

# Payment by results for mental health services: economic considerations of case-mix funding

ARTICLE

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## SUMMARY

Against the backdrop of a tight financial climate, a new method of funding mental health services is being rolled out in England's National Health Service. Called payment by results (PbR), it represents a fundamental change to the way providers of psychiatric services are paid for care of patients. The Mental Health Clustering Tool has been developed to capture activity which reflects the relative needs of patients, and cluster costs are being collected by service providers. The ultimate goal is the creation of a national tariff or fixed price for each cluster. This article describes the incentives generated by PbR and gives evidence on PbR in acute physical care services where it has been in operation for a decade, with respect to efficiency, quality, volume of activity, administrative costs, upcoding or gaming, equity of provision, and cross-subsidisation. It explores the challenges for mental health services as PbR is introduced.

## LEARNING OBJECTIVES

- Understand the difference between retrospective and prospective reimbursement systems and the incentives generated by each financing system.
- Understand the three key building blocks of PbR: currency, reference costs and tariffs.
- Consider the evidence on PbR in acute physical care and the implications for mental health services.

## DECLARATION OF INTEREST

None.

A new financial regime, payment by results (PbR), is now being rolled out in mental health services and will be the single biggest change in the way NHS psychiatric and related services are financed. But what are the incentives generated by this type of financing approach? How has it been implemented in acute physical care and what is the evidence for PbR? And what will the key challenges be for mental health services as policy makers seek to implement this payment reform?

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## Healthcare financing and incentives

### *Retrospective reimbursement*

At present, NHS mental health services are primarily funded through block contracts agreed between commissioners and providers of care, or on the basis of levels of existing 'inputs' such as the number of beds (Mason 2011a). This method of financing, often termed retrospective reimbursement, offers little incentive for providers to deliver an efficient level of care (Mason 2011a) because it does not encourage them to control costs or increase output (activity levels). This is because an agreed fixed sum is paid regardless of the number of patients treated. Budgets are typically notionally fixed and renegotiated on the basis of past expenditure.

Retrospective payment typically allows the provider to receive funding for each day of care, each diagnostic test, or each procedure which is conducted (e.g. fee for service) and the full cost of each patient is therefore shifted to the payer (e.g. the insurer or the state). There is a clear link for the provider between their revenue and the use of resources per case. Under retrospective reimbursement, the payer refunds the actual costs incurred by each provider, which shifts risk to the payer.

### *Prospective reimbursement: payment by results*

An alternative method of finance is when the price the provider is paid is set prospectively. The price paid per unit of healthcare activity is fixed in

The English National Health Service (NHS) currently faces an immense financial challenge in having to generate up to £20 billion of efficiency savings by 2014–2015. Mental health has been identified as one of the areas where provider-driven savings are expected to contribute to 40% of the total efficiency gains (National Audit Office 2011). Mental health services account for the largest proportion of programmed expenditure in the English NHS, at nearly 11% of the healthcare budget (Department of Health 2011a).

advance, giving an incentive for the provider to control their unit costs and increase the amount of service and activity levels provided, with a view to generating provider efficiency savings. PbR is a prospective payment system which was introduced into the English NHS in 2003–2004, beginning with acute healthcare providers.

Under prospective payment, the provider receives a lump-sum payment or fixed price which is set equal to the national average cost for patients with a particular condition or undergoing a particular procedure. This is often termed case-mix or activity-based funding and the lump-sum payment is set on the basis of case-mix- and resource-homogeneous groupings called diagnosis-related groups (DRGs) or the NHS variant, healthcare resource groups (HRGs). These should classify patients into a grouping with an approximately similar case mix, who should consume an approximately similar amount of treatment resources (e.g. bed days, staff time, theatre time).

