

An evaluation of a multidisciplinary team for intermediate care at home

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Abstract

Background: The implementation of the National Health Service Plan for the UK will see an expansion of services for intermediate care. Such services are usually targeted at older people and aim to: prevent ‘avoidable’ admissions to acute inpatient care; facilitate the timely discharge of patients from acute inpatient care; promote patient rehabilitation. A range of services might fall under the banner of intermediate care. They are usually delivered in patients’ homes or in non-acute institutions. This paper describes an evaluation of a multidisciplinary Rapid Response Team (RRT). This service aimed to provide a home based alternative to care previously provided in an acute hospital bed which was acceptable to patients and carers and which maintained clinical care standards. The service was provided for the population of Hereford, a rural town in the middle of England.

Methods: A mixed-method descriptive design using quantitative and qualitative techniques was used to monitor: the characteristics of service users, the types and amounts of care received, any ‘adverse’ events arising from that care, and the acceptability of the service to patients and carers. A collaborative approach involving key stakeholders allowed appropriate data to be gathered from patient case notes, RRT staff, local health and social care providers, and patients and their carers. A suite of self-completed questionnaires was, therefore, designed to capture study data on patients and activities of care, and workshops and semi-structured interview schedules used to obtain feedback from users and stakeholders.

Results: Service users (231) were elderly (mean age 75.9), from three main diagnostic categories (respiratory conditions 19.0%, heart/stroke 16.2%, falls 13.4%), with the majority (57.0%) having both medical and social care needs. All patients received care at home (mean duration 5.6 days) with only 5.7% of patients having to be re-admitted to acute care. Overall, patients and carers had positive attitudes to the new service but some expressed concerns about their ability to influence the choice of care option (24.1% and 25.0% of patients and carers, respectively), whilst 22.7% of carers were concerned about the quality of information about care.

Conclusions: Both the nature of schemes for intermediate care, and the policy context in which they are introduced, mean that pragmatic methodologies are often required to evaluate their impacts. Unfortunately, this need for pragmatism can then mean that it is difficult to reach definitive conclusions about the merits of schemes. However, the findings of this evaluation suggest that the Rapid Response Team provided an ‘acceptable’ alternative to an extended period of care in an acute setting. Such schemes may have relevance beyond the NHS of the UK as a means of providing a more appropriate and cost efficient match between patients’ needs for care, the types of care provided, and the place in which care is provided.

Keywords

intermediate care, early hospital discharge, evaluation

Background

At the start of this century the government of the United Kingdom (UK) produced a 10-year plan for investment in, and modernisation of, the National Health Service (NHS) [1]. This plan, in part, reflected public concerns about the difficulties that they were facing in accessing hospital services for inpatient care:

for example, long ‘trolley’ waits in hospital casualty-departments while patients waited for a hospital bed to become available, and cancelled admissions and long waiting lists for elective care [2, 3].

An initial response might have been that such waits and delays simply reflected inadequate investment in capacity for acute inpatient care: UK spending on health care is lower than in many other western states

[4]. However, a national investigation into the demand for, and utilisation of, acute beds concluded that the difficulties in accessing acute inpatient care were also due to a shortage of service alternatives for preventing the acute admission of some patients and for facilitating the acute discharge of others [5].

Hence, the implementation of the NHS Plan will result in both an increase in acute hospital capacity and the development of service alternatives for providing care that has traditionally been provided in acute hospital beds [1]. Such services alternatives go under the banner of services for intermediate care, being defined as services 'designed to prevent avoidable admissions to acute care settings, and to facilitate the transition from hospital to home and from medical dependence to functional independence' [5].

However, although previous research has established the rationale for the development of schemes for providing intermediate care [6], there remains uncertainty about the extent to which they will represent an acceptable and effective alternative to acute based care [7, 8]. Hence, as they respond to national policy directives, local health care professionals will need to use evaluation as a tool for guiding the development of their services for intermediate care and for assessing their impacts [8].

