Arranging hospital admission for acutely ill patients: problems encountered by general practitioners

CLARE JENKINS

JENNY BARTHOLOMEW

FIONA GELDER

DAVID MORRELL

SUMMARY

Background. *Reports in the national press suggest that general practitioners in London are experiencing difficulties in securing hospital admission for their acutely ill patients.*

Aim. *A study was undertaken to investigate the problems encountered by general practitioners in one family health services authority in south east London in arranging acute admissions to hospital.*

Method. *A self-report questionnaire was completed by a sample of general practitioners every time an acute hospital admission was attempted.*

Results. *A total of 493 questionnaires were completed by 111 general practitioners over the 47-day study period. Problems during the hospital admission procedure were experienced in 171 (35%) of the cases reported, with 115 of the 537 telephone calls to a hospital (21%) resulting in a refusal to admit the patient to that particular hospital. The main problem reported was that of 'no beds available', an obstacle to admission that was more likely to be encountered if the patient was aged 75 years or over than if the patient was younger.*

Conclusion. *In the light of the problems reported, possible changes to the current method of arranging acute admissions to hospital in London are discussed.*

Keywords: referral to hospital for admission; emergencies; bed and patient statistics; transport to hospital.

Introduction

THE traditional method used by the general practitioner wishing to arrange an acute admission to hospital is for the admitting doctor to contact directly the hospital duty doctor responsible for admissions. However, in London there is evidence that this system is not operating as effectively as it might. Reports in the national press have described the difficulties that general practitioners have in arranging emergency admissions (letters, *Guardian*, 14 and 25 January 1994), a situation which could be seen as being one of conflict rather than communication. The situation in London is of particular concern,[1] and problems are predicted to worsen as the number of beds available decreases in line with the recommendations of the Tomlinson report and *Making London better*[2,3] and as the number of very elderly people in London increases.[4]

Although the emergency bed service operates in London — acting as an 'honest broker' between the general practitioner and the hospital — it is generally only turned to by general practitioners for the most problematic of their acute admissions.[5] If the emergency bed service is unable to secure voluntary acceptance of a patient, the medical referee procedure is implemented, whereby an independent doctor acts as an arbitrator for the case. If the medical referee sanctions the admission, the hospital responsible for the patient's geographical area is compelled to accept the patient. This procedure has been used increasingly since the mid-1980s.[6] Similar services to the emergency bed service exist in a number of other cities in the United Kingdom.

Focusing entirely on the problems experienced by general practitioners in admitting their acutely ill patients, however, fails to see the other side of the story. It is the daunting responsibility of acute sector service providers to plan their services so that a balance can be achieved between carrying out elective work while ensuring that enough beds are available to deal with emergency admissions. The unpredictable nature of acute admissions makes forecasting the necessary bed capacity to deal with unexpected peaks of demand notoriously difficult.[7] The situation is also likely to cause problems for hospital doctors who are called upon to 'protect' their beds from all but the most urgent cases, leading to difficult and often confrontational discussions with their general practitioner colleagues about the necessity of admitting a particular patient.

A study was therefore undertaken to identify some of the difficulties experienced by general practitioners in London when they try to admit their acutely ill patients.

Method

This study recorded the experiences of a sample of 111 general practitioners in one family health services authority area in south east London admitting acutely ill patients to hospital over a 47-day period. A total of 36 practices, between them responsible for the care of 222 672 registered patients, participated in the study. The practices were not randomly selected, but had previously volunteered to help in a large scale study of referrals in which approximately one fifth of all the practices within the family health services authority area had participated. The study started on 30 September 1991 and ended on 15 November 1991.

Each practice was asked to complete a questionnaire every time an acute admission to hospital was attempted. For the purposes of this study, an 'acute admission' was defined as any patient for whom the general practitioner requested immediate admission to hospital or immediate assessment with a view to admission. The questionnaire data included: patient's age, sex and medical diagnosis; time taken by the general practitioner to arrange admission (from first dialling the hospital to the time the referral was agreed); description of the problems encountered during the admission procedure; mode of transport to hospital; time taken to arrange transport to hospital by ambulance (from first dialling the ambulance number to the time the patient's details were accepted by ambulance control); and the suitability

C Jenkins, MPhil, research associate; J Bartholomew, MSc, research administrator; F Gelder, MRCGP, lecturer; and D Morrell, KSG, OBE, FRCP, FRCGP, FFPHM, Wolfson professor of general practice, Department of General Practice, United Medical and Dental Schools of Guy's and St Thomas' Hospitals, London.

