SHORT REPORT

Specialist nurses to evaluate elderly in-patients referred to a department of geriatric medicine

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Abstract

Background: increasing numbers of elderly patients are admitted to hospital. Ensuring that they are given appropriate and timely access to the range of hospital and community medical, rehabilitation and social care facilities has become more difficult due to the complexity of management options now available, and limited senior medical staff time.

Methods: we established a scheme in which specialist nurses made first assessments of all inter-departmental referrals to a hospital department of geriatric medicine. We evaluated the scheme prospectively using process and outcome data.

Results: 2825 new patients were seen by two nurses in the first two years, an average of 5.4 per weekday (range 0–17). Mean time from admission to referral was 9 days. Most referrals were seen within 1 day. Mean total length of hospital stay was 43 days (range 1–351). Seven percent died on the referring ward, and 31% were discharged directly from the referring ward. Almost half were accepted for in-patient rehabilitation. Sixty percent of these were discharged home. Thirteen percent were transferred to an acute geriatric medical or stroke ward. One-quarter of these died. Senior medical review was requested in 8% of cases.

Conclusions: nurses could select patients suitable for rehabilitation, identify those requiring on-going acute in-patient care, and make arrangements for supported direct discharges where appropriate. This model facilitated access to a wide array of discharge and community support schemes, and supported the efficient use of consultant time.

Keywords: nurse assessment, hospital, rehabilitation, aged, outcomes

Introduction

Many elderly hospital patients who may benefit from specialist geriatric medical services are under the care of non-geriatricians. Traditionally, inter-departmental referrals have been assessed by doctors. Recently, however, nursing practice has expanded to embrace new specialist roles [1].

The Queen’s Medical Centre in Nottingham operates a ‘needs related’ geriatric medical service. All adult medical patients are admitted via an acute admissions ward, backed up by ward-based specialty services. The Health Care of the Elderly department contributes four acute medical and stroke wards (104 beds), specialist orthopaedic and stroke rehabilitation wards (38 beds), and 146 off-site rehabilitation beds. In the year 2000–2001 there were 3385 acute and 1150 rehabilitation admissions. The hospital also has 213 general medical beds (37,269 admissions), 170 orthopaedic beds (10,780 admissions), 114 general surgical beds (10,820 admissions), and 188 other adult beds.

In October 1998 a specialist nurse was appointed to assess referrals from medical specialties. In June 1999 a second nurse extended the service to all other hospital departments. We evaluated the first two years’ experience. We aimed to describe the service, quantify its activity and outcomes, and identify problems.
Service description

The first nurse had a background in district nursing, and worked as a hospital-based community liaison nurse, following up patients discharged from the geriatric medical service. The second nurse had been a geriatric medical ward staff nurse.

Referrals were taken by medical secretaries. The target for nurse assessments was 1 working day. Protocols were applied by the nurses, classifying patients according to their care needs. Options included:

i. Transfer to acute or rehabilitation geriatric medical or stroke wards.
ii. Discharge home or to an institution—with community rehabilitation, other services or follow-up, if necessary.
iii. Referral to another specialty (e.g. old age psychiatry).
iv. Review if investigation or current specialist management was incomplete.
v. Assessment by senior medical staff.

Evaluation and analysis

Referral and process data were collected prospectively. Outcomes were followed up by the nurses until hospital discharge (using computerized information systems and ward visits). Institutional discharges included those where the patient was previously resident in a nursing or residential home. Descriptive statistics were calculated.

Results

In the first two years of operation 2825 patients were referred. Median age was 81 years (range 23–103, inter-quartile range 76–87). Seventy-one percent were female. General medical specialties referred 1291 (46%) patients, 1151 (41%) were from Trauma, Orthopaedics and Spinal surgery, 243 (8.6%) from general and vascular surgery, and 2% each from in-patient accident and emergency (53), and neurosciences (58). Nil to 17 new patients were referred per day, with a mean of 5.4. Nurses made between 1 and 14 visits to each patient (mean 1.8, median 1, 75th centile 2, 95th centile 4). In total, there were 5085 contacts, or 6.6 per nurse-day. This included discussions with families and liaison with community services, but excluded clerical duties.

In 79 cases (2.8%) a senior medical opinion was requested by the referring doctor. The nurses requested a medical opinion in a further 154 cases (5.5%). After referral, 372 (13.2%) cases incurred a delay on the referring ward, whilst awaiting the results of investigations or opinions from other specialties, 188 patients (6.7%) died on the referring ward and 870 patients (31%) were discharged directly from the referring ward, usually with community rehabilitation or social services support (Table 1). No further follow up data (subsequent deaths, re-admissions or institutionalization) were available on this group.

Half of referrals (1335) were transferred to a rehabilitation ward. Of this group, 804 (60%) were discharged home, 211 (16%) to institutions, 154 (12%) died (41 being transferred back to an acute ward before death), and 166 (12%) patients were known not to have died, but we are unsure if they were discharged home or to an institution.

Three hundred and fifty-nine (13%) were judged to need specialist acute geriatric medical care, with 167 (47%) of these subsequently moved to rehabilitation wards. Ninety-six (27%) died, 63 (18%) were discharged home directly, and 7 (1.9%) to institutions. Of 167 patients who subsequently moved from an acute geriatric bed to a rehabilitation bed, a further 88 returned home, 32 to institutions and 19 died. The remaining 26 (7%) patients were discharged alive, but we are unsure if they went home or not.