This paper presents the findings of an evaluation of a multidisciplinary Rapid Response Team (RRT). This service aimed to facilitate earlier hospital discharge by providing home based care. The evaluation was undertaken on behalf of, and in association with, health and social care professionals working within Herefordshire Primary Care Trust and its adjacent providers of health and social care. However, in addition to informing policy development in the NHS of the UK, its findings have relevance to researchers and health and social care professionals working in settings elsewhere.

For example, previous research has demonstrated that the 'avoidable' use of acute beds exists elsewhere in Europe [9–11]. Significant variations in lengths of stay for stroke between hospitals in different European states have also been demonstrated, variations that reflected differences between settings in the ways in which they organised care rather than differences in the casemix of their admissions [12, 13]. Although such 'avoidable' bed use may not be leading to the difficulties in access to care experienced by patients served by the NHS, it may mean that scarce resources for health care are being used inefficiently. In the United States (US), this appears to be the opinion of policy makers within the government agency that administers Medicare, the health insurance pro-

gramme for older people. Since the mid-1980s, they have used fiscal measures to encourage providers to use schemes for post-acute care as a means of reducing acute lengths of stay [14, 15]. As in the UK, there is a need to ensure that such schemes provide an acceptable alternative to acute hospital based care.

Methods

The intervention

The RRT comprised, a senior nurse, a senior social worker, 4 general nurses, 4 (2 part-time) generic workers (unqualified staff who are trained to become competent in general tasks which cross disciplinary boundaries), and a part time administrator. The service was targeted primarily at adult patients who needed enhanced levels of health and social care following acute hospital discharge. Specific eligibility criteria included patients needing: intravenous therapy following an infection; baseline observations; catheter care; oxygen therapy; provision of equipment; wound care; personal care (washing and dressing); meals; and help with housework. Care was to be provided in the patients' homes and the aim was that the duration of care by the team should be less than 1 week. During this period the costs of care were to be covered by the NHS. After that period care would be transferred to other community-based services as appropriate, which, dependent upon their wealth, might involve a payment from patients.

Study design

Over the 1 year of the service, a descriptive evaluation design was used to monitor: the characteristics of the users of the service; the types and amounts of care that they received from the RRT; any 'adverse' events arising from that care; and the acceptability of the service to patients, carers, and health and social care professionals. The chosen design reflects current guidance from the Medical Research Council [16]: given that service innovations require time to develop and stabilise, the role of evaluation during this initial phase is to guide their development, to highlight factors which are impeding their implementation, and to assess their initial performance against objectives.

Data and data sources

To monitor patient characteristics (e.g. age, diagnosis), process of care (e.g. duration of care), care received (e.g. dressing of wounds, receiving household support), and 'adverse' events (e.g. acute

Table 1. Patient referrals, and patient pathways, to RRT care (March through October)

Variable	Value
Number of referrals	326
Number (%) accepted for RRT care	231 (70.9%)
Days of patient acute stay before referral: mean (range) ¹	8.6 (0–94)
Demographic characteristics of accepted patients: Age, mean (range) ² ; Ratio male:female ² ; Ratio lived alone: lived with carer ³ .	75.9 (29.1–96.9) 40:60 61:39
Primary clinical diagnosis of accepted patients ⁴ : Respiratory conditions, n (%); Heart/stroke, n (%); Falls/other injuries, n (%);	34 (19.0%) 29 (16.2%) 24 (13.4%)
Disorders of the digestive system, n (%); Musculoskeletal/connective tissue disorders, n (%); Other diagnoses, n (%).	18 (10.1%) 16 (8.9%) 58 (32.4%)
Care needs of accepted patients ⁴ : Medical needs only ⁵ , n (%); Social needs only ⁶ , n (%); Medical and social needs, n (%).	23 (12.8%) 54 (30.2%) 102 (57.0%)
For accepted patients, days between assessment and transfer home for RRT care, mean (range) ⁷	1.4 (0–12)

¹n = 199, ²n = 223, ³n = 202, ⁴n = 179, ⁵Medical needs included, administering medication, observations, cannula management, oxygen therapy, blood profiles, catheter/wound care, early provision of equipment, investigations, and night support, ⁶Social needs included social support, ⁷n = 157.

re-admissions, emergency phone calls to GPs), data were prospectively extracted from patient case notes for all referrals to the RRT during the first 8 months of its implementation. In addition, self administered questionnaires were prospectively distributed to 100 consecutive patients and carers to obtain their assessments of the RRT service in terms of, for example, the information that they received about RRT care and any anxieties that they felt about the care option (see [Table 4](#) for the full list of items covered).