Submitted: 4 October 1993; accepted: 17 February 1994.

of the patient for admission to a low technology institution such as a local general practitioner hospital.

Validation of the numbers of patients included in the study was carried out at two of the accident and emergency departments where more than half of the attempted admissions had been arranged. The aim of the validation exercise was to compare the number of cases included in this study with the cases recorded in the independent records held in these departments for two of the seven weeks of the study.

At the start of the study each practice was asked to appoint a study coordinator whose task it was to liaise with members of the project team. The coordinator's main role was to check regularly with the general practitioners that a questionnaire had been completed for all patients eligible for the study. It was particularly important for the study coordinator to ensure that any acute hospital admissions attempted out of hours by deputizing doctors were included.

The data were analysed using *SPSSPC*.

Results

A total of 493 completed questionnaires were returned by the 111 general practitioners participating over the 47-day study period. The overall attempted acute hospital admission rate for the 36 practices was equivalent to an annual rate of 17 per 1000 registered patients.

A total of 302 (61.3%) of the hospital admissions recorded were for female patients. Eleven per cent of the study population were aged 65 years and over, and 185 (37.5%) of attempted acute admissions were made from this age group. Only 5% of the study population were aged 75 years or more, but they contributed 118 (23.9%) of the attempted acute admissions. The most common diagnoses recorded in 483 cases were those of the circulatory system (19.5%), digestive system (18.8%) and respiratory system (18.6%).

The time taken to arrange admission was recorded in 471 of the 493 questionnaires and ranged from one minute to 270 minutes (mean 18 minutes, median 10 minutes, Table 1).

A total of 115 of the 537 telephone calls made to local hospitals by general practitioners led to a refusal to admit the patient to that particular hospital. The delay pattern in the admissions procedure is shown in Table 2.

A total of 171 admissions (34.7%) were recorded by the general practitioners as being problematic in some way, with more than one problem being recorded in a number of cases. The main problems experienced were the hospital reporting no beds available (83 cases); communication problems (45 cases), such as failure to obtain an answer at the switchboard, the duty doctor failing to be contacted or the call being misdirected; and lengthy negotiations being necessary with the hospital (35 cases). Other problems included the patient being refused at a particular hospital (19 cases); the general practitioner being advised to send the patient to the accident and emergency department (12 cases); and hospital personnel being generally unhelpful (eight cases).

Table 1. Time taken to arrange hospital admission and transport by ambulance.

Time taken (minutes)	% of patients: Admission arranged (n = 471)[a]	% of patients: Transport arranged (n = 215)[b]
0 – 5	*36.9*	*47.9*
6 – 10	*24.6*	*23.7*
11 – 15	*11.9*	*16.7*
16 – 20	*7.6*	*4.7*
21 – 25	*3.0*	*1.4*
26 – 30	*5.7*	*2.3*
31 – 35	*1.3*	*0.5*
>35	*8.9*	*2.8*

n = total number of patients for whom time recorded. [a]Time not recorded in 22 cases. [b]Time not recorded in nine cases.

Table 2. Admission procedure for 487 patients.[a]

Contact between GP and hospital	No. of patients
First contact	
Admitted via EBS	6
Admitted with no bed arranged	9
Accepted by first hospital contacted	376
Refused admission at first hospital	96
Second contact	
Admitted via EBS	36
Admitted with no bed arranged	6
Accepted by second hospital contacted	35
Refused admission at second hospital	19
Third contact	
Admitted via EBS	8
Accepted at third hospital contacted	11

[a]Contacts not recorded in six cases. EBS = emergency bed service.

The most commonly reported problem of no beds being available was significantly more likely to be experienced by general practitioners attempting to admit patients aged 75 years or over than when attempting to admit patients aged less than 75 years (34 cases, 28.8%, versus 47 cases, 12.5%, respectively, χ^2= 17.3, 1 df, P<0.001).