An example might be ‘major hip procedures category 1 for trauma without complications and comorbidities’ (Department of Health 2012a: p. 17). Under a prospective system, if the actual cost of treating a patient is greater than the fixed lump-sum payment, which is set equal to the national average cost for patients with a hip fracture (category 1 for trauma without complications and comorbidities), then the hospital will make a loss. On the other hand, if the actual cost of treating the patient is less than the national average cost

(e.g. the hospital can reduce the patient’s length of stay, use generic drugs, insert a less expensive prosthesis), then the hospital will make a surplus. On average, if a hospital is treating a group of patients who are representative of the population as a whole, then it should break even. Prospective reimbursement’s use of expected costs shifts risk to the treatment provider.

Table 1 summarises the incentives associated with each payment system in terms of their implications for efficiency, quality and equity. Other possible (but undesirable) incentives of prospective reimbursement include ‘upcoding’, whereby patients are classified into a more expensive DRG or HRG (attracting a higher level of reimbursement) (O’Reilly 2012). Coding patients as having ‘comorbidities or complications’ when they do not would illustrate how ‘DRG creep’ or ‘HRG creep’ can occur.

Prospective funding can also lead to cross-subsidisation across service lines, whereby case-mix groups that make a surplus compensate for other service areas that make a loss (PriceWaterhouseCoopers 2012).

### Summary

Retrospective payment systems may thus be characterised as safeguarding quality, but at the risk of increases in healthcare expenditure, whereas prospective systems may generate efficiencies, but if unchecked, also risk triggering unintended consequences.

**TABLE 1** Advantages and disadvantages of retrospective and prospective payment systems

System	Advantages	Disadvantages
Retrospective reimbursement (e.g. fee for service)		
Efficiency		Overprovision (e.g. providing inappropriate care, keeping patients in hospital longer, duplicate services, changing the intensity or mix of services to more expensive services), increased total costs/inflationary (Kahn 1990)
Quality	Providers can choose to use expensive technologies, provide whatever services patients demand	
Equity	Low risk of patient selection	
Prospective reimbursement (case-mix funding, activity-based funding)		
Efficiency	Providers can control unit costs (reduce length of stay, increase activity levels) (Mannion 2008)	
Quality		Underprovision (e.g. skimping on quality and intensity of treatment) (Ellis 1998)
Equity		‘Cherry-picking’ low-risk patients and ‘dumping’ high-risk patients (Ellis 1998)
Other		Upcoding, cross-subsidisation

## Implementation of PbR in the acute sector

Payment by results, the prospective payment system in England (Department of Health 2002), has run for a decade in acute physical care and was introduced to achieve three objectives (Farrar 2011: p. 67), to:

- ‘enable [...] commissioners to focus on the quality and volume of services provided’ (a fixed price would negate the need for price negotiations between commissioners and providers)
- ‘incentivise NHS Trusts to manage costs efficiently’ (providers would have the incentive to retain surpluses and increase the volume of activity)
- ‘create greater transparency and planning certainty in the system’ (when combined with other concurrent English healthcare reforms such as patient choice, these objectives would be realised because the money would follow the patient).

Even though block contracts had proved to be effective at containing costs, they were abandoned in favour of a more transparent prospective funding approach which was consistent with the prevailing political commitment to objectives such as patient choice (O’Reilly 2012).

Payment by results was introduced in a phased manner, first covering only elective care in foundation trusts for 15 HRGs. The tariff was subsequently extended across all providers of NHS care (public, private and voluntary) in England, to cover all in-patient and out-patient care and accident and emergency (A&E) attendances. This transition period was important to give providers time to adjust to the new national tariff. The Department of Health set up transitional arrangements in which gains and losses were mitigated within a local health economy over a period of 4 years. Transitional arrangements will be equally (if not more) important in the roll-out for mental health services, to ensure a smooth implementation for both providers and commissioners as they adapt to new fixed pricing structures.

## Currency, costing and tariffs

The three key building blocks of PbR are a currency, reference costs and tariffs.

### Currency

The currency is the nationally agreed unit of activity attracting payment. It can take a number of forms covering different time periods, from an out-patient attendance or a stay in hospital (e.g. an HRG) to a year of care for a long-term condition,

or in the case of mental health, a care cluster. The HRG currency in acute care is based on procedure codes (OPCS-4) and diagnosis codes (ICD-10). Clinical coders translate the patient’s notes into codes, which are then translated into HRGs.

