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The Administrative Costs of Payment by Results

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The administrative costs of payment by results

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Glossary

A&E	Accident & Emergency
FCE	Finished Consultant Episode
FT	Foundation Trust
HRG	Healthcare Resource Group
NIE	New Institutional Economics
NWCS	NHS Wide Clearing Service
PAS	Patient Administration System
PBC	Practice Based Commissioning
PbR	Payment by Results
PCT	Primary Care Trust
SLA	Service Level Agreement
SUS	Secondary Uses Service
TTO	To Take Out forms

Executive Summary

This report was commissioned by the Department of Health to look into more detail into the administrative costs of Payment by Results (PbR). Costs were estimated to have increased by around £100k-£180k in hospital trusts and from £90k to £190k in Primary Care Trusts. Most of the additional expenditure is due to recruitment of additional staff.

We use an established economic framework to provide an analytical structure to understand how administrative – or transactions - costs have been affected by the change in contracting arrangements following the introduction of PbR.

The move to PbR is expected to have reduced the costs associated with price negotiation but increased the effort required to manage activity and the costs of collecting and verifying the more highly specified (patient-level) data upon which PbR is founded.

Moreover, the introduction of PbR in England is likely to have increased administrative costs by a greater amount than that experienced in other countries, because of England's relatively low costs of general management and administration and less sophisticated clinical coding and costing systems.

We undertook interviews in three hospital Trusts and three Primary Care Trusts in London and South Yorkshire in order to gain greater understanding of the impact of PbR on administrative costs.

The six organisations incurred additional costs of between £90k-£190k. Most of the additional expenditure is due to the recruitment of additional staff. As such, the cost increase is unlikely to prove temporary.

Some organisations have also invested in improved information systems, but whether this should be attributed solely to PbR is questionable. Organisations are required to make ongoing investments in information technology, though PbR may have provided greater impetus for such investment.

The main types of activity that account for increased administrative costs are:

- higher costs of *negotiation*. While there are lower costs in negotiating prices and volumes, this is offset by difficulties PCTs have in managing activity levels, because Trusts no longer have to get approval to expand their activity, thus making it more difficult for PCTs to live within their budgets.

- higher costs of *data collection*, due to PbR's requirement for accurate patient-level data. Some of these costs are down to IT investment, but many are driven by organisations taking on staff to ensure better extraction of data directly from case notes rather than summary forms.

- higher *monitoring* costs, because the financial consequences of changes in activity are more significant and because PCTs need to verify that the type of activity – particularly the HRG allocation – is accurate.

- higher *enforcement* costs, with the sharper relationship between activity and income / expenditure giving rise to more disputes between Trusts and PCTs

Interviewees were unanimous that the higher administrative costs of PbR were justified by the benefits of this form of contracting arrangement, including greater clarity of payment rules and sharper incentives.

PbR had also enhanced the amount and accuracy of patient-level data. There were reports of this leading to greater data analysis and, consequently, improved decision making. Examples include shifts in the locus of provision and investments in care processes. It will be important to demonstrate the benefits of PbR more formally in future.

Based on our study, we make the following recommendations:

Centralise more data cleaning
Some of the data cleaning, such as stripping out of duplicate HES records, might be undertaken centrally.

Hospitals should improve their internal costing
Much of the effort to date within trusts has been directed at improving clinical coding. We found less evidence that there had been as much emphasis on improving internal costing processes. In other countries that have PbR-type arrangements hospitals have better patient-level costing systems than are in place in England. Such systems provide more information about resource use and the areas of activity that are likely to be profitable. Failure to understand costs may lead hospitals to expand activity in unprofitable areas, which will undermine their financial position.

English trusts need both to invest in costing systems and also to make better use of resource data that they might already collect on a routine basis. For example, many hospitals record information in PAS about such things as diagnostic tests or theatre time, but this information is not always extracted by finance departments to inform their internal costings. For this to happen, trusts needs to forge closer integration between information and finance departments.

The DoH needs to be more prescriptive in its requirements. There is currently too much scope for trusts to interpret activity and costing requirements differently, which then impacts on consistency and on the overall usefulness of reference costs as a means for deriving tariffs.

Correct the imbalance of power between purchasers and providers
A number of interviewees – both in Trusts and PCTs – felt that PbR was currently weighted in favour of Trusts, a situation that may have been exacerbated by the form in which legally binding contracts had been introduced, not just PbR.

Power imbalances under PbR arise partly because of the difficulty PCTs face in controlling volumes, particularly when Trusts had waiting lists and with the introduction of Choose & Book. Active engagement by GPs in Practice Based Commissioning may alleviate matters, but more attention needs to be given to demand management mechanisms in general.

The other major reason for any imbalance is due to problems that PCTs have in verifying the information they receive from Trusts. PbR introduces incentives for gaming of information, and rather than placing the onus on PCTs to validate claims, greater centralisation of the auditing function might be considered.

1. Introduction

The NHS in England is following the USA, Australia and many countries in Europe in introducing a system of paying hospitals and other providers on the basis of the work they do. Providers receive a fixed payment – the national tariff – for each type of patient treated. Termed "Payment by Results" (PbR), the policy rewards providers for volumes of work adjusted for differences in casemix. Casemix is defined by the Healthcare Resource Group (HRG) to which each patient is allocated (Street and Dawson, 2002).

Payment by results is being implemented over a very short timescale, with the pace of implementation dependent upon the status of the provider. In 2003/04 Primary Care Trusts (PCTs) and hospital trusts were asked to manage referrals and admissions to hospitals according to fifteen HRGs, these being treatments "critical to waiting times targets and to the Coronary Heart Disease strategy" (Department of Health, 2002a). The tariff applied to these HRGs for activity above or below baseline – if a provider undertook more activity than agreed with PCTs, they were paid the national tariff amount for each additional patient treated. Under-performance results in an equivalent reduction in funding.

In 2004/5 Foundation Trusts were given the opportunity to negotiate all of their contracts on the basis of the national tariffs (Healthcare Commission, 2005). From 2005/6 national tariff prices were applied to elective activity across almost all specialties (Department of Health, 2006). It is intended to be fully operational in 2008/9, after a transition period to smooth the financial instability due to the difference between local prices and the national tariff (Audit Commission, 2004).

An overhaul of financial incentives is viewed as a key element of the overall system reform programme. PbR links provider income and activity much more closely than previously has been the case. If they receive a standard payment, providers should be encouraged to find ways of cutting costs and reducing lengths of stay in order to find capacity to accommodate more patients. Access should improve because providers have a direct financial incentive to do more work – they receive extra funds for each additional patient they treat. Moreover, by giving primary care organisations stronger incentives to prevent referral or admission, more care may be delivered in appropriate settings.

Two other intentions appear key to understanding the introduction of PbR.

First, by ensuring that payments are linked directly to levels of activity, the reform is intended to support a plurality of providers and the introduction of Choose & Book, whereby patients are given more say about where and when they receive treatment. In the past commissioners may have been reluctant to refer patients and providers reluctant to accept patients not included in their formal contracting arrangements because of the difficulties of dealing with one-off financial matters. The new system is intended to remove these financial obstacles.

Second, the government is committed to ending price competition, believing that fixed prices will reduce transactions costs and encourage competition on the basis of quality.

> "A standard price tariff will …enable PCT commissioners to focus on the quality and volume of services provided, minimising the transaction costs and conflict involved in local price negotiation" (p13) (Department of Health, 2002b)

However, despite this aspiration, early in the implementation of PbR, concerns were being raised that, rather than reducing transactions costs, PbR was increasing the administrative costs on NHS organisations. The Audit Commission reported that early implementers of PbR faced around £100,000 in additional administrative costs:

> "A key message from the early implementers was that payment by results has been time consuming and costly to implement. The additional burden on senior management, particularly where formal disputes arose, was often significant. Experience from other countries with similar systems points to costly implementation and a greater administrative burden … A conservative estimate of direct implementation costs incurred by foundation trusts and PCTs at the beginning of 2005 is £100,000 per

> organisation. This includes the costs of additional staffing, consultancy, software and legal costs." (p34) (Audit Commission, 2005)

This report was commissioned by the Department of Health to look in more detail into the administrative costs of PbR. We undertook a small scale study to evaluate the extent to which administrative costs are likely to change as a result of moving from the previous process of contracting to PbR arrangements. The study comprised three main components:

- Development of framework outlining the drivers of increased administrative costs and an identification of the particular types of input where increased investment is to be expected;
- A review of international experience of the administrative costs associated with the introduction and maintenance of PbR-type payment arrangements;
- Interviews with selected Trusts and PCTs to ascertain their views on the administrative costs associated with PbR.

Specific objectives of the study included:

- Quantification of the administrative costs associated with the introduction of PbR, as distinct from those driven by other elements of the reform process;
- Description of the nature of activity which is driving the change in administrative costs;
- Assessment of which costs are associated with the implementation of PbR and those which will persist when PbR is fully implemented;
- Identification of beneficial or negative effects of any change in administrative costs.

2. Analytical framework

The most obvious theoretical framework for identifying and quantifying administrative costs is that termed "New Institutional Economics" (NIE), originated by Coase (Coase, 1937) and developed by Williamson (Williamson, 1973, Williamson, 1975). Essentially, the approach provides insight into organisational structure in terms of the contractual relationships required to support it, defining the associated costs as "transactions costs". We use transactions costs and administrative costs interchangeably in what follows.

