A. S. NAIDOO, B.SC, MB
Trainee General Practitioner, Nottingham Vocational Training Scheme

SUMMARY. The out-of-hours calls received by a doctor's deputizing service on behalf of a single-handed general practitioner were studied over the course of one year.

It was found that the overall rate of call (66.3 per 1,000 patients per year) and the rate of night call (10 per 1,000 patients per year) differed little from the rates found by general practitioners who did their own out-of-hours calls. The main users of the service were children under five and women. The time when the service was used least was between 23.00 and 07.00.

It is concluded that employing a deputizing service did not necessarily increase the rate of out-of-hours calls, but that the rate was influenced by the age/sex structure of the practice list. The most economical time to employ the service was found to be from 23.00 to 07.00.

Introduction and aims

ONE of the criticisms levelled against the Doctor's Deputizing Service (DDS) is that using it tends to increase the demand for out-of-hours calls. However, previous studies of the DDS have tended to describe all calls undertaken over a fixed period for a large number of different practices (Pinsent, 1970; Williams *et al.*, 1973; Gabriel, 1976; Murray and Barber, 1977), and studies in which general practitioners have dealt with their own out-of-hours calls have been for a defined practice list and have reported the results in rate of calls per 1,000 patients per year. My study aimed to investigate a single practice which used the DDS. This procedure allowed DDS calls to be calculated as a rate per 1,000 patients per year and made possible direct comparison with previous studies in which general practitioners did their own out-of-hours calls. This study also set out to examine variations in DDS use at different times of the day, by men and women and by different age groups.

A well-established single-handed practice in an inner urban area was chosen for study, as this type of practice is said to be the most frequent user of the DDS (Williams and Knowelden, 1974).

Methods

The practice

The general practitioner works single handed, with the assistance of a trainee, in an area health authority health centre. There are 3,560 patients. The area, which is very near the city centre, is typically inner urban with rows of 80-year-old brick-built terraced houses. Most of the patients are in social classes III, IV and V according to the Registrar General's classification.

Collecting the data

The year studied was between 3 March 1979 and 29 February 1980. All out-of-hours calls in the study were carried out by the DDS. The small number of calls received by the principal and the trainee were excluded. Using the DDS record slips, the timing of the calls and the age and sex of the patients were noted.

From this information the rate of calls per 1,000 patients per year was calculated for different times and for different age/sex groups. Also, the rate of calls per 100 hours of DDS cover was calculated for different times. This reflected more accurately the times when the DDS was in demand.

Bank holiday weekdays were covered by the DDS. These days were treated as Sundays.

Results

Table 1 shows the distribution of DDS calls for different days of the week and times of day.

The rate of call per 100 hours of DDS cover shows that the greatest demand was on Sundays between 07.00 and 19.00 and in the afternoon of the half-day. The least demand was between 23.00 and 07.00.

Table 2 shows the percentage of patients in various

Table 1. Time and day of week of DDS calls.

Time of day	Number of calls	Distribution of calls (per cent)	Calls/1000 patients/year	Calls/100 hours' DDS cover
All calls	236	100	66.3	4.1
All calls excluding half-day	202	85.7	56.7	3.7
All calls 19.00–07.00	120	51.1	33.7	2.8
All calls 23.00–07.00	37	15.1	10.0	1.3
Sunday 07.00–19.00	60	25.5	16.9	8.8
Saturday 12.00–19.00	22	9.1	6.0	6.4
Afternoon of half-day 13.00–19.00	34	14.3	9.5	10.9

Table 2. Age and sex of patients.

Age group (years)	Practice list (per cent)			DDS calls (per cent)			DDS calls/1000 patients/year		
	Male	Female	Total	Male	Female	Total	Male	Female	Overall
0–4	2.9	2.7	5.6	17.2	12.8	30.0	372	284	329.9
5–14	7.7	6.8	14.5	3.3	9.5	12.8	28.6	81.6	51.8
15–24	8.2	7.5	15.7	5.4	10.8	16.2	44.1	81.8	62.2
25–64	24.5	22.5	47.0	7.6	15.3	22.9	20.8	42.3	33.1
65+	7.6	9.5	17.2	5.6	12.7	18.1	47.8	95.0	73.9
Total	50.9	49.1	100	38.9	61.1	100	25.5	40.4	66.3

age and sex groups of the practice list. It also shows DDS calls in percentages and in rates per 1,000 patients per year for the same age/sex groups. The most notable features of the DDS calls are that the highest rate was for the under fives and that there was a greater demand by females in all age groups, except in the under fives.

Discussion

The rate of call per 1,000 patients per year by the DDS did not differ greatly from the rate found by general practitioners who carry out their own out-of-hours calls. This was demonstrated by comparing the rate of call for this practice with other practices which cover their own out-of-hours calls. The overall rate of call for the study practice was 66.3 per 1,000 patients per year. The overall rates for other practices were 61.5 (Crowe *et al.*, 1976) and 58.9 (Riddell's (1980) inner urban area). The rate of visit between 23.00 and 07.00 was 10.0 per 1,000 patients per year for the study practice, which was similar to the 10.6 found by Lockstone (1976), the 7.8 of Crowe and colleagues (1976), the 15.9 of Morton (1979) and Riddell's 12.5 (1980). It is interesting to note that of Riddell's two practice areas, the inner urban practice, which approximated to the study practice's age structure, reflected the rate of call more closely than his peripheral practice area, which comprised younger residents.

