

The emergency bed service — a barometer of London's hospital service

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SUMMARY. The emergency bed service in London exists to facilitate admissions to hospital in cases referred to them by general practitioners and deputizing doctors. The data collected by the emergency bed service provides a unique London-wide perspective of the hospital service and the recent changes observed are examined in this paper. When the emergency bed service fails to arrange for the admission of a patient after trying at least four hospitals the case is medically refereed. The number of cases reviewed by the medical referee has increased over the period 1976–86 as has the necessity for hospitals to stop or slow non-emergency admissions (red and yellow alerts). External factors, such as severe weather and influenza epidemics, were examined to see whether they could account for these changes. However, it was concluded that bed closures accounted for the changes and were making it more difficult to obtain hospital admission for emergency cases via the emergency bed service in Greater London.

Introduction

THE emergency bed service acts as an 'honest broker', obtaining hospital admissions for patients of general practitioners and deputizing doctors in London and the home counties — 12 districts in North East Thames regional health authority, eight districts in North West Thames, seven districts in South East Thames and five districts in South West Thames.¹ Details of patients are taken over the telephone and emergency bed service operators try to obtain admission for each patient by telephoning and offering the case to hospitals (trauma and psychiatric cases are excluded).² The use of the service varies considerably in different districts but it currently handles about 8% of emergency admissions within Greater London (approximately 30 000 per year). Hospitals inform the service when they have a shortage of available beds and for limited periods hospitals may close to all emergency bed service admissions or to those in a particular specialty only.

If emergency bed service staff fail to arrange for the admission of a patient after trying at least four hospitals the 'medical referee system' is implemented. A doctor on call for the service reviews the case history and may discuss the referral with the referring general practitioner.

A warning system evolved in the 1950s. When hospitals are under severe pressure for beds, indicated by a failure to admit cases or a very high number of cases reviewed by medical referees, they are required to slow or stop non-emergency admissions and these are known as yellow and red alerts, respectively. The alerts can be imposed locally, by region or over all of Greater London. The imposition of a yellow alert is considered if all of the following take place: (1) there is a steep rise in the number of cases dealt with by the emergency bed service which is sustained over several days; (2) there is a sharp rise in the number of cases which are medically refereed for at least three successive days; and (3) there is confirmation from hospitals that real difficulty is occurring.

In the 1960s the emergency bed service was termed the 'barometer of London's health service' by the Chief Medical Officer.³ This paper examines the recent statistics kept by the emergency bed service. These figures offer a London-wide perspective of the hospital service and are one of the few objective measures of the outcome of changes taking place at district level.

Method

Cases reviewed by a medical referee

The emergency bed service keeps data on the total number of cases it deals with and those cases which have to go through the medical referee procedure. The refereed cases expressed as a percentage of total cases reported to the service are calculated on a monthly, three-monthly and yearly basis. In addition, for this study, 12-monthly moving averages were calculated on a month-by-month basis (1 January–31 December, 1 February–31 January and so on).

In order to consider possible associations with the percentage of cases which were medically refereed the patterns of four variables which could have an effect on acute admission patterns were examined.

Weather. The London Weather Centre provided information on the January to March periods for the years 1984–86. Cold weather increases the demand for medical beds especially by older people.

Bed closures. These were examined by looking at the stated number of beds within the Greater London area covered by the emergency bed service in *The hospital and health services year book*.⁴ The categories of bed are not clearly defined and there have been changes in the use of hospitals over the period studied. Thus the change in the total number of acute; mainly or partly acute; and geriatric, chronic and long stay beds over the five-year period 1982–86 was examined. Each year's figures are the complement of beds within that district at the beginning of January of the previous year. Therefore closures during 1985 and 1986 are not included in the 1986 year book. The method of calculation was that used in a document produced by the Association of London Authorities⁵ although the geographical area covered is different.

