

Integration between general and geriatric medicine: a needs related policy

ABSTRACT—A joint admitting policy between a general physician and a physician in medicine for the elderly reduced the length of stay in acute medical beds by 25% without increasing the length of stay in rehabilitation beds. The basis for the cooperation was not related to age but rather to the perceived needs of the patient on admission. This method of integration between medicine and geriatrics could be implemented in most hospitals.

All physicians who participate in unselected medical takes are directly responsible for the care of elderly people, many of whom have multiple problems. In some centres, elderly people are admitted directly under the care of physicians in medicine for the elderly [1]. These physicians provide geriatric services which include access to rehabilitation teams, day hospitals, and continuing-care facilities. Patient care plans are centred on a multidisciplinary assessment. Most general physicians do not have these facilities directly at their disposal.

Length of hospital stay is the main determinant of the cost of medical care. Factors which predict the length of stay in hospital include advanced age, stroke, confusion and falls, incontinence, and loss of independence for everyday activities. However, the most important predictor of length of hospital stay is the medical diagnosis [2]. For example, more than half the patients with stroke, confusion or falls are likely to remain in hospital for more than 14 days, whereas over half of those with cardiovascular, chest, gastrointestinal or 'other' diagnoses can be discharged within 14 days. The diagnoses associated with prolonged admission occur far more commonly in the elderly but are not entirely restricted to patients over any arbitrary age range. Assessment by a consultant trained in the management of elderly people with immediate access

to rehabilitation facilities may shorten the length of hospital stay.

Various approaches have been proposed to make the best use of available care for the benefit of acutely ill elderly people. A number of them have been implemented and have shortened hospital stay. For example, the attachment of physicians in medicine for the elderly to medical wards as 'visiting specialists' proved successful in Edinburgh [3] in reducing the length of stay for patients over 65 years. In Newcastle, when no distinction was made on assessment wards between general medical and geriatric beds, there was a reduction in both the mean and median lengths of stay [4]. One common approach is to split responsibility for care according to the patient's age, so that, for example, all patients over 75 years of age are cared for by physicians in medicine for the elderly and those under 75 years by general physicians. We believe that a policy by which patients are cared for by specialists with skills appropriate to their needs is most likely to improve the use of resources and benefit patients. These methods of integration may not be practical in all hospitals, and we have explored an alternative form of integration in the context of the facilities available within our unit.

Sheffield has a large elderly population (17.3% over the age of 65 compared with an average of 15.8% for England and Wales). The acute hospital-based medical services are provided by two large teaching hospitals. At the time of the study the Royal Hallamshire Hospital had no geriatric services and no geriatric beds on site. These services were provided at other hospitals in the city (Nether Edge and Lodge Moor Hospitals), and patients requiring the expertise of physicians in medicine for the elderly were referred for an opinion as for any other specialty.

Method

At the time of the study over half of the acute medical admissions to the Royal Hallamshire Hospital were over 65 years of age and a quarter over 75 years. In November 1989 one of the nine medical firms underwent a change in structure to improve the service delivered to elderly people with multiple pathologies. Until then two consultant physicians had shared the care of the patients admitted to the firm. Both study and control firms had equal numbers of medical staff by grade (senior registrar, senior house officer, and two house officers). The study firm was joined by a consultant in medicine for the elderly who shared the

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firm's junior staff. This was a reallocation of notional half-days, not a new appointment. A needs related policy, irrespective of age, was implemented and patients were allocated at the time of admission by the senior house officer in consultation with the senior registrar to be cared for by the general physician or physician in medicine for the elderly. For example, elderly patients with a single pathology who had previously been independent and were expected to make a full and uncomplicated recovery were allocated to the general physician, whereas all patients with strokes irrespective of age, patients with multiple pathologies and those thought to be in need of rehabilitation were looked after by the physician in medicine for the elderly. The decision made on admission could later be changed, with some patients receiving joint care.

Once a week the consultants held a joint ward round and also tried to do a joint post-take ward round. A physiotherapy and an occupational therapy service were shared between the firms (both wards were on the same floor). No additional staff were employed during the study period. These limited on-site services were utilised as necessary but, whenever appropriate, patients were rapidly transferred to rehabilitation beds at two other hospitals to be cared for by the physician in medicine for the elderly already involved in their management.

Information was collected retrospectively from the hospital computer system. The study firm implemented the change described above and was compared with a control firm which was continuously led by one consultant physician throughout the study period. Data collection was divided into three periods: 01.12.88–31.05.89 (A) and 01.06.89–30.11.89 (B) before integration, and 01.12.89–31.05.90 (C) after the change was implemented. Periods A and B were both studied to ensure that there was no change in the length of stay with time. Information about patient details and length of stay was obtained from the hospital records at the Royal Hallamshire and the two other hospitals to which the patients were transferred. The control firm was used to ensure that any changes could not be simply attributed to a global change in practice.

Statistical analyses for length of stay were by Mann-Whitney tests.

