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Research papers

Whole system approach: from pilot to practice

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ABSTRACT

Background The term 'whole system approach' (WSA) has entered common parlance to describe the analysis of interdependent elements of a complex system in order to deliver benefits to the whole system.

Aim In this study we investigated whether taking a whole system approach to care of the elderly could improve efficiency and patient care.

Methods Using a predefined protocol, a researcher identified and tracked all over-75s who entered the health/social care system during a 14-week period. A standardised questionnaire was used to determine the decisions made, who made the decisions, and views of the outcome from healthcare professionals, social care staff, patients and carers.

Results Twenty-nine patients (18 female, 11 male) were included in this study, with 42 care episodes being recorded. The 42 care episodes involved 51 separate decision processes and 66 staff. Overall 33/51 decisions had a social care component, but social services were only involved in 10 decisions. There was little evidence of joint agency working, particularly in initial assessment and decision making. In 75% of cases, undesired outcomes were thought to be preventable. In 50% of the care episodes, although a decision was taken, the decision maker did not have confidence that the outcome would be achieved. Patients and carers usually expressed general satisfaction with the services provided, although they showed little understanding of the relationship between health and social services and often felt a lack of involvement in the decision-making process.

Discussion In isolation, all the components of the health and social care system were operating with efficiency according to individual standards. However, from a patient, carer and healthcare professional perspective, efficiency across the whole system was not evident, with decisions resulting in increased use of hospital and residential homes when, with relatively small changes, it would have been possible to manage some of these people in the community.

Keywords: elderly, resource utilisation, social services, whole system approach

Introduction

In 1997, the government launched a new initiative for improving quality within the NHS, which included the establishment of new systems for clinical governance. The Health Act 1999 then created a statutory duty of quality for healthcare organisations and those who lead them.[1] One element of improving quality within the health service is to try to improve the whole system rather than each individual element. This concept of the 'whole system approach' (WSA) has recently entered the health and social services sectors and has been used to describe the analysis of interdependent elements of a complex system to establish whether specific interventions can deliver benefits to the whole system. In response to pressure on both the health and social services because of increased demand for limited resources, and to assist the waiting list initiative, £65 million was allocated for 'whole systems'. The money was targeted primarily to promote effective and efficient systems of care in order to allow the NHS to deliver on current waiting list targets. One particular area of pressure on the healthcare system comes from elderly patients, with difficulties both at the point of hospital admission as well as at discharge. This is compounded by the usual seasonal variation seen in the hospitalisation of elderly patients, with increased admissions during January and April, creating a 'bottle-neck' in the system.[2]

Over the last few years Surrey has experienced increased demand for health and social services, as well as delays in transfer of care of patients from hospital. All agencies involved have invested time and energy quantifying and managing these problems, although very little real data exist about the reasoning that led to decisions to admit people to residential, nursing or hospital care. However, there was a growing recognition by all parties of the need to work together in order to reduce the number of elderly people who were perceived to be unnecessarily admitted to, or remaining in, hospital or long-term care, since this was neither in the best interests of the patient nor the most cost-effective use of available resources.

A paper by the NHS Executive suggested that the first step in managing pressures on the system was to gain a clear insight into the decision-making processes, in particular at the interface between health and social services and between primary and secondary healthcare.[3] As such this pilot study was set up to look at the inter-relationships between a general practitioner (GP) practice, a social services community care team, the local hospital and the users of the services in order to try to define the processes involved and then to find ways of improving the effectiveness of the system.

Methods

The aim of this study was to apply the WSA in a predefined geographical area in order to identify and test out ways in which the whole care system might be changed in order to provide a better match between the health and social care needs of elderly people and the services available to meet these needs. In addition, the study was designed to develop an efficient and transferable data-gathering methodology, which could be more widely used to identify improvements to care systems for the elderly.

The project team comprised representatives from a GP practice, a social services community care team, St Peter's Hospital, Chertsey, and Bournewood Community and Mental Health NHS Trust. A steering group was also set up which consisted of local health and social services staff, representatives from The King's Fund Community Care Programme, the Social Services Inspectorate, University of Kent and the NHS Executive. The role of this steering group was to audit and analyse the system of decision making and to provide input into the project team from a wider perspective, as well as act as experts on possible different outcomes.

