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Practice Research

Deputising services: the Portsmouth experience

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Abstract

An analysis of the deputising service in the city of Portsmouth showed that the workload of doctors was not excessive and there was no evidence that the number of calls was higher than in areas where no deputising service exists. Sixty seven per cent of patients were seen within one hour of requesting a call and 92% within two hours. Seven per cent of patients were admitted to hospital and 88% of these were seen within one hour of requesting medical care. Drugs were prescribed at 65% of all contacts between doctor and patient which compares favourably with prescribing rates for consultations in general practice. A notable feature of the Portsmouth scheme is that all subscribers who use the deputising service have to agree to participate as a deputy, with 90% of deputies being practising general practitioners or eligible to be principals in general practice. This has probably conserved costs and hospital resources.

Introduction

The term "deputising service" usually applies to a commercial organisation which arranges for out of hours calls to be made on behalf of general practitioners who subscribe to the service. A rota or extended rota refers to a system where a group of general practitioners arrange for cover out of hours, within a group of several practices sharing calls. In certain circumstances a large group of doctors share responsibility for cover in

their practices, and this type of system has been described as a cooperative service.

Deputising services have been a feature of general practice in the United Kingdom since 1955. In 1972 they were being used by 28% of all general practitioners in England and Wales, and Cartwright and Anderson found that by 1977 44% of general practitioners were using them either occasionally or regularly.¹ The use of these services varied from half of those in single handed practice to roughly a third in partnerships of five or more doctors with deputising being more common in urban areas than rural areas. Although many opinions have been expressed about the organisation of out of hours calls in general practice, there have been few studies of deputising services in the United Kingdom.²⁻⁵ The Department of Health and Social Security's circular issued at the beginning of this year has stimulated much debate about the provision of out of hours cover in general practice.⁶ I report on one deputising service in a city in the south of England.

Portsmouth deputising service

The BMA Air Call deputising service in Portsmouth gave permission for the analysis of the services provided between 1980 and 1983. The deputising service came into being in 1974 and in the area served by the deputising service there are now 125 general practitioners, of whom 9% use the service regularly and four use it occasionally. The local professional advisory committee stipulates that all general practitioners who are subscribers have to agree to participate in the service and provide a minimum of 15 hours a month as deputies. Ninety per cent of deputies are practising general practitioners, and there are currently an additional 15 doctors who act as deputies, 13 of whom are eligible to be principals in general practice.

The service is provided from 1800 hours to 0700 hours on weekdays and from 12 noon on Saturdays to 0700 hours on Mondays. On a weekday evening up to four doctors are on call working until 0100 and from 0100 to 0700 one doctor is on call. From 12 noon on Saturdays until the evening five doctors are on call, and on Sundays from 0700 until the evening seven doctors are on call. At all times there is a doctor standing by who can be called in an emergency.

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Discussion

One advantage of deputising services is that detailed records are retained on all visits and this allows for easy analysis. Information about night calls in general practice using a system of extended rota cover is less readily available. One dominant feature of the Portsmouth system is that it is a service for general practitioners, organised by general practitioners, and it is possibly unique in that roughly 100 doctors who are predominantly active general practitioners or eligible to be principals in practice participate in the service. The average number of visits a year conducted on behalf of doctors using the service was between 258 and 270 per doctor and the visit rate was 0.37/1000 patients a day. Crowe's figures for a semirural Leicestershire practice was 302 visits per doctor a year and a visiting rate of 0.26/1000 patients a day.⁷ These results are not strictly comparable to response to calls in Portsmouth included telephone advice to only 7.6% of patients, whereas Crowe gave advice by telephone to 35.7% of patients.

Deputising doctors were not overextended with the hourly visit rate for doctors on duty being between one and one and a half visits throughout the night. This finding may be contrasted with reports in the popular press that may have encouraged the belief that deputies are under pressure to conduct an excessive number of visits as an incentive to achieve bonus payments for visits completed. From the Portsmouth experience a sizeable service may be staffed in such a way that the work load does not rise above one and a half visits an hour per doctor.