These questionnaires, and a self-addressed envelope for their return, were given to users by members of the RRT when they were discharged from team care. The questionnaires were designed in association with representatives of the local patients' association and were based on instruments used in other studies, which had assessed patient and carer satisfaction with services for older people [17].

The nature of the study (an evaluation of the initial implementation of a service innovation) was the main factor, which determined the duration and sample sizes for the above aspects of the study. These were also influenced by the resources available to support the evaluation and the requirements of stakeholders who required timely feedback on the characteristics and implications of the new service.

During the latter phases of the evaluation, the results of the quantitative aspects of the study were discussed in a series of workshops with members of the RRT and health and social care professionals who might refer patients to the team (e.g. hospital clinicians), support team care (e.g. GPs), or be responsible for the follow-on care of patients (e.g. district nurses). The themes raised by the questionnaire survey were also explored in semi-structured interviews with a purposeful sub-sample of 7 patients and 7 carers.

In addition, during the latter phases of the evaluation, a recognised screening tool, the modified Appropriateness Evaluation Protocol (AEP) [18, 19], was used to undertake an audit to identify the extent to which there was 'avoidable' use of beds within the main acute hospital. The audit, conducted over a 2-day period, screened the care provided for patients located in a random sample of beds within the hospital's adult acute and elderly care wards. This audit allowed an assessment of any under-referral to the RRT service and hence the extent to which its potential impacts on acute bed use might be increased.

Analysis

Data were analysed using computer packages including Microsoft Excel and the Statistical Package for the

Table 2. RRT care provided

Variable	Value
Number of RRT visits to a patient's home, mean (range) ^{1,2}	11.0 (1–55)
Tasks undertaken per patient, mean (range) ^{1,3} :	
Overall;	16.1 (1–88)
Health care tasks ⁴ ;	8.6 (0–41)
Social care tasks ⁴ .	7.5 (0–47)
Duration of patient care in days, mean (range) ⁴	5.6 (0–37)
Discharge destination ⁶ :	
Remained at home, n (%);	109 (88.6%)
Re-admitted to acute care, n (%);	7 (5.7%)
Admitted to another institution (e.g. care home), n (%);	5 (4.1%)
Died, n (%).	2 (1.6%)
Care professional(s) responsible for follow-on care ⁷ :	
GP, n (%);	109 (59.9%)
District nurse, n (%);	123 (67.6%)
Social worker, n (%);	31 (17.0%)
Occupational therapist, n (%);	5 (2.7%)
Physiotherapist, n (%);	2 (1.1%)
At least one of the above disciplines, n (%);	157 (86.3%)
Patient not referred to any of the above disciplines, n (%).	25 (13.7%)

¹n = 128, ²A visit was defined as one or more members of the RRT attending the patient at home at the same time, ³A task represents a discrete activity undertaken on behalf of a patient. The same activity being performed during two separate visits would represent two tasks undertaken for the patient, ⁴Tasks undertaken by team members were sub-divided into either 'health' or social care activities. Health activities included: health check/advice, administering/monitoring medication, wound dressing, assessment, intravenous medication, and arranging support from other health and social care professionals. Social care activities included: personal support, household support, out of house help, and checking that patients can manage their social needs, ⁵n = 212, ⁶n = 123, ⁷n = 182.

Social Sciences. Descriptive statistical procedures used for category and interval data included frequency distributions and two-way cross tabulations, and inferential statistical tests were performed to explore associations between variables.

