ALTERNATIVE PROPOSALS FOR SEVICE AGREEMENT IN MEDICAL OUTPATIENTS

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ABSTRACT

The development of service agreements within the NHS has been directed towards inpatient care, with outpatient contracting remaining largely underdeveloped. Yet, outpatient care is variable and often complex, perhaps involving a long series of hospital visits and including procedures or input from other health professionals. This research centres on the need to focus contracts on patients and the treatment profiles used in clinical management. The aim of this study is to develop alternative contract models, based on referral, casemix and patient management patterns. This study was carried out in the Respiratory Medicine (RM) department in The Royal Hospitals NHS Trust, London, UK. Casenotes of a random sample of 1000 respiratory outpatients were examined to extract personal, contractual, referral and patient management data, relevant to the most recent consultant episode. Preliminary analysis established the casemix of the sample and the main referral sources. Three contract models were proposed and analysis was carried out to determine the most appropriate of the these by evaluating each model against a predetermined set of criteria. Results show RM outpatients to have a varied casemix, including complex conditions, which can require long term care and high resource input. Managing such a complex patient base successfully, necessitates robust service planning, provision and resource allocation, which are facilitated through implementing casemix based service agreements.

Keywords: casemix, patient classification, outpatients, service agreements, contracting.

INTRODUCTION

The development of effective service agreements for outpatients should encompass the delivery of appropriate clinical care[1,2] by the identification of referral sources, casemix and clinical management patterns coupled with activity data and accurate financial details. A robust information flow between commissioning bodies and the provider institution is needed to support this process and to provide information for clinical audit[3]. New government guidelines for integrated care within the NHS emphasise the need for service agreements to be patient focused and be developed around groups of patients or disease areas. To this end, programmes of care are to be developed as the centre piece of new service agreements between commissioner and provider[4].

NHS funding arrangements are annual, split into inpatient, daycase and outpatient groups and priced on a Finished Consultant Episode (FCE) basis. For example a patient being cared for in the outpatient department (OPD), who is then referred to inpatient care and subsequently back to outpatient care has had three FCEs and each of these phases of care will be charged for separately. In the majority of NHS Trusts, the current outpatient contracting system is attendance based, whereby the referring body pays a standard fee for an outpatient episode. This is based on costs for the average number of re-attendances and does not change regardless of the simplicity or complexity of each case. This results in the provider expending extra resources on more complex cases, or the commissioner being overcharged for the treatment of more straightforward patients. Furthermore there are no measures to facilitate clinical governance in the design of the service provided.

Identification of the patient and hence the resource needs of outpatient services would enable the development of "effective service agreements" which would allow resources to be used in clinically - and cost - effective manner. Therefore, new agreements should incorporate guidelines for clinical management and systems for ensuring best practice and should facilitate the improvement of the quality of services delivered to the patient.

This study is based on the need to develop service planning and provision to a level where the service agreement mirrors the clinical activity found within a particular speciality. The data required to support such developments are; firstly, referral data to identify the major consumers of simple, complex and specialist care; secondly, casemix patterns for use in identifying the main groups of conditions within a particular speciality, and thirdly, clinical management patterns to map the type of care a patient with a particular condition receives.

METHODS

In order to enable comparison between current agreement methods and any new model, the most current outpatient FCE was used as a basis for calculating resource use. With this in mind a data collection proforma was created to capture data in the following areas:

1. Patient details, comprising casenote number, age and ethnicity to identify sociological factors.
2. Contract details, including referral source, commissioner, service agreement type and currency to establish the main types of commissioner and current costs for future comparison.
3. Appointment details to establish the length of the FCE.
4. Patient care, consisting of referral reason, condition, investigation and clinical treatment to establish casemix and treatment profiles. This data enables care pathway identification and costing.