### Care clusters

Importantly, mental health services have taken a very different approach to currency development based on the Mental Health Clustering Tool (MHCT), which generates 21 case-mix clusters.<sup>†</sup> The MHCT is based on the 12 items comprising the Health of the Nation Outcome Scales (HoNOS) (Wing 1996) and 6 additional items comprising the Summary of Assessments of Risk and Need (SARN) (Self 2008). The MHCT does not use ICD-10 codes, but is based on the characteristics and needs of the patient. Consequently, patients with the same diagnosis could be assigned to different clusters. Considerable variation within and between clusters in terms of case mix may therefore be evident.

Research is still required to establish the reliability, validity, and case-mix and resource homogeneity of the proposed clusters, as there is little independent research in support of their use. Nevertheless, they were mandated for use from 2012 for working-age adults and older people. Patients must be assessed and assigned to a cluster and then regularly reviewed according to set review periods (Department of Health 2013).

Evidence from a national data assurance audit found that 40% of the clusters audited had at least one error (Capita 2013). The main reasons for errors were: failure to follow MHCT guidance; poor quality of the medical records used to justify cluster decisions; and inaccurate recording of the dates that patients start care, change clusters or are discharged. Thus, continued efforts should be made to train and retrain clinical teams in the effective use of the MHCT, and regular audit of the process is needed.

### Reference costs

The reference costs are a schedule each provider submits to the Department of Health detailing how much it costs them to provide each unit of the currency (Box 1). Reference costs for mental health services have been collected by cluster since 2010–2011. Costs are collected for three types of activity: admitted (in-patient) and non-admitted (out-patient) care, and initial assessments.

Reference costs are collected from NHS providers only. Private providers do not submit such costs, even though PbR applies to them when they provide care for NHS patients (Mason

<sup>†</sup>In the next issue of *Advances*, David Yeomans offers a critical summary for the clinician of clustering in mental health payment by results and Vishwa Radhakrishnan considers whether specialist psychiatric services are losing the PbR race. Ed.

**BOX 1** Hypothetical example of a national schedule of reference costs for mental health clusters

	Cluster 1 costs, £	Cluster 2 costs, £	etc.
Trust A	800	8000	
Trust B	700	8500	
Trust C	900	9000	
Trust D	1000	7500	
etc.			
National average = tariff	850	8000	

It costs Trust A £800 to provide Cluster 1 services and £8000 to provide Cluster 2, which is a more costly activity. It costs Trust B £700 and £8500 respectively to provide these same services. These are provider-specific costs that take into account both clinical costs (e.g. costs of diagnostics and monitoring interventions) and non-clinical costs (e.g. capital charges, food, cleaning and maintenance). All provider trusts submit these costs to the Department of Health, which calculates the national average cost for each cluster across all provider trusts. This is turned from a retrospective cost into a prospective fixed price – the tariff – the payment that all trusts will subsequently receive from commissioners. So Trust A will make a surplus on Cluster 1 because the tariff (£850) is higher than their cost to provide it, and they will break even on Cluster 2, whereas Trust C will make a loss on both clusters as their unit costs exceed the national tariff for both activities.

2009a). A large proportion of mental health activity is carried out by private providers and their cost structures may look very different from those of the NHS (e.g. contributions to employees' pension schemes).

The tariff is based on the national average of all NHS provider reference costs for a given currency, which is then turned into the prospective national fixed price. Whether the public and private sectors should face the same tariffs is a matter of some debate (Mason 2009b), but in England a uniform tariff is set for provision for NHS patients.

Table 2 shows the maximum review period for each of the 21 mental health clusters (determining when reassessments should occur), the indicative cluster unit costs and cluster costs per review period, and the number of patients in each cluster. As expected, the unit costs per cluster increase as illness severity and patient need increase for particular conditions. Commissioners will pay providers monthly for each patient in each cluster.

