The workload of a commercial deputizing service

T. S. MURRAY, MRCP, MRCGP, DRCOG
Research Fellow, Department of General Practice, University of Glasgow

J. H. BARBER, MD, FRCGP, DRCOG
Professor of General Practice, Department of General Practice, University of Glasgow

SUMMARY. The analysis of 1,098 calls to a commercial deputizing service during a period of four weeks is described. Approximately 20 per cent of the calls were for illnesses considered potentially life-threatening while in 22 per cent telephone advice was given and the patient was not visited by the deputy on call.

Introduction

THE responsibility for the care of patients in the evenings, during the night and at weekends is increasingly being delegated by family doctors to commercial deputizing services. Williams and Knowelden (1974) reported that 28 per cent of all general practitioners in Britain used deputizing services and that this figure rose to 37 per cent in urban areas. Although more recent figures are not available it is likely that the percentage of urban general practitioners who now use this service is greater than the figures quoted.

There is surprisingly little factual information about the workload and effectiveness of a service on which large numbers of patients are dependent for emergency care, and less of the relative value to the patient of this service as compared with a rota sysem in which the practice doctors themselves undertake all out-of-hours care. Crowe and his colleagues (1976) examined all out-of-hours calls for a year in his partnership of three. They concluded that a rota organized from within the practice can provide a more personal service and appears to make fewer demands on the NHS. Pinsent (1970) analyzed 400 out-of-hours calls in a group practice over a 17-month period: 12·5 per cent were thought to be urgent, and in 56 per cent it was considered that no call was necessary.

The deputizing service in Sheffield, organized by the British Medical Association, was studied by Williams and his colleagues (1973a). In one year there were 15,988 new calls and the deputies visited 97 per cent. Williams considered that the service made no appreciable difference to the total patient care in the city as it accounted for only one per cent of all consultations and five per cent of home visits. In other papers (Williams *et al.*, 1973 b and c) it is stated that the use of a deputizing service did not increase hospital admissions nor the workload of accident and emergency departments.

Two recent publications (Gabriel, 1976; Lockstone, 1976) have provoked a vigorous correspondence. Gabriel, a hospital physician, stated that he considered only 14 per cent of the 153 calls between 18.00 hours and 07.00 hours, completed by him when working for a deputizing service, to be medically justifiable. Lockstone (1976) reported that 48 per cent of 163 calls made between 23.00 and 07.00 hours by a partner in a group practice were considered to be true emergencies.

All the studies described above had one major drawback. The doctors involved knew that their workload was being studied and it is inevitable that bias was introduced into assessments made of the urgency of the visits requested, that behaviour was altered and therefore that the conclusions drawn were not necessarily representative of normal practice.

This paper describes a retrospective study of the work of a deputizing service and, as no one was aware that the study was to be carried out, it is hoped that it gives a more realistic picture of the normal work of a commercial deputizing service.

Method

Permission was given by a commercial deputizing ser-

vice for work done in the previous month to be analyzed. The service serves an urban population, and the number of patients covered varies between 50,000 on weeknights and 150,000 at weekends; an average for each session of 75,000. The month of June was analyzed. The deputizing service is provided from 18.00 hours to 08.00 hours on weeknights and from 12.00 hours on Saturday to 08.00 hours on Monday. One doctor is on call during each weeknight, and two are on call at weekends. The doctors' cars are equipped with radiotelephones and a driver is provided until 24.00 hours. Requests for out-of-hours visits to patients of the practices covered by the service are phoned to a base which is staffed by a registered nurse who makes a note of all calls, which is then passed to the doctor on call. The deputy completes a clinical sheet for each patient seen, one copy is passed to the patient to give to his own doctor the following day, and a duplicate is retained. The nurse completes her own notes from the duplicate and this allowed a double check of the data. During the month studied the deputies consisted of two general practitioners, two vocational trainees and eight junior hospital doctors of SHO or registrar grade. Two of the junior hospital doctors had been principals in practice for under two years, and one-third could thus be considered to have had some experience of general practice.