Only those investigations done in the outpatient department (OPD) in the most current FCE were noted. This gives an accurate cost for outpatient resource use but does not reflect total patient care as more complex care may include many FCEs across the inpatient, daycase and outpatient boundaries. Furthermore, in many cases diagnostic investigations had been performed outside the Trust, prior to referral, so these features of an individual patient's case are not reflected in the clinical data described here. Data was collected from the casenotes of a random sample of 1000 patients currently attending RM outpatient clinics. The Trust's information systems were used to provide contract details and to validate referral and ethnicity data. Analysis of the data to determine casemix, referral sources and to evaluate alternative contracting methods was carried out using SPSS for Windows version 7.

RESULTS

Sample characteristics.

- The majority of referrals were from GPs (60%) with the second largest group (13%), being ward discharges.
- The casemix of respiratory outpatients was Chronic Obstructive Airways Disease (COAD ; 29%), asthma (24%), heart conditions (10%), tuberculosis (TB ; 8%), bronchiectasis (8%) and lung cancer (5%).
- Conditions falling outside the main groupings were very varied, ranging from cystic fibrosis to sleep apnoea. 26% of patients were recorded with more than one respiratory condition.
- The first stage in patient management was diagnostic or confirmatory investigations. 39% of patients had had previous tests done by their referring body, but many of these were repeated in the outpatient clinic. Whilst under the care of outpatients, the majority (over 50% in all cases) had at least one chest x-ray, lung function test and blood test and a significant number had cardiovascular investigations (ECG 20%, echocardiogram 4%). Many of these tests were repeated several times for monitoring purposes. The use of specialised testing such as CT scanning (22%) was also noted.
- Treatment of patients was largely through drug therapy and clinical monitoring (77%). At the time of referral, 94% of patients had either a preliminary or a definite diagnosis, inferring that the outpatient department is managing the more complex or unusual variations of the conditions described above. This is supported by referral reason data which show that GPs most often seek advice, expert opinion or management assistance for the patient.
- 66% of patients had more than five follow-up visits, the number being related to the type of condition and date of referral. Those who were more seriously ill returned more times than the simpler cases.

This preliminary analysis implies firstly that the outpatient department provides various patterns of care and secondly consumes more resources than is allowed for under the current average based contracting system. The Royal Hospitals Trust uses an average of three outpatient follow-up visits as part of its pricing strategy, but this study shows that the majority of patients in this speciality attend more than five times. It is clear that the main conditions often require long term treatment, including numerous and varied investigations and monitoring and as such have substantial resource implications. These results validate the case for investigating alternative forms of contracting which can better facilitate the cost-effective delivery of patient centred care.

Service agreement models.

A number of service agreement types were hypothesised and analysis of clinical data carried out to evaluate the suitability of each model.

1. Differential service provision on a diagnosed / undiagnosed basis. This concept is based on the assumption that a patient who is diagnosed prior to referral will use fewer clinical resources. Comparison of the care of the diagnosed and undiagnosed groups shows approximately the same number of investigations (Table 1 - due to the large range of investigations carried out in RM only the most common are noted in the table). The exceptions are lung function tests and blood gases whose use increases among diagnosed patients

and the greater number of requests for ECGs in undiagnosed patients. The potential for differential pricing based on the assumption that outpatient departments will not repeat tests done by GPs was also examined. One third of the patients (35%) had undergone preliminary investigations by their GP and where the GP did investigate, it was limited to blood tests and X-rays. Often investigations carried out by GPs were repeated in the outpatient department. Clinical management for diagnosed and undiagnosed groups is obviously different (Table 1). The majority of the diagnosed group have drug therapy and monitoring as their treatment (82%), whereas the majority of those whose diagnosis is ongoing (71%), are monitored until diagnosis is made. Re-attendance figures also differ within the two groups (Table 1).

2. Casemix based service agreements. This model is based on the concept that investigation, treatment and management will depend upon the patient's condition. The package of care administered to patients suffering from each of the most common conditions in RM outpatients was noted, together with those groups who are suffering from multiple conditions and those who fall outside of the previously mentioned categories.