Results

The denominators used for the analysis of findings are noted at the foot of each Table of results. These varied, as complete data were not available for all patients. The extent to which the removal of patients with missing data might have biased the results is discussed later. The overall response rate for the return of patient and carer questionnaires was 59% and 44%, respectively.

Table 1 provides details of patients referred to, and treated by, the RRT service during its initial 8 months of operation. In total, 95 (29.1%) referrals were not accepted by the team either because patients preferred to remain in hospital and refused RRT care (28 (8.6%)), or because they did not meet the eligibility criteria for RRT care (67 (20.5%)). A variety of factors caused patients to be ineligible for RRT care with the main ones being: the patient had adequate home support without RRT inputs; or, they lived outside the geographical area served by the RRT. The monthly

rate of inappropriate referrals remained fairly constant throughout the period of the study.

For those patients accepted for RRT care, there was variation in the time between patient admission to acute care and their referral to the RRT service. Fifty-one (25.6%) patients were referred to the service after an acute stay of 1 day or less, 74 (37.2%) after an acute stay of 8 days or more, and 42 (21.1%) after an acute stay of 14 days or more. Patients with only medical needs tended to be referred earlier than those with medical and social needs or social needs only: mean time to referral, 5.2 days, 8.4 days, and 9.4 days, respectively. Differences in time to referral for patients with medical needs only and social needs only were approaching statistical significance ($p = 0.073$).

Patients accepted for RRT care were elderly and the majority had both medical and social care needs at the time of referral. Most referrals could also be grouped into 5 broad diagnostic categories. Having been accepted for RRT care, the majority (74.2%) were transferred for care at home within 1 day of their assessment.

Table 2 provides details of how often patients were visited by a member of the team. To understand the types of care that patients received during these visits, the various tasks undertaken by team members were

Table 3. RRT care provided for main diagnostic sub-groups

Variable	Respiratory diseases (n = 26)	Heart and stroke (n = 18)	Falls and other injuries (n = 15)
Duration of patient care in days, mean (range)	5.8 (1–37)	5.8 (1–16)	5.9 (0–20)
Percentage of patients with duration of care 4 days or less	50.0%	27.8%	33.3%
Number of RRT visits to a patient's home, mean (range)	10.1 (2–22)	11.3 (2–55)	11.7 (1–37)
Tasks undertaken per patient, mean (range) :			
Overall;	13.8 (2–38)	13.0 (2–88)	13.9 (1–53)
Health care tasks;	8.0 (1–22)	8.2 (2–41)	6.7 (1–29)
Social care tasks.	5.8 (0–18)	4.8 (0–47)	7.3 (0–24)

noted and disaggregated into either 'health' care activities or social care activities (see the foot of [Table 2](#) for a list of the activities falling into these classifications). An analysis of the distribution of these activities revealed that the majority of patients received treatment for both medical and social care needs. The main 'health' care activities undertaken by the RRT for patients related to health checks or advice (38.2% of total 'health' care activities received) which included tasks such as, checking blood pressure, pulse, or peak flow, or taking blood. The main social care activity undertaken related to personal support (28.3% of total social care activities received) which included help with, washing, shaving, getting in to and out of bed, feeding, and household mobility.

The initial target was that the duration of care from the RRT should be less than 1 week. This target was achieved for 70.8% (150) of patients, with 97.2% (206) of patients requiring up to 2 weeks of care from the RRT. In contrast, 10.8% (23) of patients received care from the team for 1 day or less.

Patients with medical needs only tended to have a shorter mean duration of stay with the RRT than those with social needs only or both medical and social needs (mean duration of stay, 3.8 days, 5.3 days, and 6.1 days, respectively). Differences in the mean stay of patients with medical needs only and those with social needs only were approaching statistical significance ($p=0.075$), as were those between patients with medical needs only and those with both medical and social needs ($p=0.079$). No correlation was found between patient age and their duration of care with the RRT.

As intended, the majority of patients remained at home following discharge from RRT care. Both patients who died during RRT care had requested end of life care

from the team: one had Chronic Obstructive Pulmonary Disease and the other was terminally ill with cancer.