Results

A total of 1,098 requests for out-of-hours calls were received. In 762 cases (69·4 per cent) the patient was visited by the deputy on call, 241 (21·9 per cent) were not visited but were given advice by telephone, and 95 (8·7 per cent) were referred to the hospital accident and emergency department without first being seen by the doctor.

The age/sex pattern of the patients visited is shown in Table 1 and those given advice in Table 2. The distribution of the calls by day of the week is shown in Table 3.

From the clinical details recorded, 154 of the calls (14·0 per cent) were for potentially serious medical conditions. Fifty-seven patients (5·2 per cent) were admitted to hospital and 12 were dead when the deputy arrived. If deaths are excluded and the serious medical conditions are expressed as a percentage of all patients visited, then 9·2 per cent of calls to those under five and 41·7 per cent to those over 65 were in this category.

The presumptive diagnoses for the patients with potentially serious medical conditions are shown in Table 4 with a breakdown of those sent to hospital and those treated at home.

There was also one each of the following conditions, all of which involved admission of the patient to hospital: small bowel obstruction, gastroenteritis, haemarthrosis, femoral embolus, epistaxis, meningitis, brachial cyst, chickenpox, pneumonia, premature labour, paraphimosis, attempted suicide, and Stokes-Adams attack. Of the group kept at home 12 had asthmatic attacks and eight had angina pectoris.

Table 1. Age/sex distribution of people visited.

Age	Male	Female
0-15	185 *(24.3)*	150 *(19.7)*
16-44	79 *(10.4)*	146 *(19.2)*
45-64	52 *(6.8)*	66 *(8.7)*
65+	46 *(6.0)*	38 *(4.9)*
Total	362 *(47.5)*	400 *(52.5)*

Table 2. Age/sex distribution of people given advice.

Age	Male	Female
0-15	73 *(29.1)*	71 *(28.3)*
16-44	28 *(11.1)*	59 *(23.5)*
45-64	1 *(0.4)*	9 *(3.6)*
65+	4 *(1.6)*	6 *(2.4)*
Total	106 *(42.2)*	145 *(57.8)*

Table 3. Distribution of calls by days of week over a four-week period.

Mon	Tues	Wed	Thur	Fri	Sat	Sun	Total
66	70	104	77	113	306	362	1,098
6.0	*6.4*	*9.5*	*7.0*	*10.3*	*27.9*	*32.9*	*100*

Table 4. Presumptive diagnoses for patients with potentially serious medical conditions.

Presumptive diagnoses	*Admitted to hospital*	*Treated at home*
Myocardial infarction	9	3
Abortion	7	5
Appendicitis	7	—
Convulsions	4	4
Left ventricular failure	2	11
Acute abdomen	2	—
Haematemesis	2	3
Post partum haemorrhage	2	—
Laryngotracheitis	2	—
Acute retention	2	—
Bronchitis	1	6
Cholecystitis	1	12
Renal colic	1	9
Cerebrovascular accident	1	4

Discussion

Six hundred and sixty-eight requests for calls (60·8 per cent) were made between 12.00 hours on Saturday and 08.00 hours on Monday. The demand was greater at weekends: each deputy had an average of 38 calls between 12.00 hours on Saturday and 09.00 hours on Sunday, and 45 calls from then until 08.00 hours on Monday. On a weeknight an average of 21 calls was made during a 14-hour period.

Advice over the telephone was given to 32·3 per cent (139) of patients on a weeknight, whereas only 15·3 per cent (102) were advised by telephone at the weekend. The deputy at a weekend session had a smaller area to cover and this may have been a factor in this difference. A similar trend was noticed with patients being referred to accident and emergency departments without being seen by the deputy: 11·9 per cent of the calls on a weeknight and 8·7 per cent at weekends. Only a few of the overnight calls were given advice: two possible explanations for this are that calls tended to be more serious during this period and that the deputy earned a fee for each visit made after 23.00 hours.