Most of the NIE literature applies to the analysis of principal-agent relationships where there is a choice between centralisation (hierarchical arrangements) and devolution (market-type arrangements). While some transactions costs will be reduced under more centralised systems, these savings may be offset by an increase in other types of cost. For instance, devolved relationships are mediated by a contract between the payer (principal) and provider (agent), and effort is involved in negotiating this contract. Negotiation effort is reduced under a centralised system, where – in essence – a manager (principal) can tell a subordinate (agent) what to do. But these lower contracting costs may be offset by the need for greater monitoring of whether the subordinate actually does as instructed. This framework has been applied to analyse the costs associated with changing contractual arrangements in a number of health care contexts (Ashton, 1998, Banks, 1996, Bartlett, 1991, Hughes et al., 1997, Keen and Ferguson, 1996, Street et al., 2001).

This type of thinking can be applied to analysis of the administrative functions associated with PbR, which has involved the centralisation of some contracting activities, namely price setting. When PbR was introduced, the government recognised that it would reduce the transactions costs associated with *price negotiation.* However, the shift from what were essentially block-type contracts to case payments has introduced other costs into the contracting process. Most notably PbR has changed the *specificity* of contracting arrangements by introducing patient-based payments. As such, PbR requires good quality information, particularly for the following reasons:

- PCTs need to be able to verify that their patients are allocated to appropriate HRGs;
- Trusts need to have a good understanding of their cost structures to ensure that the revenue received through tariff payments covers their expenses;
- The Department of Health uses costing information to update the tariff.

Hence, the net effect on *total* transaction costs of moving to PbR depends on whether reduced effort spent on negotiating prices is offset by greater attention to other aspects of the contracting process.

To appreciate this, consider how PbR has changed the nature of contractual relations between PCTs and providers. The essential differences between pre-PbR and PbR arrangements are summarised in table 1. The table shows the form of PCT expenditure *E* and the provider revenue function *R*, where *i* indicates a PCT and *j* indicates a provider.

Table 1 Expenditure and revenue functions pre- and post-PbR

	PCT expenditure	Provider revenue
Pre-PbR	$E_i = \sum_J C_{ij} = p_{ij} \times Q_{ij}$	$R_j = \sum_I C_{ij} = p_{ij} \times Q_{ij}$
PbR	$E_i = \sum_J \overline{p} \times Q_{ij}$	$R_j = \sum_I \overline{p} \times Q_{ij}$

Prior to PbR, contracts between a PCT (*i*) and a provider (*j*) stipulated a total contract value (C_{ij}), usually specified at specialty level. The total expenditure of each PCT amounted to the sum of its contracts with its *J* providers. The PCT would decide how much of its budget to devote to its contract with each of its providers and negotiate with them how much activity (Q_{ij}) would be made available. The price (p_{ij}) per unit of activity was usually arrived at as the by-product of negotiations about total contract value and the volume of activity.

Analogously, each provider's revenue R_j amounted to the sum of its contracts from its I PCTs. There may have been a payment adjustment if outturn deviated from the contracted volume but, by and large, providers had to live within an annual budget composed of the sum-total of their contracts. These arrangements allowed for tight control of expenditure but provided little incentive for providers to exceed their contracted levels of activity.

Under PbR, prices are set nationally, with local prices p_{ij} replaced by a national tariff $\overline{p}$ based on average costs across providers. This means that providers know in advance how much they will receive as activity increases. This gives providers strong incentives to undertake more activity, because they are able to increase their revenue in proportion to the growth in activity.

However, PCTs have to manage any growth in activity. PCTs receive an annual budget based on the characteristics of their population and are required to achieve financial balance without the need for unplanned financial support. Their task, therefore, is to ensure that their expenditure does not exceed their budget. PbR provides strong incentives for PCTs to restrain activity – for instance, by redirecting patients from hospital if it less costly (i.e. less than $\overline{p}$) to care for patients in an alternative setting.

But under PbR it is more difficult for PCTs to ensure that expenditure equates to their budget allocations. In addition to the stronger incentives that providers have to increase activity, there are two reasons why the PCT problem has become more complex than it used to be. First, under PbR they are unable to negotiate lower prices, having to pay the set national tariff for additional activity. The "price" PCTs pay for not having to negotiate price is the loss of an instrument that can help them balance their books. Second, the introduction of "Choose and Book" allows patients greater choice about where and when they are treated. This makes it difficult to specify volumes (Q_{ij}) in advance with their contractual partners.

The net effect is that, while negotiating effort with respect to *p* is minimised under PbR, considerably more attention has to be devoted to management of *Q*. From the PCT's perspective, the management of *Q* takes two general forms:

- PCTs need to validate the *type* of activity for which they are paying, namely the category (HRG) to which a patient is allocated. This is a common problem in countries where PbR-type arrangements have been introduced. Providers have incentives to "upcode" their activity in order to gain higher payment rates. Much effort is directed at validating the claims made by providers.
- PCTs need to ensure that the *amount* of activity is appropriate and affordable.

Consequently, it is not possible to specify unequivocally under which set of contracting arrangements total transactions costs are minimised.

3. Information exchange

Administrative or transactions costs are highly dependent on the nature of the information required to support contractual arrangements. Being a patient-based payment system, PbR is based on the collection, exchange and verification of patient-level data. Thus, information is more specific and detailed than that required to support the contracting arrangements that PbR replaces. In this section, we briefly describe this information, from its origin: when the patient is treated by a provider.

A typical provider can be thought of as having three teams (whether or not they are distinct in practice) involved in collecting, analysing and diffusing information (figure 1):

- the coding team, which collects and codes patient-level clinical information;
- the costing team, which calculates costs;
- the information team, which brings activity and costing information together.

The coding team is involved in extracting the diagnostic and clinical information from the medical record to create an electronic record. Trusts differ in their use of source data, some coding directly from the case notes, others from summary forms such as discharge summaries or 'to take out' (TTO) forms. Nationally, in 2003/04, 42% of trusts were coding from clinical notes, 26% from discharge summaries, 10% from TTO forms, and the remainder from other sources, such as proforma (NHS Information Authority, 2004).

In a typical trust, once coded, the electronic records for all patients are uploaded to a 'data warehouse' (figure 1). The trust's 'minimum dataset' is compiled and forwarded to the NHS Wide Clearing Service (NWCS) usually on a monthly, but sometimes on a weekly, basis. The timeliness of these flows is expected to improve with the roll-out of the Secondary Uses Service (SUS). NWCS compiles data from all trusts, and constructs commissioner datasets, in which all patients from each PCT are grouped together. These datasets are then sent to PCTs.

The coded information is the basis by which a patient (actually an FCE[1]) is allocated to their appropriate HRG, which is the basis for PbR payment. Each patient is allocated to a single HRG, based on such things as their diagnosis, whether or not surgery was performed, their age, and whether or not they suffered complications or co-morbidities. The allocation process is automated but relies on accurate coding of information.

The allocation process is described in figure 2, for version 3.1 HRGs. Currently version 3.5 is being used, but the principles remain the same. The grouping process starts by determining whether a surgical procedure has been undertaken, dividing records into surgical and medical groupings (Street and Dawson, 2002). For surgical HRGs, grouping is driven by procedure, not by primary diagnosis. If more than one procedure appears, assignment is determined according to a procedure hierarchy, which assigns a rank to all procedures according to 'clinical knowledge' and the relationship with post-operative length of stay.

Where only minor procedures or no procedures are recorded, the primary diagnosis is used to determine assignment to HRG. The primary diagnosis may be overridden in the event of holiday relief care, chemotherapy, complex elderly cases (defined as patients aged over 69 with two or more major diagnoses but no significant procedures), and when planned procedures have not been performed. Where information in any field required for grouping is missing or invalid, the patient is assigned to an 'undefined' group – called U-codes.

Given that payments are made on the basis of HRG allocation under PbR, there are strong incentives to ensure that all the requisite information to determine appropriate allocation is extracted.

[1] A finished consultant episode measures the time between a consultant assuming responsibility for a patient to discharging the patient from hospital or transferring responsibility to another consultant. Patients may receive care from various consultants during their hospital stay, and so their stay may comprise multiple FCEs. For ease of exposition we simply refer to patients rather than FCEs.