The time taken to arrange an ambulance ranged from one minute to 120 minutes (mean time 10 minutes, median seven minutes, Table 1.) In addition to the normal 999 emergency ambulance number, the London Ambulance Service provides general practitioners with another number to call when an ambulance is required less urgently. When the time taken to arrange transport was analysed separately according to which of the two ambulance numbers had been called, the mean time taken to arrange the 999 ambulance for 116 cases was nine minutes, compared with 13 minutes taken to arrange transport for 98 cases via the other number. The majority of unsolicited comments from general practitioners about the problems they experienced when arranging transport concerned the length of time it took ambulance control to answer incoming calls (22/25 complaints). A total of 214 patients (45.1% of those for whom mode of transport known) chose to make their own way to hospital.

The question asking whether the patient could have been looked after in a low technology institution offering good nursing care, such as a local general practitioner hospital, was answered in 477 of the 493 cases. A total of 76 patients (15.9%) were considered by the general practitioner to be suitable for care in a low technology bed. Of the more elderly patients, 21.2% of the 65–74 year olds and 41.1% of the patients aged 75 years or more were considered suitable for admission to a low technology institution.

Validation of the numbers of patients included in the study proved problematic. At both accident and emergency departments, information about patients was recorded on casualty cards, the format and storage of which made it impossible to validate the data accurately. Despite these problems, it was clear that a number of patients who were eligible for inclusion in this study had been missed by the participating practices. From the information collected it was concluded that the study sample was more likely to over-represent those patients aged under five years, to underestimate those aged between 65 and 74 years of age, and to underestimate the number of night-time admissions.

Discussion

The attempted admission rate in this study was equivalent to an annual rate of 17 per 1000 patients. A study of hospital referrals carried out within the same geographical area by Morrell and colleagues in 1971,[8] recorded an annual acute hospital admission rate of 14 per 1000 registered patients. The present study did not follow the outcome of the attempted admission to hospital and it is likely that a proportion of patients were not admitted after assessment in the accident and emergency department. The attempted admission rate in the present study would therefore be expected to be higher than the actual admission rate.

The findings of this study bear out reports in the media which indicate that problems are being experienced with the acute hospital admissions procedure in London.[1] A number of studies in London have described a situation where reductions in bed numbers have led to hospitals considerably increasing their threshold for admission[9,10] and general practitioners attempting to sidestep problems by arranging admission directly via the hospital accident and emergency department[11] or through the emergency bed service.[12] Arranging admission to hospital for patients is already seen as being likely to cause the general practitioner anxiety and occupational stress,[13] and this situation can only be predicted to worsen as an increasingly elderly population competes for a diminishing number of beds.

As well as the problems experienced by the doctors in this study in arranging emergency admissions it was apparent that major difficulties were also being experienced in arranging transport. It was particularly worrying that the general practitioners reported taking a mean time of nine minutes to arrange transport via the 999 ambulance number, only four minutes less then the mean time taken to arrange an ambulance via the other ambulance number. That 45% of patients chose to make their own way to hospital may be a further indication of the difficulties being experienced with the ambulance service in London at the time this study was carried out.

In the light of the reported difficulties with the acute admission procedure in London we would suggest that considerable changes to this procedure are needed. The following suggestions may provide a useful starting point for further discussion of this complex issue.

First, there may be an extended role for the emergency bed service in London, or the establishment of a central bed bureau organized along similar lines, as being the preferred method of admitting all acutely ill patients to hospital in future. Under such a system, the general practitioner wishing to admit an acutely ill patient would contact the bed bureau which would be provided with details of the patient, his or her current problem and previous hospital experience. The general practitioner would provide the patient with a letter to the hospital and leave a contact number with the bed bureau. The bed bureau could then arrange the patient's admission and transport to hospital, ensuring that the general practitioner's telephone number was passed on to the hospital doctor in charge of the admission. While the adoption of such a system would decrease the contact between hospital doctors and their colleagues in general practice, the use of a bed bureau may help to ameliorate the problems currently being experienced in London and which are forecast to worsen within the next few years.