Four of the 12 deputies during the period described were or had been principals in general practice. The others were working in a variety of hospital specialties at registrar grade or below: anaesthetics, surgery, ENT, and obstetrics. No deputy was currently employed in general medicine or in paediatrics and it is surprising and even disquietening that 55·6 per cent of all those given advice were less than 15 years of age.

In his practice analysis Crowe (1976) gave advice to 35·7 per cent of his patients compared with 21·9 per cent in this study. However, he was on call for the patients of his practice and had access to their medical notes. The patient demand on the deputizing service was double that described in Crowe's practice—0·52/1,000 patients per day in the practices served by the deputizing service and 0·26/1,000 patients per day in Crowe's practice. This tends to confirm the notion that patients' demands increase when it is known that a deputizing service is available. The Sheffield study was unable to define patient demand as 47 per cent of all calls came to the deputizing service via the general practitioner, and 97 per cent of all calls were made by a deputy.

In this study 95 of the 109 patients referred to accident and emergency had not been seen by the deputy. Williams and his colleagues stated that the workload of accident and emergency departments was not increased by a deputizing service, but these figures do not seem to support this. Further studies are obviously required to examine the effect of deputizing services on the work of hospital departments.

Out of all patients requesting calls 5·2 per cent were admitted to hospital, and this figure rises to 7·5 per cent when only those patients visited are considered. If the patients who were referred to accident and emergency departments without being seen are included the figure rises to 13·8 per cent of all calls. In the Sheffield study 14 per cent were sent to hospital, and they considered that discrimination was exercised. The number of some of the conditions treated at home does not vary greatly from the same conditions admitted to hospital. Only the deputy who attends the patient can decide where the patient should be treated, but it would be of value and interest to know what criteria influenced his decision. There seems to be considerable variation between deputies. Two of the deputies gave advice to 59·6 per cent (99) of all the calls made to them when they were on duty on both weeknights and weekends.

Conclusion

This paper has given a factual description of some aspects of a commercial deputizing service but many of the questions posed are left unanswered. The Royal College of General Practitioners has stated that continuity of care is one of the hallmarks of good general practice (1972). The use of a deputizing service is incompatible with this. In a recent editorial in the *Journal of the Royal College of General Practitioners* (1976), the case for deputizing was considered and a suggestion was made that a variation of the extended cover system may be the most practical solution. If the emergency nightwork of general practice, however, can be provided by a junior hospital doctor who has little or no experience of general practice, can the discipline ever properly be called a specialty?

Further studies are required to define adequate standards of care and to determine the patients' attitudes to this method of emergency cover.

References

Crowe, M. G. F., Hurwood, D. & Taylor, R. W. (1976). *British Medical Journal,* **1**, 1582-1584.

Gabriel, R. (1976). *Journal of the Royal College of General Practitioners,* **26**, 74-75.

Journal of the Royal College of General Practitioners (1976). Editorial. **26**, 3-4.

Lockstone, D. R. (1976). *Journal of the Royal College of General Practitioners,* **26**, 68-71.

Pinsent, R. J. F. H. (1970). *Lancet,* **ii**, 604-606.

Royal College of General Practitioners (1972). *The Future General Practitioner—Learning and Teaching.* London: British Medical Association.

Williams, B. T., Dixon, R. A. & Knowelden, J. (1973a). *British Medical Journal,* **1**, 593-599.

Williams, B. T., Dixon, R. A. & Knowelden, J. (1973b). *British Journal of Preventive and Social Medicine,* **27**, 126-128.

Williams, B. T., Dixon, R. A. & Knowelden, J. (1973c). *Journal of the Royal College of General Practitioners,* **23**, 638-646.

Williams, B. T. & Knowelden, J. (1974). *British Medical Journal,* **1**, 9-11.

Acknowledgements

We would like to thank the organizers of the deputizing service who provided the data.