Although mental health services do not yet have a fixed tariff, these costs provide an indication of

**TABLE 2** Mental health clusters, cluster review periods, indicative costs and patient numbers for 2011–2012<sup>a</sup>

Cluster	Description	Maximum cluster review period	Weighted unit cost per day, £	Unit cost per maximum cluster review period, £	Patients, <i>n</i>
1	Common mental health problems (low severity)	12 weeks	9.25	777	56 131
2	Common mental health problems (low severity with greater need)	15 weeks	10.66	1 120	63 495
3	Non-psychotic (moderate severity)	6 months	11.41	2 076	133 222
4	Non-psychotic (severe)	6 months	16.69	3 037	88 741
5	Non-psychotic (very severe)	6 months	21.75	3 959	26 421
6	Non-psychotic disorders of overvalued ideas	6 months	18.50	3 367	18 135
7	Enduring non-psychotic disorders (high disability)	Annual	18.16	6 628	41 075
8	Non-psychotic chaotic and challenging disorders	Annual	23.92	8 731	32 200
10	First episode in psychosis	Annual	29.06	10 606	27 482
11	Ongoing recurrent psychosis (low symptoms)	Annual	15.22	5 556	103 876
12	Ongoing or recurrent psychosis (high disability)	Annual	26.45	9 653	61 087
13	Ongoing or recurrent psychosis (high symptom and disability)	Annual	40.57	14 809	39 037
14	Psychotic crisis	4 weeks	86.23	2 415	14 787
15	Severe psychotic depression	4 weeks	46.56	1 304	7 359
16	Dual diagnosis (substance misuse and mental illness)	6 months	35.84	6 522	13 364
17	Psychosis and affective disorder (difficult to engage)	6 months	53.24	9 690	17 966
18	Cognitive impairment (low need)	6 months	5.75	1 046	118 242
19	Cognitive impairment or dementia (moderate need)	6 months	10.19	1 855	109 558
20	Cognitive impairment or dementia (high need)	6 months	22.30	4 059	42 676
21	Cognitive impairment or dementia (high physical or engagement)	6 months	23.58	4 291	20 536

a. Costs at 2011–2012 prices; costs exclude initial assessment and a market forces factor, and are not adjusted for bias of using a sample of 29 out of 60 trusts; data not amended to account for the change in the maximum review period for cluster 18 (to 12 months) during the year studied.

Data: Department of Health 2012b, 2013.

the data that will be used and the method that will be applied to generate the tariff.

### Tariff

The tariff, which has been delayed, will be calculated annually as a weighted average of admitted and non-admitted care and initial assessments. The clusters are designed to be independent of setting, thus providing an incentive to treat people in the least restrictive but also the most cost-effective setting. This strengthens incentives to shape care pathways and to keep patients out of hospital, since providers will only be able to make a surplus if they minimise the more expensive in-patient costs relative to treating more patients in an out-patient setting.

Acute services had a decade of collecting and refining their costing processes before tariffs were introduced. For mental health the timescales of moving towards a national tariff have been considerably shorter and this may ultimately prove to be unwise with respect to the implementation of PbR. To date, there is evidence of very wide variation in costs at cluster level both within and across providers (Healthcare Financial Management Association 2012), suggesting that validation of the costing processes and consideration of the appropriateness of the clusters for costing purposes are required. There will inevitably be variation in data quality due to variations in provider efficiency, differences in service delivery models, the quality of services, the level of local authority input, as well as historical and procedural factors. There is also significant variation between providers in information technology (IT) systems, which adds complexity. Very few mental health providers, compared with acute providers, underpin the costing data with patient level information costing systems (PLICS) (PriceWaterhouseCoopers 2012), which can generate more detailed information on cost drivers (Street 2007) and provide an important understanding of the relationship between cost and price. Setting prices on the basis of poor-quality cost data could significantly compromise PbR.

As there is a long time lag between submission of reference costs by providers and the publication of the tariff in acute services, a number of adjustments are made to the reference costs, including a general inflationary uplift (applied each year reflecting assumptions about price pressures), and a national efficiency requirement to encourage performance improvement (Mannion 2008) (giving a net tariff uplift which in recent years has resulted in negative real growth in tariff prices) (Table 3).