A generalised 11-stage methodology was developed (see Box 1) and was used in this study in order to map the process. A part-time researcher was

Box 1 11-step methodology

Stage 1 Identify the current service matrix of health and social care
Stage 2 Decide on the entry points of relevance to the whole system
Stage 3 Decide on a sampling method
Stage 4 Track movement through the whole system
Stage 5 Identify the decision makers
Stage 6 Interview each decision maker using a semi-structured questionnaire
Stage 7 Interview users and carers
Stage 8 Code the responses and add to a suitable database for analysis
Stage 9 Use the steering group as an expert witness panel
Stage 10 Identify likely small changes with whole system benefits
Stage 11 Make the changes and evaluate the outcomes

employed to identify and track all over-75s who entered the health/social care system during a 14-week period between April and July 1997. Using a standardised questionnaire, the researcher asked all the personnel responsible for making decisions in each case about the course of events, and also obtained the views of patients and carers. The aim of the questionnaires was to establish what decisions were made, determine who made the decision, why the decision was made, define any constraints (e.g. information, money, people, time), and determine whether earlier or different interventions could have avoided the current situation.

Results

A total of 29 people over the age of 75 years were evaluated over the study period of 14 weeks, with a total of 42 episodes of care being recorded (29 initial episodes and 13 subsequent episodes). Eighteen patients were female and 11 were male. Sixteen patients lived on their own, ten were living with carers or in warden accommodation and three lived in residential care homes.

A total of 13 entry points to the healthcare system were identified (see Box 2). Overall 85% of episodes had their entry point through a healthcare decision, although most also had a social care component. There was little evidence of joint agency working, particularly in initial assessment and decision making, with only four episodes (9%) entering the system from cross-referrals between the health service and the social services department (SSD).

Prior to the research period, the majority of patients were receiving some sort of health or social care, with only 11 (26%) of the 29 patients receiving no care from either agency. Of the 18 who were receiving prior care, 52% received it from the health service only. A total of 20% of the initial care episodes observed in this study were precipitated by breakdown of a single carer on whom the elderly person was predominantly dependent. In most cases either the carer was ill or was unable to cope as the elderly person's health deteriorated. A total of 26 care episodes had a potential social care element but the SSD was only involved in ten cases.

The 42 care episodes recorded involved 51 separate decision processes and 66 staff. Overall 33 of the 51 decisions had a social care component, but SSD only contributed to 10 of the decisions. The decisions could be classed as five types: referral to another agency (26%), beginning a new assessment (22%), admittance to hospital (21%), changes to management of medication (19%), and initiation of a new medical treatment (12%). It was noted that the SSD was more inclined to begin assessment or refer elsewhere than to take immediate action, while the health agencies were more inclined to take immediate action rather than assess. Overall the decision makers judged that in 15 out of 20 events where limiting factors came into play there were preventable outcomes (75%).

Factors that tended to influence the decision were whether the service was appropriate to the need, whether it would reduce the risk, whether it met the patient's wishes, and whether it compensated for the lack of informal care. In 50% of the care episodes, although a decision was taken, the decision maker believed the outcome might not be achieved. This stemmed mainly from a lack of confidence in the whole system functioning efficiently and achieving its aims. In addition, there were 14 people (48%) who experienced outcomes that decision makers believed could have been preventable. Overall, decisions

Box 2 Entry points into the whole system

1 Referral from GP to social services
2 Referral from social services to GP
3 Referral from GP to community liaison or 'home from hospital' team
4 Referral from social services to community liaison or 'home from hospital' team
5 Referral from 'out of hours' GP emergency service which resulted in a change of care service
6 Referral from social services emergency duty team which resulted in a change of care service
7 Elderly people in contact with GP, where a decision was required on significant additional input to their healthcare package
8 Elderly people already receiving a complex care package, whose situation had deteriorated, requiring a review of their care plan
9 Attendance at the A&E department
10 Admission to hospital's acute or elderly care beds
11 At discharge from hospital, where there was a requirement for ongoing care
12 At discharge from the 'home from hospital' team, where there was a requirement for ongoing care
13 New referrals to social services

resulted in an increased use of hospital and residential homes when, with relatively small changes, it would have been possible to manage some of these patients in the community. Under pressure, at the point when decisions were required, agencies were unclear about each other's scope for action either in crises or prevention.

Patients and carers usually expressed general satisfaction with the services provided, although they showed little understanding of the relationship between health and social services. The common factors in their experience were: rarely being involved in the decision-making process with health staff; waiting for SSD to provide services; and uncertainty as to whether they would have to pay for the services provided.