Table 1: Diagnosed / Undiagnosed Groups' Attendance, Investigation and Clinical Management Figures (percent).

		Diagnosis	No diagnosis
Attendance	**2 - 5**	31	81
	6 - 10	18	9
	11 - 15	12	4
	16 - 20	21	6
	21+	19	0
Investigations	**blood test**	58	55
	x-ray	78	73
	lung function	68	30
	blood gases	42	29
	CT scan	22	26
	ECG	21	32
Management	**drug therapy**	82	39
	monitoring	12	71

Apparent irregularities in the treatment profiles are due to referral reasons or the use of the most current FCE as a measurement base. For example only 33% of patients with bronchial carcinoma are recorded as having bronchoscopies, but these data refer only to their current outpatient FCE. All of these patients have been bronchoscoped at least once either by the referring physician or within a different consultant episode.

The most common investigations across all casemix groups are blood gases, other blood tests, chest X-rays and lung function tests. The investigation rates vary among the different conditions (Table 2- due to the large range of investigations carried out in RM only the most common are noted in the table). Some variations are significant in resource terms, e.g. the increased use of CT scanning in bronchiectasis and lung cancer patients, the decreased use of blood gas testing in TB patients and the decreased use of lung function tests for TB and lung cancer patients. Approximately 25% of patients in all groups had erythrocyte sedimentation rate (ESR), urea and electrolytes and sputum culture performed during this FCE. Other significant findings were the increased search for acid fast bacilli (28% versus 8% in other groups) and liver function tests (29% versus 9%) in patients with TB, where these tests are diagnostic. Bronchoscopies were used in patients with bronchial carcinoma and during the investigation of those subsequently found to have heart disease (32% and 14% respectively). There was an increased rate of CT scanning in patients with lung cancer and bronchiectasis (49% and 47% respectively compared to the average of 25%) and increased use of ECGs in patients with heart disease (36% compared to an average of 16%).

Table 2: Casemix Groups' Attendance, Investigation and Clinical Management Figures (percent)

		COAD	Asthma	Heart	TB	Bron.	L.C.	Mul.
Attendance	**2 -5**	20	26	31	42	27	42	23
	6 - 10	17	14	18	24	12	25	18
	11 - 15	15	8	14	11	10	22	13
	16 - 20	27	22	12	19	19	11	22
	21+	21	30	24	5	32	0	24
Investigations.	**B. gas**	53	37	37	26	54	40	43
	B. test	55	55	63	63	63	65	54
	CXR	85	80	75	86	85	90	82
	CT	21	14	23	22	47	49	29

	LFT	85	88	53	44	77	35	68
Mgt.	**DT&M**	84	91	75	97	80	51	76
	Monitor	9	6	15	3	12	52	17

The main type of outpatient treatment was drug therapy and monitoring with the exception of therapy for lung cancer (Table 2). The diagnostic categories of COAD, heart disease, and multiple respiratory conditions also contained a number of patients receiving home oxygen therapy (9%). Outpatient physiotherapy was used most frequently for bronchiectasis patients (20% compared to an average of 6%).

Re-attendance varies according to condition (Table 2). The majority of patients in the main casemix groups attend more than five times. The majority of patients with bronchial carcinoma also attend more than five times but due to the nature of the condition, repeat attendances become progressively fewer with time (58%). Looking at conditions other than those in the main casemix groups, it is clear that the majority of patients have attended between two and five times. Within this group 35 % are still in the diagnostic phase of management and a number are recent referrals.

3. Average based service agreements. This is similar to the system in current use, in which the purchaser pays for an average episode. Currently outpatient funding agreements are costed on the basis that the patient will have an 'average' consultation and return to outpatients an average of three times. The data show that over 60 % of these patients return to outpatients more than five times. The average, according to these data, is between six and ten follow-up appointments. The data also show that many patients have blood tests (58%), blood gases (40%), full blood count (25%), a chest x-ray (77%) and lung function tests (64%), with a significant number having an ECG (21%), ESR (26%) and a CT scan (22%). By far the most common treatment is drug therapy and monitoring (77%).