With 67% of calls being responded to within one hour, this compares favourably with the results from a country wide study of deputising where the corresponding figure was 55%.⁸ A national study in 1974-5 showed that telephone advice varied between 3% and 19% for different services and the Portsmouth figure of 7.6% falls within the "average" category for indirect care.⁹

The age distribution of patients seen was also closely similar to that in Crowe's study in a rural practice, with marginally more children and elderly patients in Portsmouth.⁷ The predominance of respiratory and gastrointestinal conditions is probably accounted for by the large number of children who were seen, and this was particularly noticeable at weekends. Drugs were issued at 65.4% of visits, which is higher than that reported by an extended rota system,¹⁰ lower than the figures for a national study of deputising services,¹¹ but similar to Stevenson's study of deputising in Edinburgh.¹² The prescribing rate in Portsmouth compares favourably with prescribing rates for general practice consultations in the United Kingdom.¹³

A criticism that might be levelled at prescribing by deputising doctors was the tendency to use broad spectrum antibiotics for most respiratory tract infections. Half the patients with tonsillitis or upper respiratory tract infection received a broad spectrum antibiotic when penicillin V might have been equally appropriate if an antibiotic was considered to be necessary.

The proportion of visits resulting in hospital admission was almost half that reported from a study in Sheffield¹⁴ and comparable with that found from practice using an extended rota system.¹⁵ The similarity in hospital referrals between the Portsmouth deputising service and a system using an extended rota is probably due to the differences in the proportion of patients who were mainly responsible for medical care. The reason for the relatively low proportion of calls in Portsmouth ending in referral to hospital may be due to deputies who are general practitioners acting with the large number of consultants in their use of specialist services than deputies who are not.

A comparison between admissions to hospital from a commercial deputising service and admissions from other sources showed that the differences in the proportion of patients admitted, duration of stay, those dying, and those going on to surgery.¹⁶ In areas where deputising services operate there has

been no evidence forthcoming to show that accident and emergency departments are given additional work compared with accident and emergency departments in areas where no deputising exists.¹⁷ These results concerned the Nottingham deputising services in which most deputies were also general practitioners subscribers and deputising arrangements that stipulate that all subscribers must also be practising general practitioners probably conserve hospital resources. The similarities between the Portsmouth deputising service and extended rota systems in terms of clinical characteristics of patients, prescribing patterns, and hospital admission rates suggest that there is no reason why what has been achieved in Portsmouth should not be repeatable in most places where deputising services operate.

One of the difficulties when commenting on deputising services is the paucity of information on patients' attitudes to night calls. Cartwright and Anderson reported that just over half the population did not know what arrangements their doctors have for night calls but that a rota between partners was more popular than an arrangement with neighbouring doctors.¹ Sawyer and Arber found no difference in the time taken for either deputising doctors or doctors on a rota system to visit patients, but the likelihood of dissatisfaction rose more sharply for deputising doctors than for anyone else.¹⁸

Much heat and occasionally some light have been generated in the public forum in debates about deputising services. It is probably worth putting the subject in perspective, and, though accepting that each night visit represents a unit of strain for the patient, out of hours calls represent only a small proportion of all general practice consultations. If the achievement of a model towards acceptable standards for deputising services is to be accomplished the Portsmouth experience provides evidence that a large group of general practitioners can organise an efficient service with well documented information for analysis and for comparison with other systems of providing out of hours care.

This study would not have been possible without the consent of the Professional Advisory Committee for the Portsmouth Deputising Service. I am indebted to all the general practitioners participating in the Portsmouth scheme whose detailed records of patient visits provided the substance for this report. The staff at Air Call and, in particular, Mr D Dixon, branch manager, gave invaluable help in the analysis of records. I am especially grateful to Dr Craigie, secretary of the Professional Advisory Committee, for helpful advice.