When the actual outcome for patients within the system was compared to the 'ideal' system if a more collaborative approach was applied, it was determined that the flow of patients through the system led to substantially higher use of expensive health resources (particularly hospital beds and accident and emergency (A&E) sessions) than necessary. It was thought retrospectively that several patients could have been managed more efficiently with better use of community resources, particularly home care. Although a direct cost–benefit analysis was not undertaken in this study, all parties were convinced that both quantitative and qualitative improvements could be made in the system of care provided. Potential improvements centred on prevention, assessment, inter-agency collaboration and rehabilitation.

Discussion

In this study we observed that, in isolation, all the component parts of the health and social care system were operating with efficiency according to their individual set standards. However, from a patient, carer, social services and healthcare professional perspective, efficiency across the whole system was not evident. One of the main findings from our study related to the lack of involvement of SSD in the current system, both in the initial assessment of patients and in the decision-making process about subsequent care.

It was clear that all the professionals involved in the study made many of their decisions under pressure and felt restricted by a range of factors from achieving the best possible outcome. In 50% of cases the decision maker was unsure whether the outcome would be adequately achieved due to other confounding factors such as whether the patient or carer would comply (which they usually did) or whether other units or agencies would make the relevant contribution when required.

Once the patient entered the system there was a trend towards more complex care packages or hospital/residential admissions. Since 40% of the episodes that occurred in this study were deemed preventable it seems likely that at least some of these more costly types of care could have been avoided by earlier and cheaper interventions.

The findings from this study have been salutary for all parties concerned and it has highlighted opportunities for the health and social services to develop a more preventative focus to the provision of care services to the elderly. Many of the decisions made in this study were made in a crisis situation and therefore tended to be reactive rather than anticipatory, service-led rather than needs-led, and single agency rather than joint. As such the process was relatively ill-informed, with decision makers often not having a full picture of why a situation had developed or why it was deteriorating, and therefore not being able to respond in the best way. However, in focusing on the experience of the patient within the whole system rather than on each individual service the interdependency of all agencies is more apparent.

Immediate changes that have resulted from this pilot study are shown in Box 3 and have included the development of joint protocols and improved information sharing between all parties. The ambulance service has been provided with a register of 'vulnerable patients' and chemists have been funded to set up 'nomad' schemes to help with adherence to medication. District nurses have been provided with a catheter protocol to avoid unnecessary emergency hospital attendance and a single assessment process is currently being implemented. These initiatives have already been noted by the parties involved to be beneficial and have become integrated into the standard working practices of each department. Additional areas have also been identified that would significantly improve the services offered to this group of patients and it is hoped that these measures can be implemented in the near future (see Box 3). Finally, hypotheses about further improvements in patient care have been identified during this study and it is hoped that these can be tested through future research (see Box 3).

In conclusion, it was determined that the health and social care services are interdependent and constitute a major part of a single 'whole' system. The WSA can be targeted to achieve improved quality of life for the patients as well as economic gain for the health authority and social services. Patients, carers and staff were all deemed to benefit if the WSA works well. It is acknowledged that identifying cost efficiencies could act as a further incentive to 'whole

Box 3 Changes implemented as a result of this study and recommendations for the future

Immediate changes made

- Psycho-geriatric assessment protocol generated
- Improved information sharing between the primary healthcare team and the SSD by providing an 'attached' care manager
- Common assessment protocol for health and social care needs agreed
- Agreement reached on shared patient records and a database created
- Quicker provision of aids and equipment to patients and carers
- Primary healthcare team given access to emergency short-term care packages (respite or home care) funded by SSD
- Developing protocols to manage routine problems, e.g. catheter care

Future developments

- Improved discharge arrangements from hospital
- Improved flow of medical information from hospital to GPs
- Development of a joint register of older people with complex needs
- Establishment of regular cross-agency briefings on common issues
- Targeting the development of medication management systems
- Improving joint assessments at entry points to the system
- Better detection of depression in older people

Hypotheses for future testing

- Targeting support to people over 75 who are dependent on one carer will reduce healthcare episodes
- Creating a referral protocol on prevention between health and social care agencies will reduce healthcare episodes
- Targeting those with complex self-medication regimes will reduce healthcare episodes
- Making a homecare service available to the primary healthcare team will reduce hospital admissions and the use of the emergency departments
- Routine joint assessments of complex healthcare packages with a social care component will reduce healthcare episodes
- Older people are more likely to comply with healthcare packages if they are involved in the decision making
- Hospital throughput will be improved by the quicker provision of equipment to patients
- Providing training and information to patients, carers and staff of residential homes will reduce referrals to the primary healthcare team

system working' since there are likely to be significant quality and cost benefits gained by resolving flaws in the current system, and it is hoped this can be addressed by a new study in the future.

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