**TABLE 3** Tariff uplifts and efficiency requirements

Tariff year	Pay and price inflation: gross uplift, %	Less efficiency requirement, %	Net tariff uplift, %
2005/06	7.0	-1.7	5.3
2006/07	6.5	-2.5	4.0
2007/08	5.0	-2.5	2.5
2008/09	5.3	-3.0	2.3
2009/10	4.7	-3.0	1.7
2010/11	3.5	-3.5	0.0
2011/12	2.5	-4.0	-1.5
2012/13	2.2	-4.0	-1.8

Data: Department of Health 2012a.

The national tariff is adjusted by a market forces factor (MFF) to account for unavoidable differences in costs across the country (e.g. regional variation in wages and land and building costs). It generally costs more to run a hospital in London than it does in the north of England. The MFF is nationally determined and unique to each provider, and adds about 8% to the value of the tariff (Department of Health 2012a). A basic formula for the income of a provider is:

$$\text{income} = [\text{tariff} \times \text{activity}] \times \text{MFF}.$$

### Summary

Before implementation in mental health services, it is essential that the three key building blocks of PbR (currency, reference costs and tariff) are thoroughly tested and that they are scrutinised by evaluators who are independent of the architects of the system. If the objective is to create a reimbursement system that incentivises implementation of national policy and strategies such as the Mental Health Strategy (Department of Health 2011a), and it is important that the system generates the right incentives for quality and service improvement alongside delivering efficiency improvements, then a thorough evaluation of the impact of PbR in mental health is needed.

### What about quality?

It should be noted that 'payment by results' is something of a misnomer. Aside from a few initiatives such as best-practice tariffs (BPTs) to incentivise quality, payment is only for activity and does not take into account the undeniably important and rapidly developing area of routine outcome measurement in healthcare.<sup>‡</sup> With BPTs, an extra top-up payment is made for efficient provision of high-quality care (Department of Health 2010). For example, in 2011–2012 the base tariff for fragility hip fracture was

<sup>‡</sup>For a discussion of the use of outcome measures in clinical practice see Lewis & Killaspy, pp. 165–171, this issue. Ed.

£5323 (Department of Health 2012a: p. 17). An additional top-up BPT of £1335 was payable if care demonstrably complied with clinical characteristics of best practice, notably surgery within 36 hours of arrival in A&E and expert care under a consultant geriatrician with a multi-disciplinary care team.

In acute physical care, the collection of patient-reported outcome measures (PROMs) data before and after certain elective procedures (such as unilateral hip replacements, knee replacements, groin hernia and varicose vein surgery) has been mandatory since 2009 (Department of Health 2009), but there has as yet been no move to incorporate these, or any other outcomes, routinely into PbR, although opportunities clearly exist to do so.

Work has been ongoing in mental healthcare to develop a range of quality indicators and outcome measures which can be used alongside the currency model to eventually enable payment linked to quality and outcomes (Department of Health 2011b). The intention is for clusters to be associated with quality and outcome measures:

- a set of quality indicators (e.g. the percentage of people on the care programme approach who have had an annual review; the percentage of patients with a valid ICD-10 diagnosis recorded; the completeness of ethnicity recording)
- clinician-rated outcome measures (CROMs) (based on HoNOS individual items and total scores using a four-factor model developed to show overall change and change specific to personal, emotional and social well-being and severe disturbance (Speak 2012))
- patient-reported outcome measures (PROMs) (e.g. the Warwick–Edinburgh Mental Well-being Scale (Tennant 2007))
- patient-reported experience measures (PREMs) (e.g. use of a ‘friends and family’ question); PREMs are likely to be derived from the Care Quality Commission’s (CQC’s) patient survey questions (Department of Health 2013).