The RRT did not report any major delays in the transfer of care to other professionals. Data were available for 118 patients: 108 (91.5%) patients were transferred on the same day that the RRT thought that they were ready for discharge.

The results in [Table 3](#). focus on the three main diagnostic classifications of patients referred to the team. Differences between patient groups exist in the percentage of patients discharged from RRT care after 4 days or less and in the balance of care activities provided by the team.

As in the total patient cohort, health checks or advice accounted for by far the greatest percentage of health/social worker activities in each of the three groups. However, these percentages varied being 37.0% in the respiratory diseases group, 46.9% in the heart and stroke group, and 39.0% in the falls and other injuries group. Personal support accounted for the greatest percentage of social care activities in the respiratory diseases and heart and stroke groups: 30.3% and 36.8%, respectively. In the falls and other injuries group the distribution of activities was more mixed with the percentages of overall activities linked to checking that the patient could manage their social needs, household support (cooking, cleaning etc.), and personal support being 24.8%, 22.0%, and 22.0%, respectively. These preliminary results indicate that a change in the casemix of referrals to the RRT would mainly alter the types rather than the overall quantities of care activities undertaken.

In general, both patients and carers had positive attitudes towards the RRT service ([Table 4](#).). However, some concerns were raised surrounding the

Table 4. Patient and carer assessments for RRT care

Question posed	Patient response n (%)	Carer response n (%)
Were you given enough information about the RRT service?: Yes; Mostly; No.	50 (84.7%) 6 (10.2%) 3 (5.1%)	32 (72.7%) 7 (15.9%) 5 (11.4%)
Was information about the RRT confusing?: No; Yes, some; Yes, all.	50 (84.7%) 7 (11.9%) 2 (3.4%)	34 (77.3%) 9 (20.4%) 1 (2.3%)
Were you able to ask questions about the RRT service?: Yes; No.	55 (93.2%) 4 (6.8%)	38 (88.3%) 5 (11.6%)
Did you feel that you had a choice about whether to receive RRT care?: Yes; No.	44 (75.9%) 14 (24.1%)	33 (75.0%) 11 (25.0%)
Did you know what to do in an emergency?: Yes; No.	52 (89.7%) 6 (10.3%)	35 (79.5%) 9 (20.5%)
Did you feel anxious/worried about (the patient) receiving RRT care at home?: No: Yes, a little; Yes, a lot.	46 (79.3%) 11 (19.0%) 1 (1.7%)	35 (79.5%) 7 (15.9%) 2 (4.6%)
Did you feel helpless while being looked after by the RRT at home?: No; Yes, a little; Yes, a lot.	46 (78.0%) 12 (20.3%) 1 (1.7%)	NA NA NA
Did you feel isolated while being looked after by the RRT at home?: No; Yes, a little; Yes, a lot.	46 (78.0%) 11 (18.6%) 2 (3.4%)	NA NA NA
Did the team identify themselves clearly when visiting?: Yes, always; Yes, usually; No.	46 (78.0%) 11 (18.6%) 2 (3.4%)	NA NA NA
Did the team do everything that they could to make you (the patient) better?: Yes; No.	55 (94.8%) 3 (5.2%)	41 (95.3%) 2 (4.7%)
Did you feel that you were (the patient was) treated with kindness and respect?: Yes, always; Sometimes; No.	56 (94.9%) 3 (5.1%) 0 (0.0%)	40 (93.0%) 3 (7.0%) 0 (0.0%)
Were you satisfied overall with the care that the RRT gave you (the patient)?: Very satisfied; Fairly satisfied; Fairly dissatisfied; Very dissatisfied.	49 (83.1%) 7 (11.9%) 2 (3.4%) 1 (1.7%)	38 (86.4%) 4 (9.1%) 1 (2.3%) 1 (2.3%)
Would it have been less stressful for you if the patient had stayed in hospital?: No; Yes, a little;	NA NA	28 (65.1%) 10 (23.3%)

Table 4. (Continued)

Question posed	Patient response n (%)	Carer response n (%)
Yes, a lot.	NA	5 (11.6%)
Were the patient's needs met at home, n (%): Yes; Mostly; No.	NA NA NA	31 (70.5%) 11 (25.0%) 2 (4.5%)

NA: Not asked.

ability of users to influence the choice of care option, the quality of information provided about the RRT service, and the additional stress imposed on carers.