Changes in the medical referee procedure. A decrease in the number of hospitals offered a case before resorting to the medical referee procedure would result in an apparent increase in the number of cases seen by the medical referee. The first 100 cases seen by a medical referee in 1976 were compared with the first 100 such cases in 1986.

Influenza epidemics. Staff at the Communicable Disease Surveillance Centre gave information on influenza surveillance over the last 10 years compiled from weekly laboratory reports (both virus A and virus B), observations from general practitioners, sickness benefit claims and the numbers of deaths from influenza and from all causes.

Red and yellow alerts

Details of the red and yellow alerts imposed in the last 10 years and the stated reason for their imposition were examined.

Hospital closures to admissions from the emergency bed service

The hospitals which are closed to referrals from the emergency bed service are recorded by the service daily. The hospitals may be temporarily closed to all admissions or only to certain types of admission and the details are updated continually. The list of closures was examined for the winter periods January–March since recording of this information began in January 1983. The data were aggregated into closures of male and female, medical and surgical beds and the number of days hospitals were closed to these categories was totalled for the area covered by the service.

Demographic trends

The mid-year population estimates produced by the Office of Population Censuses and Surveys were examined for the period 1981–85.

Results

Cases reviewed by a medical referee

The percentage of cases reviewed by a medical referee each year varied between 6.1% and 9.4% in 1976–84 (Table 1) but in 1985 this rate increased to 12.6% and this increase was maintained in 1986. The 12-monthly moving averages showed that the greatest pressure on beds was in the period January–March of each year. The percentage of cases which were medically refereed in these periods was calculated and the results are also shown in Table 1.

Attempts were made to see if there was any association between the percentage of cases medically refereed over the period 1976–86 and the four variables examined.

Weather. The monthly summaries produced by the London Weather Centre showed that February 1986 was an exceptionally cold month — the coldest February in central London since 1947 with mean temperatures 5°C below the 1961–85 norm. The cold spell lasted for 24 days. However, the rise in the percentage of cases medically refereed occurred considerably before the winter of 1986 figures were included.

Bed closures. The numbers of beds given in the year books for 1982–86 are shown in Table 2. Ward closures which are regarded as temporary are not included but Table 2 demonstrates that a large number of beds have been lost over the period studied especially in the last two years. The total bed numbers decrease-

Table 2. Number of beds in the area of London covered by the emergency bed service from the year books for 1982–86.

Bed classification	Year book				
	1982	1983	1984	1985	1986
Acute (including maternity)	30 629	30 904	31 068	28 627	28 963
Mainly or partly acute	11 621	11 049	10 166	10 892	9 019
Geriatric, chronic and long-stay	5444	5719	5838	5267	5167
Total	47 694	47 672	47 072	44 786	43 149

ed by approximately 10% over the period covered by the 1982–86 year books with the main decrease occurring between the 1984 and 1985 year books, that is, between January 1983 and January 1984. In total 4545 beds have been lost in this five year period.

Changes in the medical referee procedure. For the first 100 cases seen by a medical referee in 1976 a total of 506 hospitals had been tried while in 1986 the corresponding figure was 485 hospitals. This difference is small and suggests that the medical referee procedure has not changed over this 10-year period.

Influenza epidemics. In the winter of 1975/76 an epidemic of influenza A occurred and in 1977/78 and 1981/82 the numbers of cases of influenza were higher than the norm. This may explain the high percentage of applications which were medically refereed in the winters of these years (Table 1). However, there was no increase in the number of cases of influenza to account for the high percentage of applications which were medically refereed in the winters of 1985 and 1986.

Red and yellow alerts

In February 1976 there was a yellow alert across London in response to the influenza epidemic. There were no further yellow or red alerts for nearly nine years. In January 1985 there was a yellow alert across London for six days in response to the cold weather and the accompanying high percentage of cases which were medically refereed.

