

General Practice Observed

Out-of-hours calls in a Leicestershire practice

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Summary

In one year, 920 "out-of-hours" calls were received by a partnership of three general practitioners working from a health centre in semi-rural Leicestershire. The partners on duty saw 588 patients. Out of 898 patients on whom information was available only 76 (8.5%) were referred to hospital, mainly as casualties. The results are compared with a study of deputising services, and it is concluded that a partnership covering its own out-of-hours calls can provide a more personal service and appears to make fewer demands on NHS resources.

Introduction

Williams *et al.*,¹ in a study of the Sheffield deputising service in 1970, concluded: "Very little is known about how primary medical care is being delivered 'out of hours.' There is no information at present about the proportion of 'out-of-hours' calls being handled by patients' own general practitioners, by their doctors' partners, by doctors in an off-duty rota, or by deputising service doctors. Until we have this information we are in no position to measure the real impact deputising services are making." We decided to take up this challenge, and the following report is based on a careful record of all out-of-hours calls received by us from 1 April 1973 to 31 March 1974.

Description of service

The practice, which is three-handed, is one of two group practices based on the Syston Health Centre in semi-rural Leicestershire, situated seven miles (11 km) from the nearest district hospital in Leicester, and serves an industrial village of 10 000 people and several outlying villages and farms within a radius of six miles (10 km). The practice has always covered its own out-of-hours calls. The deputising service in Leicester does not extend into the area. Local authority midwives and district nurses, including a night nurse, were attached to the health centre at the time of the study. The practice list size averaged 9500 during 1973-4, including nearly 500 boys at a boarding school. The age and sex structure was otherwise unremarkable.

The health centre was open from 0830 to 1800 on weekdays and from 0830 to 1100 on Saturdays. All periods when the health centre was closed, including bank holidays, were defined as out of hours. Patients were advised to ring the health centre in an emergency, where a GPO answering machine directed them to the partner on duty. Alternatively, they could consult the notice board on the front

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door. To avoid any delay in answering emergencies we hired a radiopaging device for the duty doctor. All calls were recorded in a ledger kept by the duty doctor's telephone. The following details were recorded: doctor on duty; name of patient, address, age, sex, and marital state; time of call; date; urgency; mileage done by doctor; method by which patient made contact; where the patient was seen; the message; doctor's diagnosis and treatment; international classification; and follow-up. The information from each entry was coded and transferred to punch cards and the analysis carried out by computer.

Results

Altogether 920 calls were received in the study period. Of these, 14 were for the other partnership working from the health centre and were redirected accordingly. Of the remaining 906 calls, 316, 282, and 308 were received by the three of us respectively. When compared with similar studies,¹⁻³ the seasonal variation suggested a reversal of the position in 1959, when the winter was busier than the summer. June was our busiest month with 89 calls, and February the lightest with 57.

Table I shows the distribution of the calls by day and time. Our series includes bank-holiday calls, which bias the figures. If these are excluded, Monday was still the busiest night with 72 calls, with Tuesday and Friday nights the lightest with 61. Four out of every five calls between 1800 and 0700 came in before midnight, with a peak between 2000 and 2100. Of the Sunday calls 119 (47%) came in between 0800 and 1300.

Table II shows the frequency of calls between 2300 and 0800. There were 240 nights of uninterrupted sleep, 101 nights with one call, and 23 nights with two calls. On one night there were four calls.

TABLE I—Distribution of all calls by day and time. Totals for Sheffield study¹ given for comparison

Time	Present series								Total		Sheffield, 1970 (%)
	Mon	Tue	Wed	Thur	Fri	Sat	Sun	No	%		
	2400	4	1	3	3	1	1	1	14	1.5	
0100	3	2	5	1	4	3	4	22	2.4	3.3	
0200			1	2		1	1	5	0.5	1.8	
0300	3		2		2		1	8	0.9	1.7	
0400	2	1		1	1		3	8	0.9	1.7	
0500	2	1		1	1			5	0.5	2.0	
0600	2	4	2	3	3	2	5	21	2.3	1.5	
0700	5	4	2	2	3	4	3	23	2.5	0.3	
0800	6	4	7	4	5	4	12	42	4.6	1.0	
0900	9	1	1				29	40	4.4	1.8	
1000	3	1	1				42	47	5.1	2.5	
1100	2	3	1		1	13	21	41	4.5	1.9	
1200	2	2	4	2	1	27	15	53	5.8	2.7	
1300	3	3	1	1	1	24	13	43	4.7	3.3	
1400	4	1	1			13	13	32	3.5	3.1	
1500	5	2	1	1	2	13	12	36	3.9	2.7	
1600	2	5	2	1		21	13	43	4.7	3.0	
1700	4	3	1		2	9	8	27	3.0	3.3	
1800	8	7	3	11	6	17	14	66	7.2	10.4	
1900	11	13	13	11	9	12	11	80	8.7	10.7	
2000	16	16	9	19	17	8	12	97	10.6	10.4	
2100	6	7	6	13	9	12	9	62	6.8	10.2	
2200	9	8	10	7	7	9	6	56	6.1	9.7	
2300	9	4	11	6	4	6	4	44	4.8	6.6	
Total	117	93	87	88	79	199	252	915*	100.0	100.0	

*There were no details on five calls.