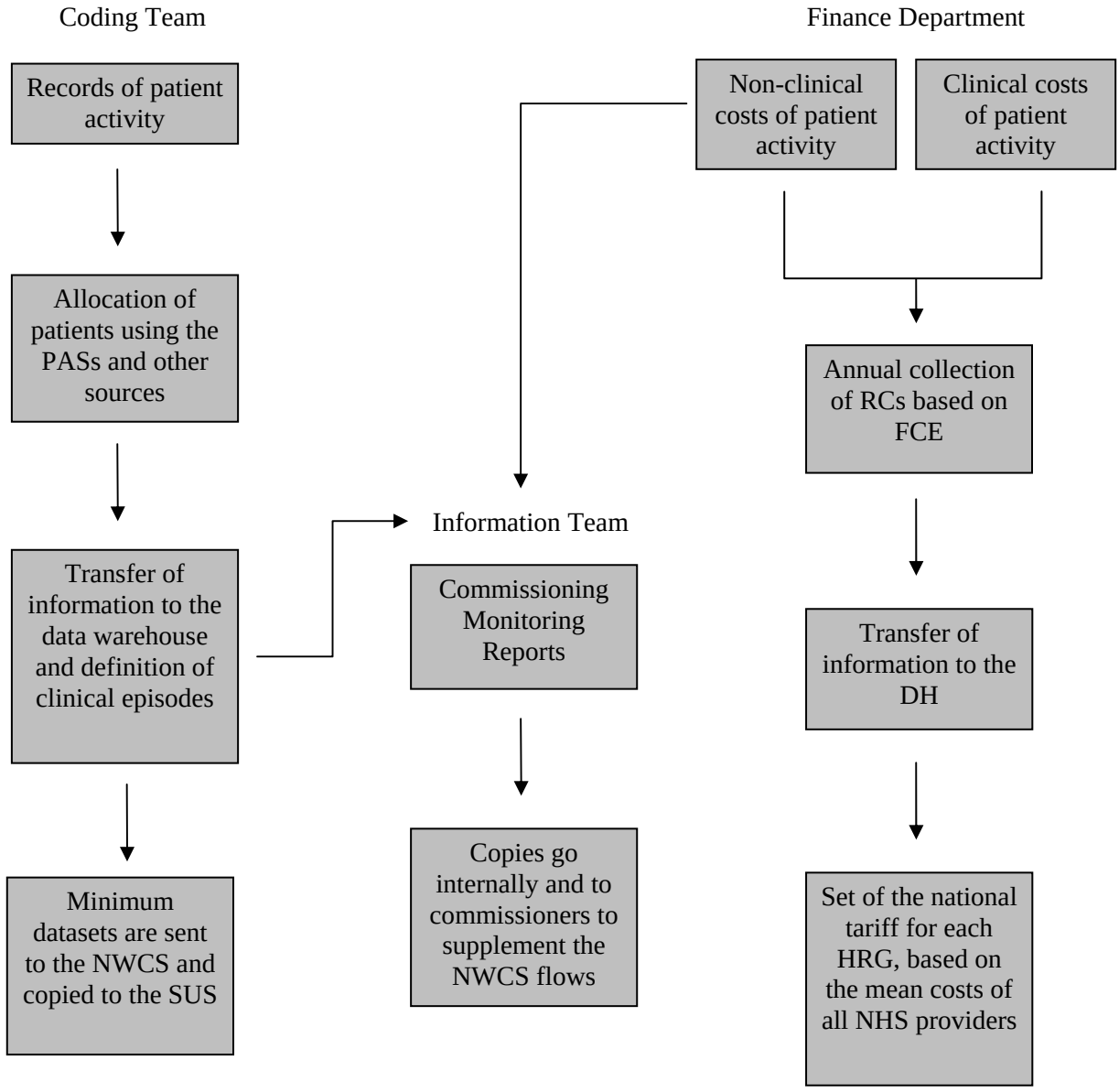

Figure 1: Information collection within the provider

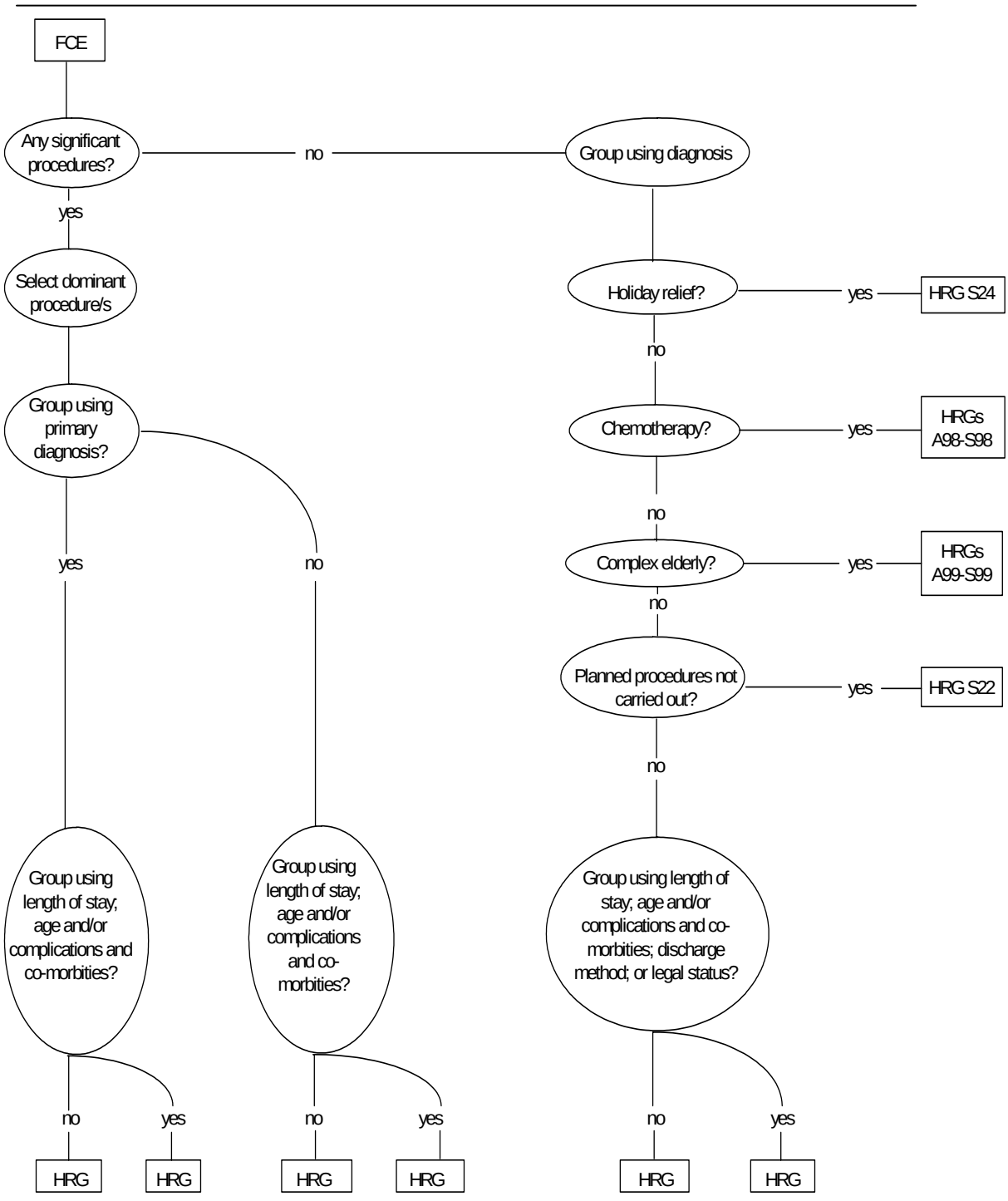

Figure 2: HRG classification flow chart
Source: (Street and Dawson, 2002)

But this coding process also opens up the opportunity for gaming, because PCTs do not have access to the primary information source (the medical record) from which the electronic data have been extracted. There is evidence from other countries of providers engaging in 'up-coding', extreme forms of which may involve falsifying procedural information or by recording complications that may not have been present (Carter et al., 1990, Hsia et al., 1992, Pitches et al., 2003). The lack of access to the primary source makes it difficult for PCTs to verify that HRG allocations are appropriate and

means that they have to rely on other – less perfect – mechanisms to verify the accuracy of information.

Hence, PbR can be expected to raise data collection costs associated with coding in two ways: because of the requirement for more specific information and because of the necessity that this information is verified.

Providers need to have an understanding of their costs by HRG in order to understand the revenue implications of changes in activity. Costing procedures in the NHS, relative to those in other countries, remain fairly unsophisticated (Jackson, 2001). Reinhardt reports that "contracting and billing departments of US hospitals are huge enterprises, often requiring large cadres of highly skilled workers backed up by sophisticated computer systems that can simulate the revenue implications of the individual contract negotiations" (Reinhardt, 2006).

In England Trust Boards are likely to start asking their finance departments for more precise information because of the clearer relationship between activity and revenue under PbR. Information requirements may include early warning about shifts in the level and type of activity, and about the proportion of patients that attract additional payments (*eg* outliers), as these will influence the revenue stream. Additionally, more precise information may be required about the costs of provision, including how costs are likely to change in response to changes in the level and type of activity, and which HRGs are likely to be 'profitable lines of business' in each organisation.

Finally, referring back to figure 1, the information 'team' is responsible for collating activity and costing information. In practice, of course there may not be a separate team that carries out this function, and it may be co-ordinated across coding, finance and commissioning departments. But irrespective of its formal structure or locus, the purpose of this function is to bring information together in the form of monitoring reports, which are provided for internal meetings (for instance, at Board meetings) and for third parties (such as PCTs).

These reports serve a number of purposes, such as to review activity trends and data coding issues (*eg* by quantifying changes in activity by HRG or trends in U-codes) and financial matters (*eg* by highlighting activity in high cost HRGs or the number of patients with lengths of stay beyond HRG trimpoints). Because of the clearer relationship between activity and hospital income under PbR, there is a possibility that the detail requested in these reports has increased.

4. International experience

We were able to find no published estimates from other countries about the administrative costs associated with the introduction of PbR-type arrangements. But, even were such figures to be available, they would not be directly translatable to the English context because of contextual differences in the health systems to which they apply.

Nevertheless, we would expect that the marginal impact on administrative costs of introducing PbR in England would be higher than that experienced in other countries were this payment system has been introduced. There are three main bases for this expectation.

First, although it is difficult to make strict comparisons, overall management and administrative costs in the NHS as a proportion of total health spending tend to be lower than in other countries (Le Grand, 1999). Management costs as a proportion of operating costs average around 4% in hospitals and 1.6% in PCTs (Jacobs, 2005).

International comparisons are not straightforward, partly because of the lack of a standard definition of what constitutes 'administration' and also because of differences in which organisations within the health system assume responsibility for administrative functions. OECD comparisons of health administrative expenses are restricted to the costs of private insurers and central and local government, but exclude costs borne by providers, such as compiling patient records and hospital management (Organisation for Economic Co-operation and Development, 2005). The OECD has not reported data on general administrative costs for the UK since the mid-1990s.