Results

Altogether 1,253 patients were admitted to the study firm during the three periods. There was no significant difference in the number of patients admitted during each six-month period. The median length of stay for patients in period C (after integration) was significantly less than in A or B (Table 1). Over the same time 1,233 patients were admitted by the control firm; a similar number of patients was admitted in each six-month period and there was no significant difference between them in the length of stay (Table 1). For period C the length of stay in the study firm was significantly shorter than in the control firm ($p = 0.04$). The same trend was seen in patients aged over 75 and under 75 (Table 2), although the data for the over-75s were not statistically significant.

The patients transferred to rehabilitation or continuing-care beds in the two other hospitals were identified from the computer records. The control firm had no direct access to rehabilitation beds. The number of patients transferred varied over the study period (Table 3). The differences in length of stay are not explained by the number of patients who were transferred.

Discussion

A high turnover of patients with short hospital stays in general medical wards is becoming increasingly desirable for economic reasons. The proportion of elderly admissions to medical wards is rising and is likely to continue to do so. Because the medical diagnosis on admission is the most important factor delaying discharge [2], initial assessment on a medical ward is appropriate. Age itself, although an important factor, is not the main predictor of length of stay, and we feel the needs of patients should take precedence in deciding where to admit them. Factors which predict a prolonged stay are often best managed by a physician in medicine for the elderly. We have shown that close

Table 1. Number of admissions, with length of stay for each firm and time period.

| | | Period A | Period B | Period C | <i>p</i> value |
|--------------|---|--------------|-------------|--------------|---|
| Study firm | Number of patients | 417 | 426 | 410 | ns |
| | Median length of stay (days) (Range) | 6 (0–131) | 6 (0–82) | 4 (0–32) | A vs C = 0.0024 B vs C = 0.0006 A vs B = ns |
| Control firm | Number of patients | 400 | 380 | 453 | ns |
| | Median length of stay (days) (Range) | 5 (0–85) | 5 (0–76) | 5 (0–178) | all ns |

Table 2. Number of admissions, with length of stay for each firm and time period by age group.

| | | Under 75 | | | Over 75 | | |
|--------------|------------------------------|----------|----------|----------|----------|----------|----------|
| | | Period A | Period B | Period C | Period A | Period B | Period C |
| Study firm | Number of patients | 327 | 340 | 292 | 90 | 86 | 118 |
| | Median length of stay (days) | 5 | 5 | 4* | 8 | 8 | 7 |
| | (Range) | (0-131) | (0-82) | (0-32) | (0-48) | (0-42) | (0-24) |
| Control firm | Number of patients | 316 | 296 | 340 | 84 | 84 | 113 |
| | Median length of stay (days) | 4 | 4 | 4 | 7 | 7 | 8 |
| | (Range) | (0-85) | (0-53) | (0-96) | (0-66) | (0-76) | (0-178) |

* Under 75 age group: period C vs period A (study firm), $p = 0.003$; period C vs period B (study firm), $p = 0.002$
 Period C: study firm vs control firm, $p = 0.05$

Table 3. Number of patients transferred, with length of stay in medical wards.

| | | Period A | Period B | Period C | p value |
|--------------|--------------------------------|----------|----------|----------|---------------------------------|
| Study firm | Number of patients transferred | 19 | 6 | 21 | A vs B = 0.01*; B vs C = 0.005* |
| | Median length of stay (days) | 7 | 7 | 9 | A vs C = ns |
| | (Range) | (3-17) | (0-14) | (4-16) | ns † |
| Control firm | Number of patients transferred | 7 | 8 | 9 | ns |
| | Median length of stay (days) | 7 | 8 | 9 | ns † |
| | (Range) | (7-85) | (8-53) | (5-99) | |

* χ^2 with Yates correction

† Mann-Whitney test

cooperation between a general physician and a physician in medicine for the elderly can reduce the length of stay in a general medical ward, irrespective of age on admission.

The explanation for the fall in average stay is not simply that the patients were removed to another type of ward (rehabilitation or continuing care). There was no significant difference in the time spent on the ward by patients who were transferred to another hospital before and after the physician in medicine for the elderly joined the firm (Table 3). These patients formed only a small proportion (1.4-5.1%) of the total number of admissions, and consequently would be unlikely to alter the average length of stay significantly. No other changes in practice were implemented, and a comparable firm, which had not undergone integration, had no fall in length of stay during the same period. One possible explanation is that the physician in medicine for the elderly involved physiotherapists and occupational therapists on the acute medical ward at an earlier stage, resulting in faster mobilisation and earlier discharge from hospital.

Integration between geriatric and general medicine is being practised in many hospitals but with little evidence that one system is better than another [5]. There is, however, a considerable difference between

patients referred to separate geriatric and general medical services [6]. It has been suggested that some of the elderly patients admitted under the care of general medical physicians would benefit from the facilities and expertise of a geriatric department [6].

The system described here has a number of advantages over other forms of liaison between physicians and geriatricians. First, all patients benefit from the medical skills available, not simply those in certain age groups. Second, patients benefit from continuity of care because, following the initial allocation, they immediately become the responsibility of the general physician or physician in medicine for the elderly, so that management policies can be established early in the admission. Third, joint ward rounds allow involvement of other staff when the initial decisions about care have been erroneous. Fourth, junior medical staff have the opportunity to receive training in both general medicine and aspects of care specifically applicable to elderly patients.

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