TABLE II—Frequency of night calls in present series compared with previous reports. Results expressed as percentage of nights

No of calls a night	Brotherston <i>et al</i> , 1959 ²	Webster <i>et al</i> , 1965 ¹	Present series
None	65	79	66
1	27	18	28
2	6	2	6
3	2	<1	<1
4			
Total	100	100	100

Age and sex of patients—Male patients accounted for 451 (49%) of all calls. This was slightly less than the proportion of male patients at risk—52% of the practice population. Males outnumbered females on the NHS list except in the 20-25-year age group and the over-50s. Only Burrowes⁴ has analysed out-of-hours calls by age and sex, and he took the hours midnight to 0600. Our figures closely resemble his findings of a higher call rate for young and old male patients and women and girls of childbearing age. The proportion of calls for children under 15 was 33% of all out-of-hours calls during the day but only 20% during the night. Sixty per cent of the calls were for boys in each five-year age group under 15. The numbers of boys and girls on the list under 10 were almost identical.

Origin of calls—In 890 cases (97%) the duty doctor was contacted by telephone, in 20 (2%) the patient went direct to a doctor's house close to the health centre, in four the nurse on duty made the call, and in a further four another doctor telephoned. There was no information on the remaining two calls.

Response to calls—Sometimes the duty doctor did not think that an out-of-hours call warranted a visit. The calls were subdivided into "emergency" when the doctor went at once, "urgent" when the doctor saw the patient within two hours, and "advice only" when the doctor gave advice over the telephone with the proviso that the patient could ring again if the recommended treatment did not help. Between 2300 and 0800 36 calls (24%) were emergencies, 56 (37%) were urgent, and 58 (39%) needed advice only. This was a call rate of 13.3/1000/year, the proportion attended being 7.8/1000/year.

Action taken—Table III compares the action taken in our series with that in the Sheffield study. Nurses had a surprisingly small part to play in an emergency. In all cases the patient was contacted. Of the 416 home visits made by the duty doctor, 22 (5%) were to confirm a death. The main diagnostic groups of the 328 calls (35.7%) dealt with entirely on the telephone are shown in table IV together with figures from the Sheffield study for comparison. Table V compares the diagnoses between age groups.

TABLE III—Action taken by deputy in Sheffield study compared with duty doctor or nurse in present series. Results expressed as proportion of calls

	Sheffield, 1970		Present series	
	No	%	No	%
Home visit	15 446	97	416	45.3
Advice on telephone	542	3	328	35.7
Patient to doctor			136	14.8
Doctor to boarding school			12	1.3
Nurse to call on patient			2	0.2
Patient seen at health centre			21	2.3
Patient seen at hospital			3	0.3
Total	15 988	100	918*	100.0

*There were no details in two cases.

TABLE IV—Main diagnostic groups of 328 calls dealt with entirely by telephone. Figures from Sheffield study given for comparison. Results expressed as proportion of calls

	Sheffield, 1970 (%)	Present series	
		No	%
Accidents	30	51	16
Infective	19	33	10
Respiratory	12	42	13
Report of death of patient	11	5	1.5
Digestive	?	51	16.2
Other	?	146	44.5
Total	100	328	100

Follow-up visits—Revisits to patients' homes were recommended in 207 cases (23%), and surgery appointments were offered in a further 240 (27%); in 269 cases (30%) the patients were advised to telephone the doctor again if they were worried. Revisits to patients' homes as a percentage of the calls made varied with age from 10% in the under-15s to 43% in the over-65s.