Table 2 Administrative costs as percentage of total expenditure

Authors	Thorpe	Woolhandler *et al*		Jacobs
Country	US	US	Canada	England
Private insurers, inc HMOs	14.2	11.7	13.2	
Primary Care Trusts				1.3
Public insurance				
Medicare	2.1	3.6		
Medicaid	5.1	6.8		
Provinces			1.3	
Hospitals	15 - 20	24.3	12.9	4.0

One published source on administrative costs comes from the United States dates from 1992 (Thorpe, 1992), while Woolhandler *et al* compare administrative costs in the US and Canada in 1999 (Woolhandler et al., 2003). Summary figures are reported in Table 2. Thorpe's article was published ten years after the introduction of the prospective payment system for Medicare, variants of which many US private insurers adopted. The administrative costs reported in this article are not strictly comparable to the English context, but some insights can be gained. The administrative costs incurred by private insurers, such as employer-based and individual insurance schemes, prepaid plans and Health Maintenance Organisations, average 14.2% of spending but are subject to a considerable range of 2.5% to 40%. Prepaid plans and HMOs are at the bottom end of the distribution, with administrative costs in the range of 2.5% to 7% of expenses. The administrative costs of private insurers might be inflated by the selling and marketing activities of such organisations.

The administrative costs for the public insurers, Medicare and Medicaid, were lower than those for private insurers. The estimates provided by Woolhandler *et al* suggest that proportionate expenditure on administering these schemes had increased during the 1990s. The administrative costs of the national health system in Canada, organised through provincial insurance plans, is estimated as 1.3% of expenditure (Woolhandler et al., 2003). This is comparable to the management costs reported by PCTs in England (Jacobs, 2005).

Thorpe anticipated that the administrative costs in US hospitals were likely to be related to the level of competition faced. However, the range of estimates quoted – 15-20% of total hospital expenses - far exceed those reported for providers in England (4%), where, supposedly, competitive pressures have been weaker. Woolhandler *et al* found that the proportionate expenditure on hospital administration had increased to 24.3% in 1992. The equivalent cost was 12.9% for Canadian hospitals. On whatever basis the comparison is made, proportionate expenditure on administration in English hospitals appears relatively low.

The second reason why the marginal cost of introducing PbR in England may be higher than elsewhere is that most countries introduced PbR-type arrangements into health systems where providers had traditionally received income from multiple sources. This is particularly true of countries - the United States, Australia - with a substantial private health insurance market. In such contexts, the marginal administrative costs of introducing PbR-type arrangements to pay for public patients may have been minimal, as providers already had extensive experience and infrastructure in place in order to bill for their private patients.

Third, England starts from a low base in terms of its informational infrastructure, in relation to both clinical coding and to patient-level costing. Higher administrative costs in England under PbR may be due to past under-investment in NHS information systems, rather than the contractual arrangements themselves.

5. Methods

To gain insight into the change in administrative costs associated with PbR, we conducted an in-depth study in a small sample of PCTs and hospital Trusts. Data collection was based on semi-structured interviews with a sample of key stakeholders. Interview schedules are reproduced in the Appendix. Interviews were conducted at six organisations based in either South Yorkshire Strategic Health Authority (SYSHA) or London. Lessons emanating from SYSHA are likely to be of national interest because PbR is being implemented to all acute Trusts in the region ahead of the national timetable. Experience in London may be instructive because of the greater variety of contracting parties with

which an organisation has to deal. Our sampling was also designed to capture variation in the administrative costs that contracting parties may incur. Therefore, selection considerations included:

- The nature of the coding arrangements in the trust eg whether coding from case notes or TTO forms ; and
- The nature of contracting history between the main contracting parties.

The sample of organisations, then, comprised:

- two PCTs and two Foundation trusts (FTs) in SYSHA
- a PCT and a non-FT in London

Some information about these organisations is provided in Table 3.

Table 3 Organisational details, 2004/05

PCT/Trust	Number of people interviewed	Position of the people interviewed	Population served	Operating costs	Management costs (%)
PCT1	2	Chief Executive Assoc Dir Strategic Planning	250,000	£290m	£6m (2.1%)
PCT2	1	Dir Finance	215,000	£293m	£6m (2.0%)
PCT3	1	Dir Finance	250,000	£313m	£5m (1.6%)
			Number of FCEs	**Operating costs**	**Management costs**
T1	3	Commissioning Manager Head of Information Dir Finance & Commissioning	124,423	£189m	£8m (4.2%)
T2	3	Asst Dir Finance Information Services Manager Service Development Contracting Lead	196,220	£490m	£15m (3.1%)
T3	2	Director of Clinical Information Finance Manager (SLAs)	98,470	£415m	£13.5m (3.3%)

A total of 12 individuals from these organisations were interviewed between late-January and early March 2006. Those interviewed included chief executives, finance directors, contracting and service development managers, and information managers. Given the potentially sensitive nature of some of the material, we have sought to protect the anonymity of individuals and their organisations.

We build on the NIE literature to organise and analyse the information derived from the interviews. The literature suggests a useful categorisation of transactions costs based on their timing:

1. *Ex ante* costs are those incurred prior to entering into a contract. These costs are further subdivided into:

- Search costs, including the costs of acquiring information about the type, quality and price of the service;
- Negotiation costs, including the costs of bargaining and negotiating the contract.

2. *Ex post* costs are those incurred after the contract has been placed. These costs are subdivided into:

- Monitoring costs, including the costs of data exchange and verification
- Enforcement costs, which are incurred in the case of contractual disputes.

We use this categorisation system to posit some hypotheses about how costs falling on PCTs and Trusts are likely to change as a result of the change in contracting arrangements. These hypotheses are summarised in tables 4 and 5 below.

Table 4 Change in administrative costs falling on PCTs

		Change from pre-PbR to PbR	Comment
Ex ante			
Search		higher	Greater need for demand management, because providers have incentives to increase activity and patients are offered a greater choice of provider
Negotiation	quantity	lower	contracts no longer specify volumes
	price	lower	borne by DH
Ex post			
Monitoring	quantity	higher	need to verify the type and amount of activity
Enforcement		higher	greater incentives to game the system, leading to more disputes

Table 5 Change in administrative costs falling on Trusts

		Change from pre-PbR to PbR	Comment
Ex ante			
Search	N/A		
Negotiation	quantity	lower	contracts no longer specify volumes
	price	higher	Mandatory reference cost return
Ex post			
Monitoring	quantity	higher	need to respond to queries raised by PCTs
Enforcement		higher	greater incentives to game the system may lead to more disputes with PCTs

6. Results

6.1. Total transactions costs

The increase in administrative costs associated with PbR for each organisation is reported in Table 6. These estimates are similar to those previously published by the Audit Commission. Costs were estimated to have increased by around £100k-£180k in hospital trusts and from £90k to £190k in Primary Care Trusts. Cost increases are driven by increases in staffing, with appointments to junior or mid-level posts usually in the information / coding and finance departments. Given that most of the additional expenditure is on staff, the increase in administrative costs is likely not to be transitory.

Some organisations have also invested in improved information systems, but whether this should be attributed solely to PbR is questionable. Organisations are required to make ongoing investments in information technology, though PbR may have provided greater impetus for such investment.

Table 6 Summary of overall cost increases

PCT/ Trust	Cost increase	Staff posts (£)				SLA & IT	Training
		Admin	Finance	Information	Commission		
PCT1	£190k		+2	+2		£5k	2-day workshop
PCT2	£95k-£110k		1 £35-40k	1 £25-30k	1 £35-40k		
PCT3	£90k-£150k	+1 (£45k)		+1 (£45k)		£60k Dr Foster software	
T1	£110k	+1		+4		Data warehouse	For clinicians, junior doctors and SHOs
T2	£100k	+1		+3			
T3	£120k-£180k		+3 (£120-150k)	£30k -of which £10k overtime			£5k

"The estimates by the Audit Commission are probably a bit on the low side because the system that we are just about to buy [Dr Foster software] is £60,000 and we have two more members of staff that we wouldn't have had without the introduction of PbR. So I would have thought somewhere in the range of £100,000-150,000 is probably about right." (PCT3)

"These extra people are definitively employed because of PbR. Without it, we wouldn't have needed them." (PCT3)

"[Our costs] are all ongoing. I don't think we've got any particular start up costs. We've increased our spending: it's gone up and it's levelled. It's stable. I don't think any of those costs will go down, in the foreseeable future." (PCT3)

"I think one extra administration post that we now have is definitely due to PbR and additional coder posts as well, four I think. They were just sort of strengthening the departments making them more resilient, because of the demands of PbR, and I think the cost of those is around £100,000." (T2)

"What I think is very difficult to disentangle, is the fact that there are a lot more people who have to spend a lot more time on contracting on information provision, as a direct result of PbR. I mean my job, for example, prior to PbR I would probably spend 20% of my time on contracting issues. It is now nearer 50-60%, which is the case for a good dozen people in the department." (T2)

"From my point of view the main cost has been collecting clinical data. And we incurred a lot of costs long before payment by results came on the scene. Because we switched from coding from summary sheets to coding from the full case notes it took a lot more time and effort to code from the full case notes. So we actually increased the size of the team by 50%, but that was back in 2001, before payment by results came in." (T3)

"I have spent a lot of money this year on overtime and agency staff and I have one supernumery member of the coding team as well. [Between April and December] we had spent approximately £20,000 on agency staff. That is heading towards about £40,000 per year in total." (T3)

"For 3 more posts in Finance the cost would be between £120,000 and £150,000 … We have incurred additional costs in clinical coding of about £30,000 just to try to meet the targets for coding completion enforced by PbR, additional to substantial additional costs incurred in 2001, when the team was expanded by 50% (six extra posts) to enable the switch to coding from full case notes. If we hadn't made those changes in 2001, we would have had to have made them to support PbR." (T3)

6.2. Ex ante search costs

Most types of search cost are little affected by the introduction of PbR. For instance, PCTs still need to undertake some form of needs assessment and make predictions about the health care requirements of the population for which they are responsible. Such activities are independent of the change in contracting arrangements.