DISCUSSION

Analysis of the sample characteristics shows that in the RM outpatient department, physicians provide both specialist care and assistance with more complex cases being managed in the community. The complexity of outpatient practice is not reflected in the average based service agreement system. Changing the substance of service agreements so that they account for the realities of the outpatient environment would provide scope for identifying ways to improve methods for delivery of care. These data also have considerable financial implications in that outpatient activities constitute a greater resource use than is actually allowed for

under the present system. Our work shows that it is virtually certain that current contracting for respiratory medical outpatients within this Trust does not cover the care being administered. Each of the above models were evaluated against the following set of criteria derived from government good practice guidelines and discussion with clinicians and managers.

1. Quality Care Programs (QCP). A contract should be based upon clinical management data and facilitate the delivery of a program of quality care.

2. Resource Management (RM). A contract should provide information which can give a greater understanding of activity undertaken and thereby aid decision making in how best to use the resources available.

3. Costs. In an environment where health care rationing is a reality it is important that care is delivered in a cost - effective and - efficient manner. Commissioners should also be paying the right charge for the healthcare their patients receive.

In measuring Option One against the contract evaluation criteria, we suggest that this model would be based to some extent upon a clinical care pathway. This would not be extensive in that only the diagnostic phase of care would be covered. Such a contract model would provide a greater insight into resource management but again only in the diagnostic phase of care. A first look at the clinical data analysis suggests that diagnosed patients are a greater drain on resources than those with no diagnosis, as they attend for longer periods of time and have more investigations performed (Table 1). However, the undiagnosed group are recent referrals who will go on to have a diagnosis and may receive the same care as the currently diagnosed group. Thus, in the long term, a previously undiagnosed patient who is diagnosed at the hospital and remains under outpatient care may incur more costs than a pre-diagnosed patient. Such findings indicate that this type of model goes part of the way to fulfilling the assessment criteria and so there may be a case for implementing this model as a type of "link" service agreement, whereby undiagnosed patients are channelled through a diagnostic service and then either discharged back to the GP or on to a further "disease management contract" once diagnosis has been made.

Analysis of care by casemix shows that patterns of clinical management vary according to the patient's condition. The baseline data presented here suggest that a patient referred with a certain condition will generally follow a set care and management pathway. Therefore, criteria 1 and 2 are fulfilled as a contracting by casemix is based upon clinical governance and information generated provides a valuable insight into outpatient activity and can help decision making in resource management. This type of information could be used to enable the purchaser and provider to expend and recoup more exact costs.

The current system could be re-costed and left in place(option three). However, this would not address any of the problematic issues incorporated in the current system, i.e. outpatient contracts are not patient but financial in focus, no account is taken of

the variety of outpatient practice leaving the simpler cases overcharged and the complex cases under-funded, poor information. If service planning and provision are to move towards a point where they mirror the care received and can be used to encourage optimal patient care, then the use of average based service agreements should be minimised.

CONCLUSIONS

This analysis suggests that casemix based service agreements provide the best avenue for the development of outpatient service planning and provision. There is some evidence to suggest that model one could be implemented in the initial phases of patient care but would not be sufficient to support the necessary improvements in outpatient contracting. Casemix contracting necessitates patient care to be central to the contracting process, provides more useful information which can be channelled into resource management and also facilitates the re-distribution of costs so commissioners and providers are expending and recouping exact costs. Beyond fulfilling the immediate assessment criteria, casemix contracting provides possibilities for joint clinical management service agreements in some cases such that the patient is managed by the hospital and in primary care. Casemix is also a fundamental first step towards assessing and providing fully for the patients' needs both in the short and long term.

In the financial year 1998 - 1999 we will test our casemix breakdown, treatment profiles and economic evaluation results by running a shadow casemix based service agreement. Collection of further data in a prospective manner will enable modification of new service agreement proposals.

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