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Most deputies use cars with radio telephones provided by the service; the remaining doctors use their own cars and are in constant touch with the reception staff. Telephone requests for patients are taken at the Air Call base, which is staffed by receptionists who are trained nurses, who take information about the request and pass this on to the duty doctor. For each patient seen a clinical record is given to the patient with instructions to pass this to their own doctor and a duplicate copy is retained and filed at the main base. This clinical record includes information about the patient's age, sex, time of visit, clinical details, and outcome in terms of drugs administered. In addition, the time the call was received is noted in the file copy.

From the duplicate record forms the number of patients seen between 1980 and 1983 was calculated, and a randomised schedule prepared by computer was used to identify a sample of 20 sample for more detailed analysis of clinical details, drugs prescribed, and details of hospital admissions in 1983. The randomising included a satisfactory cross section of calls at a variety of time periods throughout the calendar year.

Results

The number of visits made each month from 1980 to 1983 are shown in the figure. The number of patients seen rose from 22 003 in 1980 to 24 547 in 1983. During these years December was the busiest month and April and May consistently showed a high number of visits. The percentage of visits after 2300 has remained constant throughout the past four years: 18.4% in 1980, 18.6% in 1981, 18.4% in 1982, and 17.7% in 1983.

The population at risk varies depending on how many doctors are actually using the service, but there are 225 000 patients on the lists of general practitioners using the service, which results in 109 consultations per 1000 patients a year. An average number of 258 visits were made on behalf of all subscribers doctors in 1983 and an average of 270 visits for that year for doctors using the service regularly. For the month of December 1983 a study of calls on 20 weekdays between 2300 showed that 538 visits were made, giving a daily average of 27 visits before 2300. During the same period 240 calls made from 2300 onwards on 20 nights gave an average of 12 calls per weekday. This gives an average of one and a half visits an hour from 2300 to 0700, and on this basis the number of visits conducted between 0700 and 0100 would be 40—that is, five visits an hour. With four doctors on call between these hours each deputising doctor is doing just over one visit an hour from Monday to Friday. On Saturdays the average number of visits between 1200 and 2300 was 90—that is, eight visits an hour. With five doctors this works out at just over one and a half visits an hour, and similar results were obtained for Sunday visits. In December 1983 there were 2418 visits when the population at risk was 212 700, which is a visit rate of 0.37/1000 patients per day.

Before 1983 information was available only about patients who were actually seen by a doctor, but the details of all actions taken in 1983 in response to requests for medical advice are shown in table 1. There was a total of 27 194 requests for medical care, with 88% leading to a home visit, 7.6% receiving advice only, and the remaining calls resulting in a surgery consultation being cancelled by the patient. Sixty seven per cent of home visits were completed within one hour, and 91% of all home visits were conducted within two hours of receiving the call.

TABLE 1—Response to patients' requests for medical care 1983

Total No. of calls requesting medical care	27 194
No. of patients visited at home	23 983
No. of patients receiving telephone advice only	2 201
No. of patients with surgery consultation cancelled	510
No. of patients seen by doctor	564

Response to 2 201 visits	No.
1 visit made within 1 hour of call	862
1 visit made between 1 and 2 hours of call	110
1 visit made between 2 and 3 hours of call	628
1 visit made over 3 hours from call	16

In 1983 a one in 20 sample amounting to 1227 patients was analysed in detail. There was a ratio of 51.1 males:48.9 females.

Age (years)	No.
Under 15	126
15-44	411
45-64	221
Over 65	222
Total	1227

TABLE 2—Age distribution of sample of 1227 patients

Diagnosis group	No.
Respiratory infection/asthma	212
Digestive	232
Cardiovascular	191
Genitourinary	82
Central nervous system	62
Communicable disease	71
Musculoskeletal	71
Neurological	61
Endocrine/metabolic	61
Acute	36
Psychiatric	22
Parasitic	11
Total	1227

TABLE 3—Clinical conditions in sample of 1227 patients

Diagnosis group	No.
Respiratory infection/asthma	212
Additional past gastro-intestinal problems	15
Prescribed penicillin	15
Cardiovascular	191
Genitourinary	82
Central nervous system	62
Communicable disease	71
Musculoskeletal	71
Neurological	61
Endocrine/metabolic	61
Acute	36
Psychiatric	22
Parasitic	11
Total	1227

Of the 24 547 consultations in 1983, 1683 (6.9%) resulted in hospital admission. In the sample of 1227, 86 (7.0%) were admitted to hospital and table 1V gives a breakdown of the clinical conditions that led to hospital admission. Seventy six (88%) of the patients admitted to hospital were seen within one hour of the request for a visit.