The website of the Industry and Mental Health Service Collaborative (IMHSeC) ([www.mednetconsult.co.uk/imhsec](http://www.mednetconsult.co.uk/imhsec)) provides guidance on care packages and best practice for each cluster, including National Institute for Health and Care Excellence (NICE) guidance. However, more evidence is still needed on how to operationalise high-quality services for care pathways. Quality payments can be incentivised through Commissioning for Quality and Innovation (CQUIN) funding. Ultimately, commissioners would pay in accordance with the number of

people in a particular cluster with a given outcome and level of care quality.

## Evidence on PbR in England

Although PbR has been operating for a decade for acute physical care in England, surprisingly few studies have evaluated its impact, perhaps because it is challenging to disentangle PbR from other policy reforms over this period (O’Reilly 2012). A few studies (Farrar 2009, 2010) have used the fact that in the acute sector, PbR was rolled out first to foundation trusts. They have compared NHS trusts and foundation trusts in the period when PbR applied only to the latter. Farrar *et al* (2010) also took advantage of the fact that PbR was not introduced in Scotland and compared the performance of the English and Scottish systems to avoid the difficulty of assessing PbR against the background of other changes in the NHS.

What is the evidence for the impact of PbR in England to date? In short, it has generally had a positive influence on hospital activity and efficiency, with no deterioration in the quality of care provided (Mason 2011b). Among the areas that have been investigated are: efficiency; quality of care; volume of activity; administrative costs; upcoding; equity; and cross-subsidisation.

### Efficiency

Evidence broadly supports the argument that PbR has been associated with reductions in unit costs through reductions in length of in-patient stay and increases in the proportion of day cases (Farrar 2010, 2011; O’Reilly 2012).

### Quality of care

For reductions in length of stay to be interpreted as increases in efficiency, it would require that quality remained unchanged or improved over the same period. Use of prospective payment systems may lead to ‘skimping’ on the quality and intensity of treatment, which may later result in readmission or higher mortality rates after discharge.

Farrar *et al* (2009) used administrative data to construct indicators of quality of hospital care: rates of in-hospital mortality, 30-day post-surgical mortality; and emergency readmissions. They found no change in quality after the introduction of PbR, although other unmeasured dimensions of quality of care may have been affected by it.

Although there is no direct evidence that fixed prices lead commissioners to focus on quality, the available evidence suggests that the focus of providers on cost reductions has not been to the detriment of quality (Farrar 2007, 2009; Audit Commission 2008a).

### Volume of activity

There is evidence to support the hypothesis that the volume of activity did increase following the introduction of PbR (Farrar 2007, 2009; Audit Commission 2008a). However, it is not possible to disentangle the impact of the tariff from the effect of the rise in NHS funding during the same period, and ultimately other policies, such as waiting-time targets, may have been more important in driving growth in volumes (Propper 2007).

### Administrative costs

In terms of the costs of setting up and implementing the new funding system, evidence shows increased administrative costs per organisation of around £100 000 (Audit Commission 2005; Mannion 2006). This is due to higher costs of negotiation, data collection, monitoring and enforcement.

Given the administrative burden of managing the system, critics argue that PbR may tend to favour larger providers and squeeze out smaller providers such as local charities and third-sector organisations (Grimwood 2013), who play a crucial role in mental health service provision.

One administrative cost which will be particularly relevant to NHS mental health services is the time cost of grouping patients using the new clustering tool. Although clinical teams already familiar with HoNOS may not find the clustering a challenge, for others the task of gaining familiarity with the currency and building it into assessments will take time and have clinical resource implications.

### Upcoding

The PbR tariff for HRGs ‘with complications’ is higher than for those ‘without complications’, suggesting a potential incentive for upcoding. Early evidence of ‘HRG creep’ suggested little deliberate upcoding, since coding errors were found to be random (Audit Commission 2008b). However, a comparison of HRG codings from English and Scottish hospitals before and after PbR was introduced in England found a higher rate of growth of spells in HRGs ‘with complications’ in the English data (Farrar 2011).