That said, the ability of PCTs to manage demand (ie Q_{ij}) is more complex than it used to be. There are two main reasons for this. First, there is increased patient mobility because of the introduction of Choose & Book. This may not affect the *level* of demand but is likely to change the *location* at which demand is satisfied. PCTs may face higher administrative costs because of the need to put systems and software in place to offer Choose & Book. Estimating the costs of these computer systems - which were still being developed at the time the interviews took place - was not a focus of this study.

Second, unable to influence $\overline{p}$, PCTs need to put greater effort into managing Q_{ij} in order to ensure fiscal balance. However, PCTs are unable to impose a ceiling on the amount of extra activity that trusts undertake. The activity out-turn need not correspond to that anticipated and budgeted for by PCTs. This means they have to place more emphasis on influencing GP referral behaviour and developing alternatives to hospital care. These demand management issues are the subject of a separate report (Mannion and Street, 2006).

"…There has been a lot of planning debate. Whereas the DoH was saying that PbR would reduce the amount of debate, it hasn't. It has just internalised it. It has moved the PCTs into a demand management role." (PCT3)

"As a result of PbR, we have made more effort in managing demand. PbR and PBC have lead PCTs to thinking more seriously about how they manage demand." (PCT3)

"I think it's too early to be able to demonstrate results [on managing referrals]. Next year it will be easier to see whether there have been results because GPs will see financial consequences, having worked with us around some of these demand management things" (PCT3)

6.3. *Ex ante* negotiation costs

It was possible to discern three main ways in which PbR has influenced the process of negotiation between Trusts and PCTs:

- by changing the general nature of the relationship between the parties;
- by changing the form of the contracting arrangements;
- by changing the nature of negotiation around volumes of activity.

6.3.1. General relations between Trusts and PCTs

The interviewees confirmed that PbR had changed the nature of the relationship between PCTs and providers, with a common comment being that it had become more business-like. This observation is as predicted, and typical of a more devolved set of contractual arrangements.

"I think that the relationships with trusts are generally still good but they have become more business-like. Occasionally they are collaborative, but often it feels like somebody selling something and somebody else buying it." (PCT3)

However, the change in relationships is not due solely to the introduction of PbR. At least two other factors have had influence: the move to foundation status by providers and the underlying financial position in the local health community.

Foundation trust status is important because of its association with the introduction of legally binding contracts.

"The other difficult thing is that now we have become a foundation trust. We now have a legally binding contract with our commissioners in the area and that has effectively formalised a lot of the contract relationships." (T2)

"I think, it's difficult for us to separate the two because PbR came along as a result of the FT, and perhaps the most difficult thing was that we were supposed to be negotiating. We do realise that everything we do is legally binding and that in itself has a cost attached to it" (PCT1)

A worsening financial position in many health economies has also put a strain on relations between contracting parties.

"[The contracting relations] have deteriorated. I think there has certainly been a deterioration of the finance position of the local PCTs. They are in a significant deficit position. In [location] it's about £20million on-going deficit and they have debts from prior years, where they have effectively borrowed year-on-year. That is not helped by PbR from their prospective, because when they are buying additional activity they have to buy it at full cost whereas in the past they may have been able to argue and to just buy it at part cost. And its bigger numbers, in terms of the pound notes." (T2)

"But we feel that somehow the financial position of PCTs is being blamed on PbR which I don't think is right, but it is certainly a focus for that. So it hasn't helped in that respect." (T2)

6.3.2. Contractual relations between Trusts and PCTs

While PbR might have made relationships between Trusts and PCTs more business-like, there was also a feeling that the new contractual arrangements had simplified the 'rules of engagement' and made them more transparent.

"I think on one level the contracting arrangements are much more straightforward. There are clearer rules about what occurs in certain situations. I think that has been helpful in terms of agreeing our contract on the last few years because, given the underlying financial problems, I think there would have been an attempt to try to pass on some of the deficit from the PCTs over to us." (T2)

"The basic contracting arrangements themselves, I think, are a lot more straightforward and transparent now than they were before. And year by year I think there is less and less room for discretion in the contracts that we agree with the PCTs which probably means that the contract discussions are less protracted than they used to be. Although it doesn't always feel like that!" (T2)

"Certainly coming into year end settlements, there has been rules about what they pay for and what they don't pay for and what rate they pay for over performance, because they historically always under commissioned." (T2)

"So I do actually think it [PbR] is much better. It does create much more bureaucracy but ultimately I think it is a much fairer system. It is one that is more rules based and I think that, in the current financial environment, that is the best way to go. I think that once we have gone through the transitional period and we are on full blown PbR, then I think it will be a lot better, much more simple in terms of costing and development. It has certainly been positive." (T2)

6.3.3. Negotiating volumes of activity

The clearest difference between the contracting arrangements that existed prior to PbR and those under PbR relates to negotiations around the volume of activity, Q_{ij}. Previously, reaching agreement about activity levels was a central preoccupation of contractual negotiations. The introduction of PbR has been associated with a relaxation of volume controls. This is desirable, given the dual policy aims of stimulating an increase in activity and to support Choose & Book, under which patients are given more choice about where they receive treatment.

But this relaxation of volume controls has increased tension between providers and PCTs, with PCTs finding it more difficult to live within their budget allocations.
PCTs face two problems under the current arrangements that encourage Trusts to expand activity. First, it is difficult for them to anticipate and, therefore, budget for what the activity increase might amount to. Second, PCTs are unable to exercise any limitation on the extent of the activity expansion: they cannot impose a ceiling on the amount of activity they are liable for and they are forced to pay at average cost for each additional patient treated.

There was consensus among PCTs about the problems associated with the providers not having to gain approval before increasing their activity, as illustrated by the following quotations.

"At the moment under PbR [Trusts are] not required to give any indication of what they think they will do. Hence the issues that have gone on about people racing through the waiting lists to generate more activity and income, and then PCTs saying they don't want you to do that … so you've got those sorts of tensions in the systems" (PCT2)

"In the current financial year several trusts have really reduced waiting lists by treating lots more patients, which means they get paid more by us. But they haven't agreed with us before they have gone ahead." (PCT3)

"PbR allows [trusts] to get paid for every patient they treat. They have been able to go ahead and increase their income by treating patients in advance of government targets. It's good from a patient's point of view, but the system is ending up spending more money than it's got … This particular trust has treated more patients and virtually nobody is waiting more than three months. That's costing us nearly £1million in over performance, which we have not planned for." (PCT3)

As would be expected, Trusts offered a different perspective on the nature of the 'problem', suggesting that it stemmed from a failure by PCTs either to accurately predict demand requirements or to put effective measures in place to manage demand in other ways.

"We do our modelling, PCTs do their modelling, but in the past, up until 2005/6, we have taken the view that we will agree on an approach and a desired contracted level. For 2005/6 we couldn't agree with the PCTs [who were] largely driven by their financial position … So in the contract we agreed to differ" (T3)

"So effectively that is where a lot of the financial problems in [location] have come from. So they were planning for significantly less than what happened and significantly less than what they ended up paying for. They always say we over-performed but we are adamant that it was them who under-estimated … PCTs tend to try to blame PbR for that. But I don't think that is fair: I think it was just the PCTs under-commissioning." (T2)

"We have contracted our non-electives to a certain level for about three or four years and the PCTs have ultimately ended up paying for a much higher outturn which, at the PbR rate, is something like £7million more. But each year they said 'we are going to get demand management procedures in place; we are going to rein back activity'. As a consequence, they have said: 'No, we are investing in the community, we are investing in intermediate care, and so we are not going to increase the contracting level'. For 2005/2006 they ended up paying a significant over charge, about £5 or £6 million." (T2)

6.4. *Ex post* monitoring costs

Monitoring of activity has changed under PbR. These changes are evident at various stages of the process of information flow from the trust to the PCT, and impact upon:

- data collection within the Trust;
- analysis of activity and financial data within the Trust;
- exchange of information with the PCT;
- analysis of the information received from Trusts by PCTs;
- verification and querying of the information between PCT and Trust.

6.4.1 Data collection

PbR is associated with – and probably has stimulated – greater attention to data collection within Trusts. Two aspects of the data collection process appear to have improved – or, at least, have been recognised as needing to improve - as a result of PbR: the timeliness of coding; and coding accuracy.

"I would say, from the information side of things, the reporting has changed significantly …It is the timeliness that is the key and that was obviously the biggest issue in the first year because we were effectively two months behind." (T1)

"The aim is to be able to say that within a month of being discharged, a patient will be fully coded, and to keep hold of the richness of coding that we have got. Because I know of some places who will say they have it down to two week, but it will be done from a flimsy discharge sheet with very little information on." (T1)

"With timeliness … we have got to improve the system so that the team spend less time looking for things to code and more time doing the things they were trained to do. So yes in effect we have set some coding targets. It was a long time ago though, that we are supposed to code 85% within a week of the end of the episode, 95% within two weeks of the end of the episode and everything else within 3 months. We get somewhere near the third of those targets but we rarely get close to the first two, which we should be striving to achieve." (T3)

"There are issues about quality of the data as well, which are a bit secondary at the moment. Because of the way PbR works, it encourages you to code something first and foremost. If you are ever in the luxurious position of being able to code it all fully, then you can start looking at how well you are coding it and if you could code it better." (T3)

"Missing data queries have been reduced as a result of PbR. And we have got more accurate information; we have tightened up the processes for where we have got missing data." (T1)

"The cost simply of re-coding was about £3.6million. We didn't get any extra activity for that. It was simply re-coding." (PCT1)

Local improvements in data collection, notably clinical coding, have been achieved by a variety of means, including:

- investment in better information systems;
- recruitment of additional coding staff;
- reviews of source data to ensure greater consistency in coding, for instance by changing practice from coding from discharge summaries to coding from case notes;
- standardising coding practices across sites in trusts comprising multiple sites;
- greater engagement with clinicians about coding accuracy.