The rate of night calls for the study practice was lower than Barley's 20.8 (1979) and Cunningham's 23.9 (1980). Both of these general practitioners, who do their own night calls, have small lists. Barley (1979) attributes his high rate of calls to the fact that a small list tends to attract a disproportionately higher work-load. Cunningham (1980) feels that his higher visiting rate is due not only to a small list, but also to patients being more likely to call their own family doctor than a doctor they do not know.

The group making the greatest demand for DDS visits was the under fives. Williams and colleagues (1973), who studied the Sheffield service, observed that a large proportion of DDS visits were made up of the young and the old and that the under 15s were the largest group. Murray and Barber (1977) and Pinsent (1970), who studied two different services, found that the under 15s comprised 44 and 41 per cent respectively of all DDS calls. This pattern of a greater demand by the young was also observed by Burrows (1967) and Crowe and colleagues (1976), both of whom carried out their own out-of-hours calls. The fact that the young are responsible for a large number of out-of-hours visits is the essence of Riddell's (1980) findings. Riddell attributes the higher rate of visiting in the peripheral housing estate of his practice to the relative youth of the residents.

Undoubtedly there has to be some caution in comparing out-of-hours calls between different practices. There may be many different factors in each practice which will cause a variation in the rate of calls. However, practice organization may have only a minimal effect on out-of-hours calls, as patients who make the calls feel that they need immediate medical attention. Indeed, some general practitioners (Lockstone, 1976; Barley, 1979; Morton, 1979; Cunningham, 1980), feel that the vast majority (92–100 per cent) of their out-of-hours

calls are either emergencies or reasonable but unnecessary. Presumably these general practitioners felt that nearly all their out-of-hours calls were unavoidable and would have occurred no matter how their practices were organized.

However, a factor which may influence the out-of-hours calls in this particular practice is the close proximity of an accident and emergency department where patients may refer themselves. These self-referrals will lower the rate of calls. It is doubtful whether factors such as appointments or the accessibility of the surgery influenced out-of-hours calls, as the longest wait for an appointment was 24 hours and the surgery was easily accessible by bus.

It is worth noting that nearly all the calls to the DDS resulted in a visit (only 3.8 per cent did not). This is probably inevitable when doctors do not know the patient. General practitioners who cover their own out-of-hours work may not visit all callers (Crowe *et al.*, 1976).

The last column of Table 1 shows the rate of call per 100 hours of DDS cover. As the cost of the service is in proportion to the number of visits made on a general practitioner's behalf, the most economical way of using a DDS would be at the time when the rate of calls per 100 hours is lowest. Using the deputizing service when there is a low rate of call would also minimize the number of patients seen by a doctor from outside the practice. The time which had the lowest usage was between 23.00 and 07.00. Employing the DDS during these times would have the added advantage of the general practitioner having an undisturbed night's sleep.

Conversely, the most expensive time to use the deputizing service is when there is a high rate of call per 100 hours cover. This was on Sundays between 07.00 and 19.00 and in the afternoon of the half-day. Approximately 40 per cent of the year's DDS visits took place at these times.

Conclusion

There is little difference between the rate of calls for the DDS and the call rate in studies where general practitioners cover their own out-of-hours calls. The most frequent user of the DDS appears to be a young mother with children under five. Thus the age/sex structure of a practice list may well influence the number of out-of-hours calls rather than the use of a DDS.

The most economical time to use the DDS is between 23.00 and 07.00.

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Acknowledgement

I am grateful to Dr A. C. Saunders, my trainer, for both allowing and helping me to carry out this project.

Address for reprints

Dr A. S. Naidoo, 46 Orchard Drive, Calverton, Nottingham NG14 6GP.

Deaths in 1980

The total number of deaths registered in 1980 (581,370) was 2 per cent lower than in 1979. Most of the decrease was in the first quarter of the year, when registrations were more than 8 per cent lower than in 1979 (the year of the exceptionally severe winter).

Source: OPCS Monitor DH2 81/4.

Arthropathy of the knee

Fifteen patients with bilateral, symmetrical, chronic pyrophosphate arthropathy of the knee were given intra-articular injections of yttrium-90 plus steroid into one knee, and saline plus steroid into the other. After six months there was significantly less pain, inactivity stiffness, joint-line tenderness and effusion in the ^{90}Y-injected knees than in the controls. In all cases patient and observer assessment favoured the treated side. The predilection of this condition to affect the knees of the elderly makes such treatment highly suitable because the joint lends itself readily to injection and the procedure carries very few actual or potential risks in this age group.

Source: Doherty, M. & Dieppe, P. A. (1981). The effect of intra-articular yttrium-90 on chronic pyrophosphate arthropathy of the knee. *Lancet,* **2**, 1243-1246.