In acute care the possibility to ‘game’ the system is potentially both easier and more difficult. On the one hand, coders record the diagnosis and procedure from the discharge notes, but do not directly allocate the HRGs. This is done automatically via an electronic algorithm on submission to the national data warehouse. Given that there are around 28 000 codes, upcoding would seem difficult, and therefore unlikely, en masse. On the other hand, the complexity of the

system makes detection of upcoding also very difficult, making efforts to systematically upcode potentially easier and more appealing.

In mental health services, the incentives for something akin to ‘cluster creep’ are more direct. Scoring for the MHCT is performed by members of the clinical team rather than clinical coders. With only 21 clusters, it will soon become apparent to clinical teams what the monetary value is for each (see Table 2). There is a computerised algorithm to support decision-making, but this can still be manually overridden. Small changes to the HoNOS item score profiles will map through to the MHCT. Patients could be moved between clusters to directly influence provider revenue and the moves could be disguised as variations in clinical judgement. There will therefore need to be checks in place to audit the mechanics of the clustering process and the integrity of this coding pathway. This will be very difficult to perform routinely and with neutral impact, since it raises suspicion while aiming to remove deception, and commissioners will not readily be in a position to audit upcoding at individual patient level. A continual validation of the algorithm for the MHCT will also be needed to ensure a consistent grouping of patients with similar needs.

### Equity of care

The evidence shows little support of concerns that PbR would lead to certain (more expensive) patients being ‘dumped’ or deterred from accessing care, whereas other (less expensive) patients were ‘cherry-picked’. Cookson *et al* (2012) found no change in socioeconomic equity of healthcare use between 2001–2002 and 2008–2009 for elective procedures, and some signs that equity might actually have improved slightly, since inpatient admission rates rose slightly faster in low-income areas than elsewhere. These results raise some optimism that socioeconomic disparities in healthcare utilisation may be impervious to changes in the provider reimbursement system.

### Cross-subsidisation

If providers are able to decide the service mix, they might choose to treat more of the profitable HRGs, and even drop some that are less profitable. A recent study by PriceWaterhouseCoopers (2012) found that, although hospitals are potentially able to alter their service mix according to more profitable HRGs and divest themselves of loss-making services, this has in practice been mitigated by cross-subsidy from other sources of income, including non-tariff services (i.e. those services currently lying outside the scope of the

PbR tariff, such as mental health). The report found that commissioners took funding away from mental healthcare because they found it difficult to assess what they could get for their money.

This report also showed that there is temporal volatility in tariffs, providing little basis for providers to invest/disinvest in profit- or loss-making services. It is rational for hospital managers to focus on the overall financial viability of the organisation as a whole and not concern themselves with particular 'service lines' that might be profit- or loss-making. Cross-subsidisation may help hospital managers prevent withdrawal of services that are seen as valuable to patients, particularly if there are dependencies between services. However, cross-subsidisation reduces or even negates incentive effects at the specialty level.

PriceWaterhouseCoopers concluded that the flaw in the system is that cost information underlying PbR is too weak. An implicit assumption of the national tariff is that all providers face the same cost structures and the same opportunities for making cost reductions (Appleby 2012). This has not been the case in practice, which means that the tariff is not an accurate price signal, as it is based on flawed costing data.

The PriceWaterhouseCoopers study found that PbR is increasingly ignored at a local level because the system has lost credibility. The Audit Commission (2008a) concluded similarly, finding that 'the credibility of the tariff is an issue for primary and secondary clinicians alike' (p. 46). Because of this lack of credibility, providers and commissioners are increasingly negotiating prices locally, and 'working around' the tariff by, for example, agreeing levels of activity within specified budgets – more or less the system in place before the introduction of PbR. Playing outside the PbR rules may be common, yet there has been little attempt by the Department of Health to assess the scale of non-compliance.

## Conclusions

Advocates for the PbR approach suggest that it has the capacity to reform and improve public services by delivering more for less and rewarding only what works. Indeed, some of the evidence would appear to support this view, although a significant challenge remains how to determine what constitutes the 'result' for which services will be paid.