TABLE V—Diagnoses made in different age groups of practice population generating 898 of the 906 calls dealt with by us. Results expressed as No (%) of calls

	Age group in years				Total
	<15	15-44	45-64	≥65	
Infective/parasitic	47 (13.7)	8 (2.8)	1 (1.0)	1 (0.6)	57 (6.3)
Neoplasm	0	6 (2.1)	4 (3.9)	5 (3.1)	15 (1.7)
Allergic/metabolic	13 (3.8)	24 (8.3)	6 (5.8)	6 (3.7)	49 (5.5)
Mental	3 (0.9)	28 (9.7)	6 (5.8)	6 (3.7)	43 (4.8)
Nervous	34 (9.9)	8 (2.8)	12 (11.7)	5 (3.1)	59 (6.6)
Circulatory	2 (0.6)	6 (2.1)	14 (13.6)	36 (22.1)	58 (6.5)
Respiratory	84 (24.5)	25 (8.7)	10 (9.7)	15 (9.2)	134 (14.9)
Digestive	67 (19.5)	55 (19.0)	16 (15.5)	20 (12.3)	158 (17.6)
Genitourinary	8 (2.3)	24 (8.3)	8 (7.8)	10 (6.1)	50 (5.6)
Pregnancy	2 (0.6)	42 (14.5)	0	0	44 (4.9)
Skin and bones	10 (2.9)	21 (7.3)	10 (9.7)	3 (1.8)	44 (4.9)
Accidents	65 (19.0)	33 (11.4)	10 (9.7)	17 (10.4)	125 (13.9)
Death	1 (0.3)	4 (1.4)	3 (2.9)	23 (14.1)	31 (3.5)
Other	7 (2.0)	5 (1.7)	3 (2.9)	16 (9.8)	31 (3.5)
Total	343 (38.2)	289 (32.2)	103 (11.5)	163 (18.2)	898*(100.0)

*There were no details on the remaining eight calls.

Outcome of consultations—Table VI shows the outcome of consultations in the various age groups of patients. Just over half of the patients in each group were given advice only. The 76 patients (8.5%) referred to hospital approximated to the proportion of non-urgent referrals made during our routine surgery consultations. Table VII shows the diagnoses of the patients sent to hospital by age and, for those aged 15-64, sex.

TABLE VI—Outcome of consultations conducted by us according to age groups of patients. Results expressed as No (%) of patients

	Age group in years				Total
	<15	15-44	45-64	≥65	
Advice only	189 (55.1)	149 (51.6)	52 (50.5)	85 (52.1)	475 (52.9)
Referral to hospital	21 (6.1)	34 (11.8)	4 (3.9)	17 (10.4)	76 (8.5)
Drug treatment	112 (32.7)	86 (29.8)	43 (41.7)	49 (30.1)	290 (32.3)
Suture or dress wound	21 (6.1)	10 (3.5)	2 (1.9)	6 (3.7)	39 (4.3)
Domiciliary visit		3 (1.0)		1 (0.6)	4 (0.4)
Home delivery		7 (2.4)			7 (0.8)
Referral to coroner			2 (1.9)	5 (3.1)	7 (0.8)
Total	343 (38.2)	289 (32.2)	103 (11.5)	163 (18.2)	898*(100.0)

*There were no details on the remaining eight patients.

TABLE VII—Diagnoses of patients referred to hospital

	Age <15 (both sexes)	Age 15-44		Age 45-64		Age ≥65 (both sexes)
		Men	Women	Men	Women	
Accidents	9*	4*	3†		3†	6†
Foreign body (inhaled or swallowed)	7					
Convulsion	2					
Bronchitis	2	1				4
Haematemesis	1					1
Epistaxis						2
Acute appendicitis	1	2	4			
Acute abdomen		2				1
Urinary calculus		1				
Polyarthritis	1					
Complication of pregnancy			3			
Incomplete abortion			3			
Colitis			1			
Leukaemia			1			
Ovarian cyst			1			
Overdose			1			
Coronary				2		
Acute mastoid					1	
Asthma					1	
Acute retention						2
Hypoglycaemia						1
Hemiplegia						1
Paracetamol						1

*Including fractures, lacerations, and flash burn to eyes.
†Mainly fractures.

Discussion

The Sheffield report¹ is the most comprehensive of the various reports²⁻⁸ on out-of-hours calls. Williams *et al*¹ said that there is a "lack of information about work loads in various time periods" and "a proper contrast would be between deputising service consultations and all consultations in the period during which the service was available—namely, from 1800 hours to 0700 hours during the week and from noon Saturday till 0700 hours Monday." We have attempted to provide some of the missing information and have made a detailed comparison.

Our practice is semi-rural and the Sheffield area is urban. Williams *et al* made several assumptions based on the probability of Sheffield general practitioners having an average list size of 2500. Our average list size was nearer 3200 and we recorded the same hours as the deputising services with the addition of 0700-0800 every weekday and 1100-1200 on Saturdays. This may partly explain why we averaged more calls (302 a year) than the Sheffield subscribers (106 a year). Although Williams *et al* did not know how subscribers used the deputising facility,⁹ it is common among subscribers to the Leicester Deputising Service for partnerships to do most of their early evening and Sunday morning work themselves and put the telephone through to the deputising service only at night. If this is also true in Sheffield it may help to explain the fewer calls per subscriber. As with the Sheffield study four out of five weeknight calls came in before midnight. Nearly half (47%) of our Sunday calls came in between 0800 and 1300 (the equivalent figure for Sheffield was 29%).