Sixty percent of referrals were seen within 1 working day and 79% within 2 days. Overall mean length of stay was 43 days. Patients transferred to the geriatric medical service were mostly moved within a few days (median wait 2 days for acute, 4 days for rehabilitation), and they had a long mean total stay of 58 days. Patients who died on, or who were discharged directly from, the referring ward had shorter lengths of stay (Table 2).

Some medical consultants resented discharge planning from acute medical beds. No other specific problems were encountered. There were no formal complaints from patients.

Discussion

We describe a service innovation in which experienced nurses took on the role of making the primary assessment of interdepartmental referrals in a busy
Hospital interface nurses

Table 2. Time taken for elements of the admission to discharge process for patients accessing the interface nurse system

<table>
<thead>
<tr>
<th>Period</th>
<th>n</th>
<th>Mean/d</th>
<th>Median/d</th>
<th>25th, 75th and 95th centiles/d</th>
<th>Range/d</th>
</tr>
</thead>
<tbody>
<tr>
<td>Admission to referral</td>
<td>2809</td>
<td>8.9</td>
<td>6</td>
<td>3, 11, 26</td>
<td>0–94</td>
</tr>
<tr>
<td>Referral to assessment</td>
<td>2807</td>
<td>1.9</td>
<td>1</td>
<td>1, 3, 5</td>
<td>0–25</td>
</tr>
<tr>
<td>Assessment to transfer to acute HCE</td>
<td>355</td>
<td>4.8</td>
<td>2</td>
<td>1, 6, 20</td>
<td>0–61</td>
</tr>
<tr>
<td>Assessment to HCE rehabilitation</td>
<td>1332</td>
<td>6.6</td>
<td>4</td>
<td>1, 8, 21</td>
<td>0–90</td>
</tr>
<tr>
<td>Transfer to acute HCE to discharge</td>
<td>347</td>
<td>43.8</td>
<td>30</td>
<td>13, 62, 123</td>
<td>0–241</td>
</tr>
<tr>
<td>Transfer HCE rehabilitation to discharge</td>
<td>1298</td>
<td>39.4</td>
<td>30</td>
<td>17, 51, 106</td>
<td>0–309</td>
</tr>
<tr>
<td>Assessment to death on referring ward</td>
<td>173</td>
<td>13.0</td>
<td>7</td>
<td>2, 15, 49</td>
<td>0–196</td>
</tr>
<tr>
<td>Assessment to discharge home from referring ward</td>
<td>714</td>
<td>8.2</td>
<td>6</td>
<td>3, 10, 27</td>
<td>0–113</td>
</tr>
<tr>
<td>Assessment to institutional discharge from referring ward</td>
<td>130</td>
<td>17.4</td>
<td>12.5</td>
<td>4, 24, 52</td>
<td>0–129</td>
</tr>
<tr>
<td>Assessment to discharge with other arrangements</td>
<td>58</td>
<td>22.0</td>
<td>9</td>
<td>4, 27, 82</td>
<td>0–308</td>
</tr>
<tr>
<td>Total hospital length of stay for all patients</td>
<td>2765</td>
<td>43.0</td>
<td>32</td>
<td>17, 32, 57</td>
<td>1–351</td>
</tr>
</tbody>
</table>

*Referral to psychiatry, another medical specialty or transfer out of area.

acute general hospital. The nurses saw a large number of patients, from a variety of wards, with a minimum of delay. This allowed more elderly patients to be reviewed by an expert in their assessment, and to be given access to rehabilitation facilities both within and outside the hospital system.

The nurses proved good at arranging community services, and were a fertile source of recruits to a randomized controlled trial of an early discharge/community rehabilitation scheme [2, 3]. They could select patients with good rehabilitation potential, and proved reliable at selecting ill patients who required ongoing acute ward care. It is possible that some patients, who required transfer back from rehabilitation to acute wards, might have been assessed differently by a doctor, but this is as likely a reflection of the frail and medically unstable population involved, and pressure to maximize bed use.

This was a service development, which, like most, was introduced without a methodologically robust evaluation being commissioned. We have prospectively and systematically collected process and outcome data, which permit some aspects of performance to be made explicit. There was no control group—either contemporaneous or historical. The former is not possible in the absence of a specifically commissioned evaluation. The latter would be difficult to interpret in the light of rapidly increasing admission rates (and presumably admission criteria and case-mix underlying this), and emerging services to avoid admission, and expedite discharge.

The Health Authority and host department continue to support the scheme. It has been extended to include referrals from the Accident and Emergency Department, and dedicated clerical assistance has been provided. Generalizability is uncertain. However, this model of specialist nurse practice appears to be both feasible (safe and effective) and desirable (better access without more doctors). Others may find it useful to replicate this model to enable early expert assessment of large numbers of elderly people [4], even in health systems where doctors are more readily available. Such a service can provide the entry point for the increasingly wide array of community or primary care-based rehabilitation, follow-up or intermediate care schemes [5], as well as appropriate hospital-based services.

**Key points**
- We established a service in which specialist nurses made the initial evaluation of referrals to a geriatric medical department.
- Nurses saw large numbers of patients rapidly, and devised management plans following pre-defined guidelines.
- A third of patients were discharged directly from the referring ward, half were transferred to a rehabilitation ward, and a sixth to an acute geriatric medical ward.
- At least 60% of patients selected for rehabilitation were discharged home, and other clinical outcomes were in line with those expected. Moderate benefits or moderate hazards compared with traditional services cannot be excluded in the absence of a control group.
- This is a feasible model of comprehensive access to expert assessment, in line with recent government policy for elderly hospital patients.

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**References**


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