

Patterns of admission and discharge in an acute geriatric medical ward

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Accepted 6 March 1995

SUMMARY

Patients admitted to a 30 bedded acute geriatric medical ward in 1993 were followed up to discharge. The admission rate on weekend days was half that for weekdays. Six percent of ward discharges occurred at weekends, over half being due to death. Respiratory, cardiovascular and central nervous systems disorders were the commonest reasons for admission (56%) and death (73%). Greater emphasis should be placed on discharging patients at weekends.

INTRODUCTION

In recent years geriatricians have become much more involved in the immediate care of acutely ill elderly people.^{1, 2} A recent survey of general medical admissions found that approximately 25% of cases were aged 75 years or more.³ While geriatric medical units cannot cope with all acute medical illness in elderly people, they deal with a significant proportion.^{1, 4} In 1991 we opened a 30 bedded acute medical ward for elderly people (aged ≥ 65 years) on a teaching hospital site. Patients are accepted directly from the general practitioner (during normal working hours) and the accident and emergency department (at all hours), excluding those with a suspected acute myocardial infarct or a gastro-intestinal bleed. Admission and discharge patterns to the acute geriatric medical ward were studied.

METHODS

Data was collected retrospectively on admissions to the acute geriatric medical ward from the 1st January to the 31st December 1993, with follow up to discharge. Age, sex, abbreviated mental test score (for survivors only),⁵ length of stay, main diagnosis causing admission, outcome of the admission and cause of death were recorded. Main diagnoses were classified into systems. If no underlying cause was found the diagnoses of falls and poor mobility were classified under the locomotor system. If the presentation was confusion and no precipitating cause was found, it was classified under psychiatric.

To compare the age structure of general medical admissions with acute geriatric medical admissions the number, age and bed-days used by patients aged ≥ 45 years in general medical wards in the Ulster Hospital was obtained for April to October 1993.

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The data were analysed using Chi-squared, unpaired t-tests, regression and ANOVA.

RESULTS

There were 666 admissions to the acute geriatric medical ward in 1993: 81.2% of admissions were from home, 13.2% were from private nursing homes and 5.6% were from residential homes. Five patients remained for continuing care, 661 were discharged. Seventy percent of patients were female. The average age was 80.7 years for males (95% confidence intervals [CI] 79.8 to 81.6) and 81.5 years for females (95% CI 80.9 to 82.1, NS). The average length of stay was 18.3 days (95% CI 16.5 to 20.1). There was no significant association between the length of stay and the abbreviated mental test score. In the general medical wards between one quarter and one third of patients were aged 75 years and over (Table 1).

TABLE 1

Comparison of general medical bed usage in the Ulster Hospital (April to October 1993) and acute geriatric medical bed usage (January to December 1993) in different age groups.

Age band (years)	General medical wards		Acute geriatric medical ward	
	% of admissions*	% of bed-days*	% of admissions*	% of bed-days*
45-64	33.8	31.0	0.3	0.2
65-74	34.4	35.7	16.0	19.5
75-84	24.2	25.5	53.8	55.6
≥ 85	7.6	7.8	30.0	24.7

* Of total for patients aged ≥ 45 years

Day of admission, day of discharge

The mean admission rate was 0.99 patients per weekend-day compared with 2.16 patients per weekday. The mean discharge rate was 0.38 patients per weekend day compared with 2.39 patients per weekday. Twenty two of the 40 weekend discharges were due to death (Figure 1).

Lengths of stay and outcome

The highest mortality rate (32%) was seen in patients admitted with stroke disease, who also had the longest average length of stay (43.1 days, 95% CI 31.2 to 55 P < 0.01, ANOVA). Twenty percent of patients with a main diagnosis of lower respiratory tract infection died. One hundred and seventy one admissions (25.7%) were due to disorders of the respiratory system, followed in order of magnitude by cardiovascular (15.2%) and central nervous system (14.9%) disorders. Falls with no underlying cause accounted for 3.3% of admissions. Patients with diagnoses classed under central nervous system disorder had significantly longer lengths of stay (Table 2, Table 3, Figure 2).

Fig. 1 Day of admission and discharge in patients admitted to an acute geriatric medical unit in 1993.