Williams *et al*¹ gave the range of calls between midnight and 0700 as 9.9 to 19.2/1000/year. Our gross rate was 8.7/1000/year, but if the calls qualifying for a night-visit fee only are counted the rate was 5.4/1000. The Sheffield rate was calculated as 5.1/1000, which represents 92% of all night-visit fees claimed there. Although Williams *et al* admitted that "the requisite data do not exist for general practice in Sheffield," it seems possible from a comparison with our figures that the deputising service in Sheffield does 92% of the non-maternity night calls for the subscribing doctors. If this hypothesis is shown to be correct, then the statement that "the minute proportion of consultations that were transferred to the deputising service in Sheffield was hardly enough to make any impact on the doctor-patient relationship" should be reconsidered. Lockstone⁸ defines a night call as one between 2300 and 0700. His rate was 10.7/1000/year; our equivalent gross rate was 13.3 but the number attended was 7.8.

The question is posed, Is the fact that 72% of cases are attended to by deputies within one hour a better level of performance than that achieved in the same periods of the day and night in general practice? We found that most patients in an emergency simply wanted the doctor's advice. Usually they were able to speak to the doctor on duty when they first called; it was then left to the doctor to decide what action to take. With the deputising service the nurse/telephonist has to accept nearly all requests for a doctor (97%), and the deputy has to assume that the case is an emergency until he sees the patient. The actions taken by the deputy in Sheffield and the duty doctor in our series included, respectively: advice only, 15% and 53% of cases; prescription of drugs, 70% and 32%; and referral to hospital, 14% and 8.5%.

We had an advantage over the deputies in that we usually knew the patients already and had immediate access to their NHS records. We knew how to organise the local community to help the patient, which is shown by the fact that deputies sent 22% of the 45-64-year age group to hospital but we sent only 3.9%. Most of the Sheffield work was apparently undertaken by junior hospital doctors, which may explain the greater use of hospital facilities and drugs. Perhaps predictably, the largest percentage of revisits was to the least mobile, over-65 age group. Altogether half of the patients were advised to see the general practitioner next day compared with 36% in Sheffield—but these included many of the patients who had only been given advice on the telephone. Although we did not categorise

irresponsible calls, it is interesting to see how similar Lockstone's⁸ number of hospital referrals and diagnoses are.

We can confirm that doctors in partnerships of three or four are in a good position to cover their own out-of-hours calls without becoming too exhausted. While the Todd Report may have envisaged health centres with 12 doctors or more, the preferred size of the partnerships within that number is three or four.¹⁰ These smaller partnerships may retain the traditions of family practice and appear to use the scarce NHS facilities more economically.

Conclusion

In our view, deputising services provide a valuable service to many general practitioners who, for various reasons, would otherwise be unable to cope with their work load. Our figures suggest that small partnerships covering their own out-of-hours calls provide a more traditional, personal service, and it may be in the patients' best long-term interests for the DHSS to ensure that incentives are provided to encourage more partnerships to organise themselves in this way.

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What treatment is advisable for women who suffer severe menopausal symptoms after an artificially induced menopause?

The reason for the artificially induced menopause may affect the decision whether to use sex steroidal hormones or not. If a cancer has been controlled by surgery or radiotherapy it is wise not to use such hormones for fear of helping the malignant process again. In other cases oestrogens are probably best. Some like to give these as implants, and this has been recommended at operation whenever the ovaries are removed in a woman before the natural menopause.¹ Others give oestrogens by mouth more or less continuously. Whether to stop oestrogen treatment at all continues to be debated. More gynaecologists are giving oestrogen for many years, which seems to result in greater well-being for the woman and may diminish the tendency to osteoporosis, with its attendant myriad discomforts, and to coronary thrombosis. There are anxieties about causing other forms of thrombosis, but there is little definite evidence about it. It has been claimed that the use of natural as opposed to synthetic oestrogens may minimise this possible complication. Again the evidence is conflicting. When oestrogen treatment is stopped menopausal symptoms often recur, and for this reason alone a woman may insist on keeping to continuous treatment, whatever the seeming risks. Oestrogens do not suit all women with menopausal symptoms. They may cause obesity, water retention, headaches, and tension. Since the most common symptom experienced in the climacteric is that of hot flushes, it is fortunate that they can usually be controlled without hormone treatment by using clonidine hydrochloride in a dose range of 25 to 75 µg twice daily.²

¹ Hunter, D J S, *et al*, *Journal of Obstetrics and Gynaecology of the British Commonwealth*, 1973, **80**, 827.

² Clayden, R, Bell, J W, and Pollard, P, *British Medical Journal*, 1974, **2**, 409.