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Outcome of patients admitted to an acute geriatric medical unit

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SUMMARY

To find out what happens to patients admitted to an acute geriatric medical unit, all admissions during 1982 were reviewed. Demographic features were compared with those of the community served, and rehabilitation, inpatient mortality and mortality in the year following discharge were assessed. Inpatients accounted for 4% of the community aged over 65, and most patients were discharged back to the community. Inpatient mortality was 25% and mortality in the year following discharge was 23%, giving a two year mortality of 42%, which was similar in all age groups. The achievement of high rehabilitation rates was tempered by the considerable mortality rates following discharge.

INTRODUCTION

Population statistics for the past twenty years show a considerable increase in persons aged over 65 years. It is predicted that there will be a further increase by the end of the century, especially in those aged 85 and over.[1] Since there will be an increased demand for acute geriatric beds, it is of value to assess (1) which members of the present community aged over 65 are more likely to be admitted to a geriatric medical unit, (2) the outcome of this hospitalisation and (3) mortality following discharge of such patients. We have therefore reviewed these criteria for all patients discharged from a geriatric medical unit over a one-year period with particular reference to patient age.

METHODS

The 72-bed geriatric medical unit at Altnagelvin Hospital is the only one in the Londonderry, Limavady and Strabane district and accepts patients aged over 65 years. Patients are referred to the consultants from general practitioners or from other hospital wards, (9 am – 5 pm, Monday to Friday). Acute geriatric admissions outside these hours go initially to acute medical beds and, if rehabilitation is considered necessary, they are transferred to the geriatric medical unit. There are 187 long-term care beds elsewhere in the district, but these are not considered in this report.

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In 1982 the turnover was 531 patients who had 613 admissions, 65 having multiple admissions. Data on each patient was obtained from the Hospital Activity Analysis, records of weekly ward meetings and from inpatient records. All patients who died in the first year following discharge were identified by notification from the Registrar of Deaths. Population statistics were derived from the 1981 Population Census and from the report of the Registrar of Deaths. Data were stored and sorted on a simple microcomputer database ('Masterfile, BBC B Microcomputer'). Statistical significance was tested using the chi square test.

RESULTS

The demographic features of the patients and their one-year survival rates following discharge were compared with those of the community population and its mortality data. Placement of patients on discharge from the Unit was assessed as a measure of rehabilitation.

(1) *Demographic features*

The district population was approximately 157,000 with 14,500 aged over 65 years. Table I illustrates the proportion of various age groups in the community admitted to the Unit. These proportions were similar for males and females. The marital status of patients was compared with that of the district population (Table II). Since the proportions were different for males and females, these are shown separately. Marital status was not recorded for 44 patients.

TABLE I

Number of persons in 5 year age groups in the Geriatric Medical Unit and in the district

Age	*District population*	*Geriatric Medical Unit (%)*
65 – 69	5309	86 (1.6)
70 – 74	4261	121 (2.8)
75 – 79	2575	119 (5.0)
80 – 84	1491	135 (9.0)
85 – 89	687	50 (7.3)
90 – 94	178	16 (9.0)
95 – 99	71	4 (5.6)

TABLE II

Marital status of district and Geriatric Medical Unit populations

	MALE		*FEMALE*	
Marital status	*District*	*Geriatric Medical Unit (%)*	*District*	*Geriatric Medical Unit (%)*
Married	3456	82 (2.4)	2473	53 (2.1)
Single	1206	59 (4.9)	1944	79 (4.1)
Widowed	1018	56 (5.5)	3492	150 (4.3)

(2) *Rehabilitation*

Placement of patients after discharge was used as a measure of rehabilitation, and was classified as (1) in the community, (2) in residential accommodation and (3) in long-term care wards. Table III shows placement on discharge in relation to placement prior to admission for all 613 admissions. Using these criteria, 66 patients (14% of discharges) did not return to their original level of placement but went instead to a setting of higher dependency. Patients aged over 75 years (50 patients) and females (46 patients) were less likely to be rehabilitated ($p < 0.05$).

TABLE III

Placement on discharge in relation to residence prior to admission

Residence prior to admission			*Placement on discharge*		
Home	535	(87%)	Home	353	(66%)
			Residential	12	(2%)
			Long-term care	46	(9%)
			Deceased	120	(22%)
Residential	73	(12%)	Residential	45	(62%)
			Long-term care	8	(11%)
			Deceased	20	(27%)
Long-term care	4	(1%)	Long-term care	1	(25%)
			Deceased	3	(75%)

(3) *Mortality following discharge*

Date of death following discharge, and hence survival at one year, was determined for all patients. In the event of a patient with multiple admissions, only the first admission in the year was used for this purpose. Of the 531 patients, 132 (25%) died in hospital and 399 were discharged. A further 92 died within one year giving a post-discharge one-year mortality of 23%. The cumulative mortality from admission to one year after discharge was 42%. In Table IV the one-year mortality for various age groups is compared with the community mortality for the same age groups. The similar mortality rates for the patients in various age groups contrast with the lower community mortality in the 65 – 75-year-olds as shown in the last column of the Table. One-year mortality following discharge was unrelated to sex, marital status or duration of stay in the Unit.

TABLE IV

Age-specific mortality for patients discharged from the Geriatric Medical Unit compared with community mortality

Age	*Patients discharged*	*Deceased at 1 year*	*Patient mortality rate/100*	*Community mortality rate/100*	*Ratio patient/community mortality rates*
65 – 74	158	38	24.0	4.1	5.8
75 – 84	184	41	22.3	9.7	2.3
85 +	57	13	23.2	20.4	1.1
TOTAL	399	92	23.0	6.8	3.4

DISCUSSION

Critical assessment of the outcome of patients admitted to a geriatric medical unit should include identification of people likely to be admitted, appraisal of rehabilitation success and of associated mortality.

Comparison of the geriatric medical unit population with that of the community revealed that 4% of the district geriatric population were inpatients during the year. Patients aged 65–75 years were under-represented, as noted by others.[2] This may be explained by the number of these patients admitted to the general medical wards,[3] and by increasing morbidity with advancing age. Married persons were also less likely to be admitted than widowed or single persons and were less likely to require residential or long-term care. This 'protective effect' of marriage has been described previously[4] and must reflect the importance of social support in coping with illness at home without resort to hospital care, rather than a true difference in health.

The role of the Unit in rehabilitation was confirmed by the high proportion of patients returning to their original placement following discharge. Whereas a previous report suggested a poor outlook for patients admitted from residential homes compared with those admitted from the community,[5] in this study rehabilitation outcome and mortality rates were similar.

The inpatient mortality rate of 25% was similar to that published for other units, 19%–33%,[2, 6, 7] although direct comparison is difficult. Mortality was unrelated to age or sex in contrast to a previous report.[8] Mortality following discharge was higher than that of a similar age group in the community, being increased six-fold for persons aged under 75 years and double for those aged over 75 years. Indeed, for those aged over 85 years the mortality rate was similar to that in the community. This difference in mortality rates is due to ex-patients having similar mortality rates in all age groups in contrast to the increasing mortality with age found in the community. This pattern is probably due to a combination of the management at home of very elderly persons with a terminal illness and referral of patients under 75 years to other acute services.

The addition of this information on deaths in the year following discharge to inpatient mortality reveals that almost half of all patients admitted to the geriatric medical unit die within this period regardless of age. Patients discharged from this Unit represent an 'at risk' group who may merit special surveillance by their general practitioners.

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