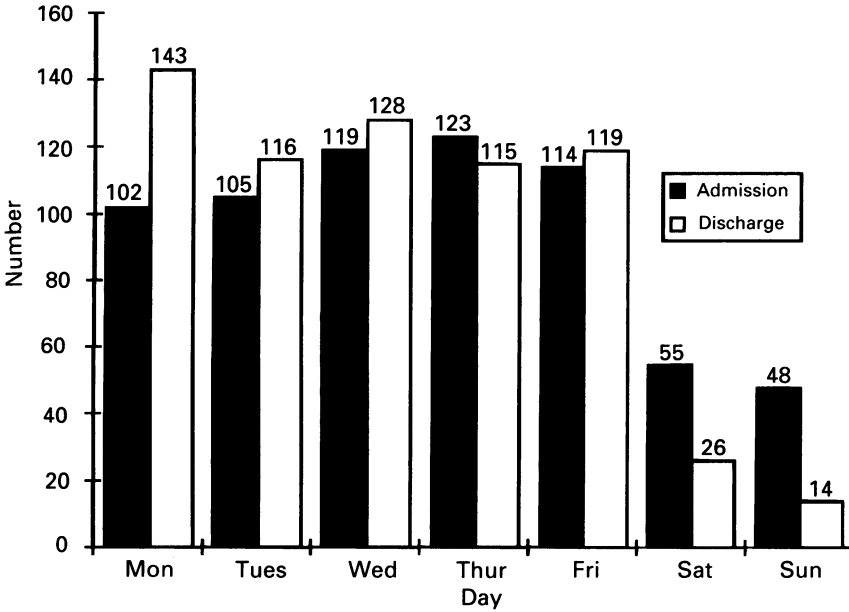
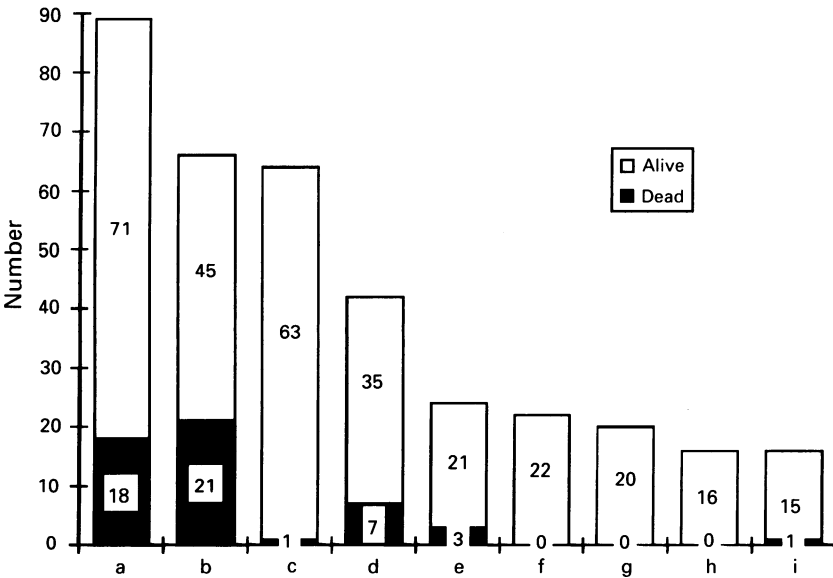


Fig. 2 Outcome (died versus survived) in the seven commonest causes for admission to an acute geriatric medical ward in 1993 (n=359, 54% of total admissions).



Key:
 a = chest infection, b = stroke, c = chronic obstructive airways disease,
 d = congestive heart failure, e = left ventricular failure, f = falls, g = iron deficiency anaemia,
 h = transient ischaemic attack, i = dementia.