Secondly, neighbouring hospitals could be organized into consortia to increase the pool of beds available at any one time to receive emergency admissions. The unpredictable nature of emergency admissions means that it is difficult to plan with any certainty the number of available beds that might be needed at any time. Studies have suggested techniques of bed management that might ease the planning of emergency admissions, such as buffer or admission wards which hold patients between the accident and emergency department and the main hospital wards,[14] and the use of diagnostic protocols which set out the criteria for admission and for length of stay in hospital.[15] Based on their observation that the overall number of beds needed to cope with emergency admissions declines with the size of the admitting unit, Green and Armstrong suggest that aggregation of hospital facilities may prove useful.[16] By increasing the pool of beds available for emergency admissions through the organization of hospital consortia, the effect of the unpredictability in the number of admissions is likely to be diminished.

The third suggestion involves an increase in the number of low technology beds available, particularly for elderly patients. This is not an original suggestion,[17] but one which appears to receive support from the general practitioner participating in this study, who felt that 41% of those patients aged 75 years or over would have been suitable for care in a local general practitioner hospital. For the patients in this age group, who made up almost a quarter of the study sample, the general practitioner was more likely to experience problems during the admission procedure and to be told that there were no beds available than for younger patients. Elderly patients are often seen as being responsible for blocking high technology beds. An increase in the number of low technology beds for the care of such patients might go some way towards alleviating the problems experienced when general practitioners attempt to admit their acutely ill elderly patients to hospital.

Clearly, the suggestions proposed are not without their own problems, and any changes to the system currently in use would need careful monitoring and evaluation. However, it is hoped that these proposed changes to the acute admissions procedure and to the organization and availability of hospital beds make a positive contribution towards solving some of the problems currently being experienced in London.

References

1. Jowell T. Lie back and think of efficiency. *Guardian* 1994; 12 January: 12-13.
2. Tomlinson B. *Report of the inquiry into London's health service, medical education and research.* London: HMSO, 1992.
3. Department of Health. *Making London better.* London: HMSO, 1993.
4. Murphy E. Health services for elderly people in London with special reference to acute hospital services. In: Murphy E. *London views — three essays on health care in the capital.* London: King's Fund, 1992.
5. Evans BG. The emergency bed service in London — who uses it? *J R Coll Gen Pract* 1986; **36:** 54-56.
6. Hayter G. Efficiency and emergencies compete for beds. *Medical Monitor* 1992; **5:** 20.
7. St George D. How many beds? Helping consultants to estimate their requirements. *BMJ* 1988; **297:** 729-731.
8. Morrell DC, Gage HG, Robinson NA. Referral to hospital by general practitioners. *J R Coll Gen Pract* 1971; **21:** 77-85.
9. Patrick M, Higgit A, Holloway F, Silverman M. Changes in an inner city psychiatric inpatient service following bed losses: a follow-up of the east Lambeth 1986 survey. *Health Trends* 1989; **21:** 121-123.
10. Murphy E. Acute care in London. In: Murphy E. *London views — three essays on health care in the capital.* London: King's Fund, 1992.
11. Petty R, Gumpel M. Acute medical admissions: changes following a sudden reduction in bed numbers at Northwick Park Hospital. *J R Coll Physicians Lond* 1990; **24:** 32-35.
12. Evans BG. The emergency bed service — a barometer of London's hospital service. *J R Coll Gen Pract* 1987; **37:** 491-493.
13. Cooper CL, Rout U, Faragher B. Mental health, job satisfaction, and job stress among general practitioners. *BMJ* 1989; **298:** 366-370.
14. Maimaris C, Kirby N. The impact of the observation ward on acute admissions at Guy's Hospital. *Health Trends* 1991; **23:** 33-35.
15. Anderson P, Meara J, Brodhurst S, *et al.* Use of hospital beds: a cohort study of admissions to a provincial teaching hospital. *BMJ* 1988; **297:** 910-912.
16. Green J, Armstrong D. *Emergency pathways: the views of service providers.* London: King's Fund, 1992.
17. Jarman B. Is London overbedded? *BMJ* 1993; **306:** 979-982.

Acknowledgements

We are grateful to all the practices who participated in this study. We also thank David Armstrong, Nicky Britten, Judy Green, Raymond Jankowski, Rebekah Savill and Adrienne Shaw for their useful suggestions throughout the study. The study was funded by the King's Fund, London.

Address for correspondence

C Jenkins, Department of General Practice, United Medical and Dental Schools of Guy's and St Thomas' Hospitals, 80 Kennington Road, London SE11 6SP.