There was a regional yellow alert in the South West Thames regional health authority for four days in late January 1986 which was not accompanied by cold weather or an influenza epidemic. However, the very cold weather in February and March 1986 coincided with regional yellow alerts in the South West, South East and North West Thames regional health authorities. In addition North West Thames had a four-day red alert and local red alerts were called by certain districts.

Hospital closures to admissions from the emergency bed service

The number of days that hospitals were closed to admissions from the emergency bed service for the period January–March in each year is shown in Table 3. A clear upward trend is visible with an increase of 71% between 1983 and 1986, the main rise occurring between 1984 and 1985.

Demographic trends

In Greater London the population over the period 1981–85 has decreased by 0.6% overall. Over the same period there has been

Table 1. Annual number of applications to the emergency bed service and percentage of cases medically refereed for 1976–86. Figures for January–March over the same period are also shown.

Year	Total number of applications	Percentage medically refereed	Number of applications January–March	Percentage medically refereed
				January–March
1976	37 213	8.2	12 156	14.0
1977	33 911	6.1	9156	7.5
1978	33 906	9.4	10 751	14.8
1979	30 274	8.0	8804	11.6
1980	28 663	7.2	8610	10.8
1981	28 060	8.8	7895	12.9
1982	29 643	7.9	8863	15.4
1983	30 237	8.0	8487	13.0
1984	29 107	8.1	8094	12.6
1985	31 425	12.6	9496	20.5
1986	30 859	11.7	9390	19.1

Table 3. Number of days that hospitals were closed to admissions from the emergency bed service in the period January–March for 1983–86.

Year	Category of bed				Total
	Male medical	Female medical	Male surgical	Female surgical	
1983	566	632	502	435	2135
1984	618	777	479	600	2474
1985	999	1039	693	779	3510
1986	969	964	879	849	3661

a 10% increase in the population under five years of age and a 13% increase in the population of pensionable age.

Discussion

This paper does not attempt to debate the issue of whether or not London has an excess of hospital beds. Using data held by the emergency bed service it shows that there is increasing pressure on the beds available for acute admissions in London.

The observed association of a reduction in the number of beds and an increase in the percentage of cases which were medically referred may not be causal but there does not appear to be any other explanation. The increase is not due to the weather, changes in the medical referee procedure or influenza epidemics. Another possible explanation would be if districts with empty beds were unwilling to accept patients from outside their own districts and, whereas this is theoretically possible, there is no evidence to support it. The London-wide yellow alerts in 1985 and 1986 indicate that pressure on beds is widespread across districts.

The possibility that the emergency bed service refers cases that do not need hospitalization was addressed in a report commissioned by South East Thames regional health authority in 1984.⁶ When reviewing the case notes of patients who had been medically referred a hospital doctor and general practitioner deemed these cases to be 'necessary' admissions.⁶

The demographic trends for Greater London over the period 1981–85 show that the proportions of those under five years of age and pensioners (the main users of the emergency bed service) have increased considerably. This would suggest an increased rather than decreased need for beds.

These factors are of concern to those working to improve the health of London's population. However, three additional factors make the future seem even bleaker. First, both the numbers of people aged over 75 years and the birth rate are projected to rise over the next few years, thus causing further pressure on beds. Secondly, many districts which are still exceeding their Resource Allocation Working Party targets for spending have strategic plans involving a further considerable reduction in their numbers of beds for acute admissions. Thirdly, non-emergency admissions may be given preference in order to decrease waiting lists, further worsening the pressure on beds for acute admissions.

As part of the Resource Allocation Working Party redistribution formula the total reduction in planned revenue by 1993 in the four Thames regions is £85 million. The revenue of the inner London districts is expected to be reduced by £109 million, on average £9 million each, and the other Thames districts by £5 million while the revenue of the regional specialties is expected to be increased by £29 million.⁷

The statistics kept by the emergency bed service offer a unique London-wide perspective. If the service is seen as a barometer of London's health service, the outlook is not good and there may be further storms ahead.

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