TABLE 2

Outcome (died versus survived) of all 1993 admissions (n=666) to an acute geriatric medical ward based on the main cause for admission classified under systems.*

System	Died	Survived	Mean length of stay (days)	95% confidence intervals
Respiratory system	25	146	14.5	12.7 to 16.3
Cardiovascular system	15	84	14.6	12.3 to 17.0
Central nervous system	22	77	36.7	28.1 to 45.4
Gastrointestinal system	4	71	17.0	13.3 to 20.6
Locomotor system	2	68	17.3	13.9 to 20.7
Miscellaneous	9	52	13.9	11.1 to 16.7
Genitourinary system	3	21	13.1	7.1 to 19.1
Psychiatric	1	18	19.9	12.0 to 27.9
Metabolic	2	11	12.1	6.5 to 17.6
Vascular	0	12	11.1	6.9 to 15.2
Dermatological	0	9	11.9	7.1 to 16.6
Haematological	2	6	10.6	4.2 to 17.0
Endocrine	0	1	14.0	- -
TOTAL	85	576		

* Excluding the 5 patients who required continuing care in hospital.

TABLE 3

Respiratory (n=171), cardiovascular (n=101) and central nervous (n=99) system diagnoses for admissions (total=666) to the acute geriatric medical ward.

Respiratory system	Cardiovascular system	Central nervous system	
Chest infection	89	Congestive heart failure 42	Stroke disease 66
Chronic obstructive airways disease	64	Left ventricular failure 24	Transient ischaemic attack 16
Carcinoma lung	8	Myocardial infarct 9	Epilepsy 6
Malignant mesothelioma	4	Cor-pulmonale 7	Primary brain tumour 3
Asthma	3	Angina pectoris 7	Vertebrobasilar insufficiency 2
Respiratory failure	2	Postural hypotension 4	Parkinson's disease 2
Empyema	1	Supraventricular tachycardia 4	Gait dyspraxia 1
		Subacute bacterial endocarditis 1	Guillain Barré syndrome 1
		Cardiomyopathy 1	Subdural haematoma 1
		Complete heart block 1	Benign essential tremor 1
		Mitral and aortic valve disease 1	
Total number	171	101	99

DISCUSSION

The mean length of stay for patients in the present study of 18.3 days compares favourably with 24.1 days and 18.5 days reported from the Belfast City Hospital for elderly patients in acute geriatric and general medical wards, respectively.⁴ While the majority of patients were discharged directly from the acute ward, some, who required extended rehabilitation or nursing home placement, were transferred to rehabilitation beds in the unit. Of the 666 patients, 62% were discharged within 14 days and 88% within 31 days. Respiratory tract disorders were the prime cause of admissions (25%), reflecting the acute nature of the ward. While the present study did not show a significant association between length of stay and the abbreviated mental test score it is known that the medical cause for admission is the main determining factor for length of stay of elderly people.⁶ In the present study patients with central nervous system disorders had the longest length of stay, nearly twice that of patients classified under 'psychiatric'. Only 5 of the 666 admissions required continuing care in hospital, the policy being to discharge people home or to other institutional care unless they required continuing, regular medical or nursing intervention. Some patients require continuing care for social, psychological and family reasons. Once patients have been assessed as requiring care management they have to wait in hospital until placement, bed provision should allow for this.

There was no evidence to suggest that illness and admission to hospital were dependent on the day of the week. The present study showed that the discharge of elderly patients was mainly planned for weekdays when transport home and availability of domiciliary services ensured safer discharge. The fall in the admission rate at weekends may be linked to the failure to discharge patients at weekends. This in turn could have resulted in general medical wards having to cope with patients who should otherwise have been admitted to the acute geriatric medical ward. Between April and October 1992 and 1993 there was a 62% increase in those aged ≥ 75 years admitted to the general medical wards, confounding any fears that workloads in general medicine would be compromised by geriatricians becoming more involved in acute care.

Although the day of discharge has not been noted in other studies of acute medical admissions of elderly people^{1,4} it is likely that a similar pattern of admission and discharge occurs in many geriatric medical units. In the current climate of efficient use of resources the inappropriate admission of elderly patients as general medical outliers at weekends demands an increase in planned discharges from acute geriatric medical wards at weekends. This will mean that transport to home must be available if required and local health and social services must provide adequate domiciliary care and support services at weekends. Consultants should actively encourage weekend discharges provided home-care and transport to home is safe. To enable shorter stays the possibility of therapists and consultants continuing normal weekday patient-management at weekends should be considered. At present only nursing staff provide a full seven day service.

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