Information systems

All Trusts complained about the inadequacy of their information systems to meet the demands of PbR. However, investment in improving these systems, though given added urgency by PbR, was not driven (at least, not solely) by the move to the new payment arrangements. PbR may have provided added impetus for 'catch-up' investment, but trusts have to review their information systems on an ongoing basis anyway and would have had to do so at some time irrespective of the introduction of PbR, so to apportion the costs associated with upgrading exclusively to PbR may be inappropriate.

"Because the PAS system that we are working on just now was designed in the 1980's, it doesn't lend itself very easily to the desktop and take away work from the information staff and the analysts. So what we are actually purchasing is a data warehouse which will satisfy the needs of PbR, as well as clinicians' needs for information and the managers need to see what's going on" (T1)

"[Medicode] is probably a good ten years' old. We originally got it because we had to start sending HRGs to ClearNET and the past system wouldn't generate HRGs for us. So we didn't get it for any other reason than to get the HRGs, but since then PAS has been updated and it will now generate HRGs itself." (T2)

"The system at the moment is an ancient one. The type of data input is very primitive. There is very little intelligence at the time of entry. The new system will incorporate one of the market reading encoders, which will have a big effect on the way the coders work." (T3)

"[The clinical coding system] hasn't yet changed because we made the biggest change before PbR came on the scene. If we hadn't done that in 2001, we would have had to do it in the last year or so and that was to switch from coding from summary sheets to coding from full case notes." (T3)

"The system hasn't changed since PbR came on the scene. We are online to take new national care systems on this summer [summer 2006], which will change the way coders deal with information on the screen ... I don't think you could say any of that cost was directly due to PbR." (T3)

Coding staff

In other countries with PbR-type arrangements, providers have recruited more medical records staff, improved their training, and started to pay them more. Similar changes are starting to happen in England. However, the shortage of skilled coders has meant that some trusts have found it difficult to recruit. This situation has not been helped in some places by Agenda for Change, where existing staff may have been dissatisfied with their regrading and moved elsewhere. To fulfill requirements in the short-term, some trusts have been forced to increase overtime payments.

"The coding is being improved by the fact that over the last two years we've invested in four new coding staff and a clerical runner so that we get the notes back to us quicker" (T1)

"We did try to recruit more than that, but we were not successful." (T2)

"[The coding process] has to improve. The key thing is time. At the moment, because we are not quick enough, we have a mad panic all the time. That's why everybody is working so much overtime and trying to keep the thing more under control than it might otherwise be." (T3)

Source data

Trusts differed in their use of source data for electronic coding. Some trusts code directly from the case notes, which is costly because it necessitates a process of getting the notes from the ward to the coding department. But, perhaps justifying this cost, the quality of the information extracted is likely to be high. As alternatives to using the case notes, some trusts code from a summary discharge form or To Take Out (TTO) forms. It may take less time to code from these alternative sources, but the quality of data may be poorer. The trusts in our sample were moving toward coding from case notes, and this may a national tendency given added impetus by PbR.

"We are expecting process changes because it takes longer to find the notes and go through them. Now we are using the whole file, and we are having to actually go into the wards to inspect the case load which is very labour intensive. We are trying to get that process changed so that the files come to the coding office." (T3)

"[The new process] creates a new problem as well, because it creates a new role of transporting the case notes from the wards to the coding offices. That might prove to be cost beneficial, if we are lucky. We are hoping to free up capacity and do the coding much more quickly and at the same time pay for the extra transporting role." (T3)

"Most of the case notes, probably about 70%, are collected from the ward. We have some clerical staff that go around every day and pick up notes from the wards and they are coded pretty quickly and sent back so the discharge summaries can be done. Now there is about 20% that, for whatever reason, go missing from the ward and we have to run missing lists to pick those up and get them coded. So 70-80% is coded within a couple of days, the other 20-30% can take up to three weeks." (T2)

Standardised coding practice

One trust was split over multiple sites. Here the trust had to cope with additional problems of standardising data collection across the trust, where different sites had developed their own systems and conventions. While this process would have pre-dated PbR, it was clear that PbR had increased the urgency of the matter.

"We are a multi-site organisation and at the moment we have three different PAS systems and we do code differently on the different sites. At the [site name] we code primarily from case notes ... We know that generally the coding is not as good at [site name]. I think the plan for the whole trust is that we actually code from a proper discharge summary, but that obviously means we are going to need more staff (T2)

Clinical engagement

The quality of electronically coded information depends on what is recorded manually in the medical record. Obviously, if the primary information is unavailable, it cannot be extracted by coding staff. As a result, HRG allocations may poorly reflect the care requirements of patients and providers will not receive the appropriate tariff payments. Greater engagement with clinicians is viewed as key to ensuring accurate recording of the primary data in the medical record and trusts have taken steps to engage clinicians more fully in the coding process.

"We have also managed to get to a point where the coding staff and the clinicians are more or less part of the same team, whereby the clinicians feel that they can approach the coding staff with any issues. And this process is beneficial to the coders, because the information that they are coding is richer." (T1)

"From the data verification point of view, we try to share as much of the data as we possibly can with the clinicians, more than it used to be but not enough still … In fact, for about the last couple of months it has been a major push to engage clinicians more. I mean, we were engaging them before but it's just more now." (T3)

"[The local Trusts have] definitely have run up-coding courses for their clinicians – 'Maximising your income' courses. With clinical directorates being given incentives to maximise their income, the desire to up-code will be there." (PCT1)

"Clinicians are now interested in detailing there records more thoroughly rather than just for their own auditing purposes. So we are getting a full case mix and we are getting a richer case mix and we have done some training sessions with the directorates. But we are also planning to train junior doctors and SHOs as well." (T1)

6.4.2 Trust analysis of information

Internal scrutiny of activity and financial data assumes greater significance under PbR than previous arrangements, because of the clear relationship between income and accurately coded activity. As one of the interviewees says: "you get no tariff if it's not coded, and you get £1,500 if it is". Of course, prior to PbR, trusts had structures in place to analyse their activity and costs, as exemplified by the quotes in the box below.

"I think that even without PbR we would still want to cost and to look at how we are performing at HRG level because obviously they are there for resources usage. So I wouldn't put it down to PbR for us wanting to do that. For example, in every directorate we've got a table of high cost HRGs … comparing local cost with national tariff. Then we've got ones where we are actually beating the tariff, as we call it, and where we are below the tariff. So, when we come to talk to directorates around performance management, we focus on the high cost HRGs and we do that without PbR." (T1)

The response by Trusts has been to build on their existing scrutiny procedures, rather than develop new processes. This is evidenced by more focussed attention to coding and financial issues by trust management. Reports are (slightly) more detailed and areas of volatility are increasingly highlighted.

"More attention is paid to coding at general management meetings: coding is now on the agenda every week." (T3)

"PbR has been the push to actually getting the users involved, to actually look at the information. We have always been able to provide the information, but getting them to look at it and then be actively involved has taken PbR." (T1)

" … we do have a lot more contact with management in terms of explaining the potential financial implication for them. There is a lot more reporting for internal finance so that they can then engage general managers or engage PCTs. That's all to do with understanding the financial impact of PbR." (T1)

"The amount of time we actually spend trying to understand the relationships between PbR and finance has increased. There was some analysis done but not at the same level or in the detail required ... We also do a finance report every month and that goes to the committee and the board, in conjunction with the information activity report. So it's all about getting the line right on that, really, and understanding the shifts. In the past we have just got variations for activity shifts at marginal costs. It was not a big deal. Now we can have shifts worth easily a £million each month." (T3)

"The standard reports that I do for monitoring the contracts have not changed a great deal. There are some additional columns on the end, to do with things like specialised service cost and excess bed night costs, but the basic layout hasn't changed a great deal." (T2)

6.4.3. Data exchange process

The process of data exchange between Trusts and PCTs, via ClearNet, does not appear to have changed as a result of PbR. However, some interviewees did suggest that sharing of other types of information might have been affected, such as summary reports prepared by the Trusts. These reports may have become more frequent, more timely or more detailed.

"No, I can't see why PbR would have affected [the data exchange process]. The electronic stuff is just automatic: a button gets pressed on a Monday morning and off it goes." (T3)

"In theory we receive monthly information [from each Trust]. [The data exchange process is] probably better now than it was six or nine months ago, but it's not as good as it should be." (PCT3)

"We send [a report to PCTs] every month. We have always sent them monthly. But there is more detail in the report now than what we had before." (T2)

"PCTs in the short term feel more comfortable having more information than less. But I think inevitably over time that will change. It could be a couple of years before we get to that point." (T3)

"The PCT's … financial position on secondary care commissioning has changed. It's become far more risky with PbR. In terms of PCTs wanting more analysis of contract activity, it is certainly a growth industry." (T1)

6.4.4 PCT analysis of information

As with Trusts, the financial consequences of PbR have led PCTs to pay greater attention to analysis of activity and financial information.

"We report a lot more about our contractual relationships with individual providers than we did. There's quite a large section in the commissioning director's report that deals with all our major hospital contracts, and clearly that has been driven by PbR really. What wasn't volatile is now potentially volatile." (PCT2)

"There is less certainty in the numbers when we do the monthly accounts than there would have been previously, because it is harder to predict what is going on with activity and changes in activities have a more direct relationship with costs." (PCT3)

"The main change, apart from needing more analytical input, is it involves a lot more time in the [PCT] finance department trying to work out, for any given trust, what they have told us, what it means for an end of year position and are we going to get hit by things that are outside of PbR by the end of the year, which they haven't told us about." (PCT3)

Particularly in places where PbR has not been fully implemented, there is a sense that the depth of analysis and scrutiny will increase over time, partly as PbR covers more activity, and partly as Practice Based Commissioning encourages GPs to take more of interest.