Feedback received from interviews with a sub-sample of patients and carers further demonstrated that patients and carers had, in general, positive attitudes towards the RRT service. They suggested that information about the RRT service should be given to them earlier during the patient's acute stay in order to increase their ability to make an informed choice about whether or not to accept this care option if it was subsequently offered. Carers also confirmed that home care by the RRT was more stressful for them than continued hospital care but, in spite of this, they still expressed a preference for RRT care as it allowed the patient to return to their home environment more quickly.

Discussion

Within the UK, the implementation of the NHS Plan will see a rapid expansion in services for intermediate care [1]. Such services aim to prevent the acute admission of some patients and to facilitate the acute discharge of others. However, although previous research has established the rationale for the expansion of intermediate care [6], more research is needed to clarify whether or not intermediate care schemes offer an effective, acceptable, and efficient alternative to acute care [7, 8]. This paper contributes to this debate by presenting the results of a study which evaluated the introduction of a new home based alternative to acute care during its 1 year of operation.

All of the results are affected, to a varying degree, by the fact that it was not possible to collect complete data for all relevant patients and carers. The main source of quantitative data for the study was patient case notes. These were designed jointly with the managers of the RRT service in order that they should act as an aid to patient care and a resource for the study. This strategy meant that the RRT did not have to devote time to collecting duplicate data and it limited

the time that they devoted to collecting any additional 'evaluation specific' data. Unfortunately, patient case notes are 'traditionally' of variable quality and this was the case in this study. However, following workshop discussions with the RRT and other health and social care professionals within the setting for the study, the research team does not believe that the findings of the study are affected by any systematic biases in the collection of data.

The demographic and diagnostic characteristics of the patients treated by the RRT service were similar to those observed in other evaluations of intermediate care schemes [20, 21]. These results also demonstrated that the patients receiving care from the team had needs for both health and social care. This was contrary to the pre-existing perceptions of some local health care professionals who thought that patients referred to the new RRT service would mainly have social care needs: in practice, good access to nursing and clinical skills is crucial. Social care professionals were also concerned that referrals from the team would generate a big increase in demands for home care services. Again, these concerns did not materialise and there were no major delays in patient transfers from RRT care.

Interestingly, an analysis of referrals within the three main diagnostic categories seen by the team did not reveal major variations between groups in either the duration of care or in the overall number of tasks undertaken for patients (only variations in the types of task undertaken were noted). Such similarity between groups may reflect the fact that the referral criteria for the team were linked to a patient's care needs regardless of their diagnosis. It should also be noted that the supply of intermediate care is time limited and, as such, it represents only part of a patient's overall episode of care: i.e. the findings presented do not capture any differences that may have existed in a patient's utilisation of health and social care either prior to, or following, the time when they received care from the RRT.

The primary aim of the RRT service was to release hospital beds by facilitating, and avoiding delays in,

patient discharge from acute care. RRT care itself was not affected by any major delays: the vast majority of accepted referrals were assessed promptly, quickly transferred to their home environment, and rapidly discharged to other care providers when RRT care was complete. However, did the service offered by the RRT reduce patient utilisation of acute beds?

The descriptive design of the study means that it is not possible to reach a definitive conclusion about this issue: only evidence based on professional opinion can be offered. As part of data collection for each referral, the RRT were asked to respond to the question, 'If the RRT facility was not available, what would have happened to this patient?'. In the opinion of the team, 92.9% of referrals would have remained in acute care. During feedback sessions, local clinicians also thought that users of the RRT service were receiving care that would have previously been delivered in the acute setting.