Use of deputising services and night visit rates in general practice

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Abstract

Examining all of the claim forms for night visits submitted to the Nottingham Family Practitioner Committee over a three month period allowed us to calculate the night visit rate for all 185 practices in Nottinghamshire. To take all of the practices together, the mean night visit rate (covering all visits requested and made between 11 00 pm and 7 00 am) was 1.3 visits per 1000 patients a year, range 0.2 to 46.

Whether or not a deputising service is used accounted for 12% of the total variance detected, while the other factors studied, such as area of practice, patient list size, and number of partners, accounted for approximately 1% each. The local deputising service responds to 97% of night calls with a visit to the patient, whereas the patient's own doctor is more likely to provide advice over the telephone. The ability to provide telephone advice, however, will vary according to the breakdown of the practice by age and social class.

Introduction

The use of deputising services to answer out of hours calls in general practice has increased over the past few years. Several studies examining night visit rates but none examined how the use of a deputising service affects the number of night visits requested and completed.¹⁻³ In this study all of the claim forms for night visits received by one family practitioner committee over a three month period were examined to analyse the variations in night visit rates and some factors associated with this variation.

Methods

During the three months from January to March 1981 all of the claim forms for night visits received by the Nottinghamshire Family Practitioner Committee were analysed. These represent all night visits made and claimed for between the hours of 11 00 pm and 7 00 am in the area covered by the family practitioner committee—that is, the whole of Nottinghamshire. The practice which claimed payment was noted and also whether a deputising service had been used for the call. The number of patients in each practice was calculated by the family practitioner committee and in practices bordering on the areas of other family practitioner committees the average list size per partner was obtained by ascertaining the number of patients who were registered with these other family practitioner committees.

Each practice was allocated to one of four types of area according to the address of the main surgery premises. The four types of area were:

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selected were inner city, urban, semiurban, and rural. Two deputising services operate in the area, one covering the main conurbation of Nottingham and the other located in one of the larger towns. Altogether, 70% of practices were in the area covered by these two deputising services and therefore in a position to use their services. The night visit rate for each practice was calculated by dividing the number of claim forms submitted by the total practice population at risk within the family practitioner area. The rate was expressed as the number of visits per 1000 patients a year. Temporary residents were not included in the calculation of practice size.

All information was coded to ensure confidentiality and analysed statistically by multiple regression analysis with the computer facilities of the department of community health. The larger of the two deputising services covering the city of Nottingham also supplied figures of their workload which indicated the number of calls received, the number of times advice was given over the telephone, and the number of visits made.

Results

One hundred and eighty four practices were in contract with the Nottingham Family Practitioner Committee, representing 482 general practitioner principals. The total population at risk at the beginning of the study according to the family practitioner committee register was 1 012 851. During the three month period 3700 claim forms for night visits were submitted to the family practitioner committee. A deputising service was used by 105 (57%) practices for some of their night visits, and 82 (45%) practices used a deputising service for more than 90% of their night visits.

Sixty 122 practices were single handed, 78 (42%) were in groups of two or three, 35 (19%) were in groups of four or five, and 11 (6%) were in groups of six or more. Combining the figures for all 184 practices the mean night visit rate was 1.3 visits per 1000 patients a year. Roughly 65% of practices had a rate below the mean of 1.3, which was increased by the smaller number of practices with high night visit rates (see figure).

Table 1 shows the effect on the rate of the area of practice in those practices that did not use the deputising service for any night visits,