"I think [internal reporting] will change once we've got activity and cost information at practice level. I think once we are able to report to GPs what they are spending accurately, then we will have another look at what we report to the board, and we will probably want to report commissioning expenditure at practice level as well as just at SLA." (PCT3)

"The main change in terms of monitoring will be the Doctor Foster system, […] which should certainly be running between now [Feb 2006] and the end of March [2006]. That will enable us to be a lot more precise about commissioning, expenditure and also commissioning expenditure at practice level, which we have had no ability to report on and manage previously." (PCT3)

6.4.5 Verification of data

As discussed in section 2, before making payments PCTs need to verify the activity data (*Q*) they receive in two ways:

- to ensure that each unit of activity is appropriately allocated to the correct payment (HRG) category; and
- to ensure that the PCT can afford the amount of activity being undertaken.

The importance of verifying patient-level data has led to an increase in the number of queries between PCTs and Trusts, as indicated by the quotes provided in the box below. As the final quote suggests, this increase is likely to continue with the roll-out of PbR, as PCTs more fully appreciate the financial consequences of verifying the data.

"There are really two levels of the queries. There is the actual content of the data, therefore questions about why certain things are coded certain ways. The other [arises from PCTs] pushing for elective activity to be minimised. We have to do quite a complex model to justify the activities that we do, in terms of number of referrals and waiting lists, etc." (T2)

"There was always some degree of supporting the contracting work but it has increased, and not only increased more than doubled. Certainly from the work we have had from PCTs I have spent a lot of my time writing to respond to queries [on contracting issues]." (T3)

"Queries are coming from varying places. We get a lot from the PCTs, but I also get finance ringing me up every month saying: 'This is a bit odd. Can we check it?'. So then I will have to spend sometimes a whole day checking figures. That wouldn't have been done before." (T3)

"We have a lot of issues around un-coded activity. For one trust in particular U-codes every month cause quite a large proportion of their activity … One Trust has just re-started giving us PbR level information but we went for a year without anything from them. So activity information that we are getting from the trust is not up to the standard that we need to properly monitor, and certainly to be able to give information to GPs for practice based commissioning. When we start PBC activity information at a practice level, from April [2006], there will be some underlying assumptions around things like U-codes and undersigned activity." (PCT3)

" … there is this increasing tendency for detailed contracting queries to be raised around the way we are counting our activity and that has showed signs of turning into a real industry at one stage … The PCTs are perhaps challenging classifications, whether it is outpatients or day cases or whatever. We are also trying to agree targets, for say, satellite clinics that have never really been captured before." (T3)

"I think in 2004/5, which was effectively the first year of PbR, the PCTs didn't really get themselves together in terms of realising that, if they asked a series of queries, they may be able to save money … [Now PCTs] are actually focusing more on effectively saying: 'Why are you underperforming on this particular specialty?' and then they started to realise the full extent of their financial problems and the emphasis moved the other way and they started to try to keep activity down as low as possible." (T2)

There was some evidence that PCTs find it difficult to verify the data received from trusts. This problem stems partly from difficulties in accessing the primary data, as the quote below indicates. But there may also be an imbalance in the relationship between the contracting parties, making it difficult to for PCTs to enforce penalties. This is dealt with in the next section.

"For specific areas we intend doing a clinical audit of patient records. One area of national and local concern is short stay emergency admissions via A&E where providers admit patients to a ward to meet the 4 hour A&E target but which cost the PCT the full inpatient HRG price. We want to find out if these patients are being needlessly admitted who could otherwise leave straight from the A&E department. We are however finding it difficult to get the provider to allow us to view patients' records under the Caldicott data protection guidelines." (PCT3)

A view was also expressed that some of the verification process could be undertaken at a national level, particularly in identifying obvious errors. There were more than 58,000 duplicate records in the hospital episode statistics in 2002/03 and more than 24,000 in 2003/04 (Dawson et al., 2005). It would be perfectly feasible to strip these out before the data were sent to PCTs.

"They could do a number of runs, on the duplicates, on the number gynaecologists doing head and neck cancer work, dermatologists doing knee replacements. Those sort of things are always there, so mis-coding could also be pulled out [using a] national algorithm." (PCT1)

6.5. *Ex post* enforcement costs

The balance of negotiating power in the NHS has long been with providers rather than purchasers (Dawson and Goddard, 1999). There are various reasons for this, but one is the limited ability of PCTs to impose sanctions in response to shortfalls in contractual obligations. The clear relationship between activity and expenditure / income has both sharpened incentives, but also increased the likelihood of disputes between the contracting parties. This was mentioned in a number of interviews.

"So there is quite a lot more dispute and therefore dispute resolution needed as a result of PbR. Not saying that that is a bad thing but it is a fact: there are more disputes between PCTs and trusts." (PCT3)

"So there is a lot more rigidity in terms of the rules of engagement but the sheer complexity of PbR leads to a lot of disputes about definitions and guidance and so on." (T2)

"I think it took about two months to work through all those [over-performance claims] and we agreed the position with individual trusts over time but we didn't necessarily agree with what they were initially saying we should pay." (PCT3)

PCTs felt that some aspects of the current arrangements placed them in a weaker position, as the following two quotes indicate. One aspect of this is that PCTs are have limited ability to impose (financial or other) penalties. Another is that externally imposed conditions on the negotiating timetable put Trusts at an advantage. This may be because volume controls are not enforceable now that Choose & Book arrangements have been put in place.

"[When a Trust doesn't give us the information we need] we firstly negotiate with them and try to encourage them to improve [the data/information exchange process]. The difficulty is that, certainly, with the foundation trust contract there are no penalties in there for information data quality issues. As long as the trust produces the information in however many days it is, we struggle to withhold money from them. The contract doesn't really feel that tight from a PCT point of view. Basically the trust doesn't have the incentive of the possibility of losing money if they don't." (PCT3)

"I think PbR rules are not enforceable; the code of conduct for example is not enforceable to an FT. I think we need to find a way to step back from legally binding contracts, and to set up some arbitration body, a strategic health authority role, some way to test the reasonableness of it rather than if it is the law or not. I think the recent guidance that you must have contracts signed by the end of March puts us in a very difficult position and it lays the contract out for [the Trust] on a plate. We cannot accept that kind of proposal, it does not give us any kind of flexibility whatsoever. Contracts are supposedly negotiable but you can't have a negotiable contract when one of the parties has their hands tied behind their back, that says if you do not have the contract signed by the 31st March. … FT's just have to sit there and wait, they know that in the end we will have to give in." (PCT1)

6.6. Benefits of PbR

Most of those interviewed were positive about PbR, stating that it had the potential to deliver benefits to the contracting process, even if organisations had not realised these benefits yet. The benefits derive from three sequential stages:

1. PbR has enhanced the amount and accuracy of information in the system;
2. This has led to a better understanding of what is happening to the local population and identification of where changes might be made;
3. In turn, this has led to changes in the provision of services and better resource allocation.

6.6.1. Improved information

There was universal agreement that PbR had improved information:

"There's been a more concerted drive by PCTs and providers to produce good quality information … we get more information in terms of detail, and we get it sooner. I think that is an impact of PbR" (PCT2)

"[PbR has] improved commissioning. It's sharpened up our financial relationships with providers and it's given us quite a bit of clarity about determining what is and what is not in tariff, so we can fend off a lot of misuse." (PCT2)

"The coding manager does audits [to ensure that data is accurate] and as a requirement we have an external audit once a year … [External audit] has increased directly as a result of PbR" (T2)

6.6.2. Improved analysis

Better information, both in terms of its timeliness, and its level of specificity, appears to have encouraged greater analysis and investigation by PCTs.

"We're getting more data both at patient level and in terms of treatment. Some of that would have existed before but I don't think we were encouraged to look at it." (PCT2)

"If, by more closely monitoring what is going on in SLAs, PbR changes how trusts work and makes them more efficient, then the savings should be greater than the cost." (PCT3)

6.6.3. Improved decision-making

The acid test, of course, is whether improvements in the quality and availability of information have discernible influences on the quality of decision-making and, thereby, on patient care. PCTs did feel that PbR had provided them with both the information and financial ability to change patient care for the better. Some specific examples are cited in the box below, and include the ability to shift the locus of service provision and to make investments in the process of patient care.

However, there was a difference among PCTs in the timing of benefit realisation. Benefits were anticipated but had not yet been realised by the PCT in London, which may be due to the slower transition to PbR there.

"PbR has given us information that we have never had before to understand where patients are going and, more importantly, it's given us a real ability to shift money across sectors and across organisations and across care pathways which we have never had before" (PCT1)

"If you'd tried to move activities previously you'd never have been able to do it at anything less than marginal cost ... [Under PbR] we have probably shifted well over £1million of foot surgery out of hospital and … quite a lot of dermatology as well … We've seen things move at a tariff cost … and that is a real benefit for us - to squeeze our resources further and get better value for money for patient care." (PCT1)

"In the summer, when there was a heat wave, we … knew that we had had over thirty [hospital] admissions for re-hydration, mainly from nursing homes. That was £60,000 over one weekend for something that was preventable. [We decided to] employ a nurse practitioner specifically to target nursing homes to try to reduce admissions for preventable things … [Now] we have community staff who can re-hydrate, nursing homes are paid the money. PbR allowed us to do that." (PCT1)

"The benefits locally have been quite significant. We have been able to introduce some demand management issues around non-elective care because we've got pre-admission screening, triage teams and diversion teams in place. That's been quite effective." (PCT2)

"Hopefully the benefits will out-weigh that [£100,000-150,000 costs], but I don't think they have done yet." (PCT3)

"Up to now overall I think there are probably more costs than benefits …But that might be just the transitional period before it gets up and running properly. So hopefully over time the level of benefits increases." (PCT3)

Conclusions

This study has examined the nature of the marginal increase in administrative costs associated with PbR. Costs were estimated to have increased by around £100k-£180k in hospital trusts and from £90k to £190k in Primary Care Trusts. Most of the additional expenditure is due to recruitment of additional staff, usually appointed to junior or mid-level administrative posts. This is consistent with the Audit Commission's estimate of the cost increase for early implementers of PbR.