Such opinions are in keeping with the findings of other evaluations, which have used experimental designs. These indicate that discharge facilitation schemes can reduce patient demands for acute beds [7, 8]. In addition, an expansion of schemes for post-acute care was associated with a decline in acute hospital bed use in the US between 1994 and 1997 [14].

Regardless of its precise impact, or otherwise, on the utilisation of acute beds, local professionals thought that there was potential to improve the efficiency of this aspect of the service. In total, 25.6% of patients cared for by the RRT were referred to them after an acute stay of 1 day or less. Health care professionals argued that these results indicated that the RRT might have an increased role in preventing acute admissions. Given the high percentage of patients referred to the team after an acute stay of 8 days or more (37.2%), health care professionals also thought that there might be scope for the earlier referral of patients to the RRT service. In addition, the audit of acute days of care following the day of admission found that, out of a total of 98 days screened, 5.1% of patients did not meet the criteria for acute care included in the AEP and, in the opinion of the reviewers, were eligible for RRT care.

Again, given the design of the study, it is not possible to reach definitive conclusions about whether or not health outcomes were maintained under RRT care. However, the findings suggest that they were. In total, only 5.7% of RRT patients were re-admitted to acute care, a rate similar to that found in a national survey of acute re-admission rates amongst older people [22]. Two patients died during RRT care but both had chosen this service for their end of life care. Finally,

during feedback session, hospital and community clinicians did not raise any major concerns about the quality of RRT care. Again, trials of discharge facilitation schemes indicate that they are capable of maintaining health care outcomes [7, 23, 24].

The questionnaire survey of 100 consecutive patients and their carers generated response rates of 59% and 44%, respectively. Results indicated that they had positive attitudes towards the RRT service. No data on the characteristics of respondents were collected so it was not possible to judge whether or not their views were typical of the overall mix of service users. However, the subsequent interviews with a sub-sample of patients and carers did reinforce the messages of the larger survey. These sub-samples were selected purposively to ensure an equal representation of men and women and an adequate mix of ages and diagnoses.

The main concern that patients and carers expressed surrounded the extent to which they felt they had a choice about whether or not to use the RRT service. It is important that such concerns are adequately addressed: if not they can lead to major delays in the discharge of patients from acute care [22]. Patients and carers suggested that this problem might be tackled by giving them information about the RRT option at an earlier stage during their acute stay. The challenge for service providers will be to allow patients and carers time to digest this information but at the same time avoid delays in the assessment and acute discharge of RRT users. In addition, given the more general concerns surrounding patient access to acute care [25], the competing needs of other potential users of acute services will also need to be considered.

To summarise, the above discussion has offered reflections on both the results of the evaluation and the merits of the study design that was adopted. It is acknowledged that the chosen study design did have limitations. However, it was driven by the innovative nature of the RRT service and it reflected current MRC guidance [16]. It was also a response to the requirements of local health and social care professionals who wanted timely information to guide the development of the new service.

Conclusion

In the NHS of the UK there is currently an expansion of services for intermediate care in response to difficulties surrounding patient access to acute care and concerns about the 'avoidable' use of acute beds [1]. In the US, fiscal measures are also being used to

encourage an expansion of schemes for post-acute care [14, 15], whilst an increased use of such schemes appears relevant elsewhere in Europe given existing evidence about the 'avoidable' use of acute beds [9–11].

However, any shifts in the balance of care away from the acute hospital will inevitably raise concerns amongst service users and health and social care professionals. Hence, it is essential that evaluation is used as a tool to both guide the initial evaluation of schemes for intermediate or post-acute care and to assess their long term implications. The study described in this paper has focused on the former aspect of this research agenda.

The study demonstrates the role and value of using pragmatic research designs to evaluate intermediate care schemes during their initial stages of development. The information generated by such studies can be used to address the initial concerns of stakeholders and to identify the ways in which schemes

might need to be modified. However, the use of pragmatic research designs does mean that it is not possible to reach definitive conclusions about the impacts of schemes: only preliminary indications can be offered. In this study, the preliminary indication is that the Rapid Response Team service provided an acceptable alternative to an extended period of care in an acute setting.

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