The increase in administrative costs is to be anticipated. Although the move to PbR had entailed a reduction in some types of transactions costs, notably price negotiation, this is more than offset by increased expenditure on other things. The main cost driver has been the increased informational specificity required of moving to a patient-based payment system.

Providers need to focus attention on both their coding and costing activities, particularly to ensure that patients are allocated accurately to their appropriate HRG. PCTs need to put increased effort into ensuring that the volume and type of activity that is being undertaken by their providers is counted and coding accurately, and that volumes are affordable. PbR has increased the scope for disagreement between trusts and PCTs over such matters, if only because the financial implications are much greater than they used to be.

The main changes in administrative costs arise from are:

- higher costs of *negotiation*. While there are lower costs in negotiating prices and volumes, this is offset by difficulties PCTs have in managing activity levels, because Trusts no longer have to get approval to expand their activity, thus making it more difficult for PCTs to live within their budgets.

- higher costs of data *collection*, due to PbR's requirement for accurate patient-level data. Some of these costs are down to IT investment, but many are driven by organisations taking on staff to ensure better extraction of data directly from case notes rather than summary forms.

- higher *monitoring* costs, because the financial consequences of changes in activity are more significant and because PCTs need to verify that the type of activity – particularly the HRG allocation – is accurate.

- higher *enforcement* costs, with the sharper relationship between activity and income/expenditure increasing the potential for more disputes between Trusts and PCTs

The net effect is an increase in administrative costs. But this has brought benefits, and there was consensus among all those interviewed that the PbR system was preferable to previous contracting arrangements, partly because PbR had sharpened incentives and introduced greater clarity into the contracting process. In addition, interviewees indicated that PbR had led to improvements in the process of care delivery, by enabling resources to be shifted across settings and, because of the improved specificity of information, and by highlighting where service improvements might be made.

Based on our study, we make the following recommendations:

Centralise more data cleaning
Some of the data cleaning, such as stripping out of duplicate HES records, might be undertaken centrally.

Hospitals should improve their internal costing
Much of the effort to date within trusts has been directed at improving clinical coding. We found less evidence that there had been as much emphasis on improving internal costing processes. In other countries that have PbR-type arrangements hospitals have better patient-level costing systems than are in place in England. Such systems provide more information about resource use and the areas of activity that are likely to be profitable. Failure to understand costs may lead hospitals to expand activity in unprofitable areas, which will undermine their financial position.

English trusts need both to improve their costing systems and also to make better use of resource data that they might already collect on a routine basis. For example, many hospitals record information in PAS about such things as diagnostic tests or theatre time, but this information is not always extracted by finance departments to inform their internal costings. For this to happen, trusts needs to forge closer integration between information and finance departments.

In addition, the DoH needs to be more prescriptive in its requirements. There is currently too much scope for trusts to interpret activity and costing requirements differently, which then impacts on consistency and on the overall usefulness of reference costs as a means for deriving tariffs.

Correct the imbalance of power between purchasers and providers

A number of interviewees – both in Trusts and PCTs – felt that PbR was currently weighted in favour of Trusts, a situation that may have been exacerbated by the form in which legally binding contracts had been introduced, not just PbR.

Power imbalances under PbR arise partly because of the difficulty PCTs face in controlling volumes, particularly when Trusts had waiting lists and with the introduction of Choose & Book. Active engagement by GPs in Practice Based Commissioning may alleviate matters, but more attention needs to be given to demand management mechanisms in general.

The other major reason for any imbalance is due to problems that PCTs have in verifying the information they receive from Trusts. PbR introduces incentives for gaming of information, and rather than placing the onus on PCTs to validate claims, greater centralisation of the auditing function might be considered.

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Appendix: Interview schedules

1. Interview schedule – Trusts: information / coding dept

- First, I would like to ask you:
- Whether administrative costs have gone up or down with the implementation of PbR
    - Please describe: which activities / costs have increased? And which decreased?
    - Could you explain what has driving these changes?
- Whether you think that this trend in costs is transitory or permanent
    - Description of costs: which activities / costs are transitory? And which persistent?

Describe your **clinical coding system**

- Have you made / will you be making investments to improve clinical coding system / data collection process?
- Will you do so in the near future? Why, and in what way?
- How do you evaluate the accuracy of coding processes?

Describe your **data collection** process

- Has it changed / will it change as a result of PbR?
- Have you made / will you be making investments to improve data collection? Details?
- Have you modernised your information system – new software and hardware?

Have your **internal reporting** and monitoring arrangements changed as a result of PbR?

- Do you have closer relations with the finance department? Describe
- Do you have closer relations with commissioning leads? Describe
- Do you have greater engagement with clinical staff? In what ways?
- What type of information do you have to provide to internal Board?
- Has the frequency and nature of requests changed?

Describe your **data exchange** process with PCTs

- Has it changed / will it change as a result of PbR - do you have to supply more info AND more regularly to PCTs?
- Is the nature of information exchange different under PbR – do PCTs ask for different info?
- What are you doing to improve the timeliness and accuracy of your clinical coding?
- Have your internal reporting and monitoring arrangements changed as a result of PbR?
    - What type of information do you have to provide to internal Board?
    - Has the frequency of requests changed?

Describe your **data verification** process

- Are PCTs querying data more frequently?
- And how have you responded?
- How are you providing assurance to PCTs on data quality and appropriateness of HRG allocations?
- Have there been any disagreements with PCTs about your data? Please describe
- How have these been resolved?

General questions

- Have you had to recruit additional staff, specifically for PbR?
- Has there been general “education”/training of staff about PbR? For example, internal seminars?
- Do you have more INTERNAL (within the trust) or EXTERNAL (with PCTs) meetings than in the past?
- Has your approach to commissioning changed?

2. Interview schedule– Trusts: finance dept

- First, I would like to ask you:
- Whether administrative costs have gone up or down with the implementation of PbR
    - Please describe: which activities / costs have increased? And which decreased?
    - Could you explain what has driving these changes?
- Whether you think that this trend in costs is transitory or permanent
    - Description of costs: which activities / costs are transitory? And which persistent?

Describe how you **allocate costs** to HRGs

- What level of costs do you cost to? Has this level changed as a result of PbR? [level 4 – patient level HRG costs; level 3 – elective / emergency /etc level costs]
- What changes have you made in preparation for PbR of your costing and activity data?
- Have your increased or reduced your attention to internal costing as a result of PbR?
- How do you evaluate the accuracy of your HRG costs?

Describe what **costing information** you require to manage under PbR

- Has it changed / will it change from previous arrangements?
- In what ways?
- What investments will you be making to improve costing information?

Describe your **data collection** process

- Has it changed / will it change as a result of PbR?
- Have you made / will you be making investments to improve data collection? Details?
- Have you modernised your information system – new software and hardware?

Have your **internal reporting** and monitoring arrangements changed as a result of PbR?

- Do you have closer relations with the coding / information department? Describe
- Do you have closer relations with commissioning leads? Describe
- Do you have greater engagement with clinical staff? In what ways?
- What type of information do you have to provide to internal Board?
- Has the frequency and nature of requests changed?

Describe your **data exchange** process

- Has it changed / will it change as a result of PbR - do you have to supply more info AND more regularly to PCTs?
- Is the nature of information exchange different under PbR – do PCTs ask for different info?
- What are you doing to improve the timeliness and accuracy of your information?
- Have you modernised your information system – new software and hardware?

Describe your **data verification** process

- Are PCTs querying cost data more or less frequently?
- And how have you responded?
- How are you providing assurance to PCTs on data quality and appropriateness of HRG allocations?
- Have there been any disagreements with PCTs about your data? Please describe
- How have these been resolved?

General questions

- Have you had to recruit additional staff, specifically for PbR?
- Has there been general “education”/training of staff about PbR? For example, seminars?
- Do you have more INTERNAL (within the trust) or EXTERNAL (with PCTs) meetings than in the past?
- Has your approach to commissioning changed?

3. Interview schedule - PCT

- First, I would like to ask you:
- Whether administrative costs have gone up or down with the implementation of PbR
    - Please describe: which activities / costs have increased? And which decreased?
    - Could you explain what has driving these changes?
- Whether you think that this trend in costs is transitory or permanent
    - Description of costs: which activities / costs are transitory? And which persistent?

Describe the **data exchange** process

- How and how frequently do you receive information?
- What type of information do you receive?
- Has this changed as a result of PbR?
- Have your internal reporting and monitoring arrangements changed as a result of PbR?
    - What type of information do you have to provide to internal Board?
    - Has the frequency of requests changed?

Describe your **data verification** process

- Are you querying data more frequently?
- How do you assess the quality of activity data and appropriateness of HRG allocations?
- Have there been any disagreements with trusts about their activity? Please give examples
- Have disputes arisen because of PbR – or for other reasons? Please describe
- How have these been resolved?

Describe your **management of demand**

- Are you having to expend more effort on managing demand?
- How much of this effort is directed to managing referrals?
- How much at managing trust activity?

General questions

- Have you had to recruit additional staff, specifically for PbR?
- Has there been general “education”/training of staff about PbR? For example, seminars?
- Do you have more INTERNAL (within the trust) or EXTERNAL (with PCTs) meetings than in the past?
- Has your approach to commissioning changed?
- Have you improved your costing department as a result of PbR?