A report by the King's Fund (Appleby 2012) questioned whether PbR is fit for purpose given changing priorities such as the need for the development of integrated care, the prevalence of

long-term conditions and the changing economic environment. Among the key findings of the report was that:

- PbR is most suited to elective care and less suited to other services and that different services may require different payment systems
- the development of more comprehensive payments is needed
- the payment system needs to be underpinned by good information and analysis.

In January 2013, at a King's Fund conference entitled 'Payment Reform: Moving Beyond Payment by Results', Emma Stanton, chief executive of Beacon UK, noted that while the acute sector is considering life beyond PbR, mental health services are still striving to adopt the PbR approach (E. Stanton, personal communication, 2013).

Yet in many respects, mental health is already ahead of the curve on some aspects of PbR compared with acute physical care.

First, mental health is already grappling with the challenge of incorporating quality metrics, including CROMs, PROMs and PREMs, into the clusters to transform 'payment by activity' into something potentially better, but technically more challenging, i.e. 'payment by results'.

Second, mental health is considering a more comprehensive payment approach essentially by using, as a currency, care clusters that encompass a patient's complete care pathway. So, for example, 'severe psychotic depression' captures the full care pathway, as opposed to, say, 'major hip procedures category 2 for trauma with intermediate complications', which will have separate payments for out-patient follow-up appointments or rehabilitation and thus does not incentivise joined-up care. Acute hospitals have strong incentives to maintain income and their tariffs lack the flexibility to support large-scale shifts in care from hospital to other settings. This might encourage more activity to be provided where prices can be negotiated outside of national tariff and may create the risk of fragmenting care pathways.

Yet for mental health the broader currency of case-mix clusters that encompass complete care pathways brings with it the problem of accurately costing such clusters, which will by design incorporate great variability in service elements. The establishing of accurate, reliable and meaningful cost data may become one of the biggest impediments to the implementation of PbR in mental healthcare. Acute services have had a decade of costing experience and yet cost



data are still considered by some to be too weak (PriceWaterhouseCoopers 2012).

An important part of the new payment system will be good information and robust and replicable analysis that includes the capturing of clustering decisions and their costs, as well as patient-reported outcomes and quality metrics in the Mental Health Minimum Dataset (MHMDS) (Capita 2013). An evaluation is needed of the chosen currency, costs and resource implications, particularly in terms of the degree of variation within and between clusters and providers with respect to need, typical care pathways and case mix. This is challenging because diagnostic information in the MHMDS is currently poorly recorded by many providers. Gathering evidence through research and evaluation to support PbR development is endorsed by the custodians of the future system (NHS England 2013).

Although there are significant challenges in making the new system work in mental health services and some risks associated with doing so, an even greater risk is to do nothing. Furthermore, this is not an option: progress has begun. Mental health services that remain under block contracts risk disinvestment relative to services that have made it easier for commissioners to assess what they are spending their limited budgets on, particularly in the current financial climate.

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## References

- Appleby J, Harrison T, Hawkins L, et al (2012) *Payment by Results: How Can Payment Systems Help to Deliver Better Care?* King's Fund.
- Audit Commission (2005) *Early Lessons from Payment by Results*. Audit Commission.
- Audit Commission (2008a) *The Right Result? Payment by Results 2003–07*. Audit Commission.
- Audit Commission (2008b) *PbR Data Assurance Framework 2007/08: Findings from the First Year of the National Clinical Coding Audit Programme*. Audit Commission.
- Capita (2013) *Payment by Results Data Assurance Framework: Report on Assuring Mental Health Currencies*. Capita Health and Wellbeing.
- Cookson R, Laudicella M, Li Donni P (2012) Measuring change in health care equity using small-area administrative data: evidence from the English NHS 2001–2008. *Social Science & Medicine*, **75**: 1514–22.
- Department of Health (2002) *Delivering the NHS Plan: Next Steps on Investment, Next Steps on Reform* (Cm 5503). TSO (The Stationery Office).
- Department of Health (2009) *Guidance on the Routine Collection of Patient Reported Outcome Measures (PROMs): For the NHS in England 2009/10*. Department of Health.
- Department of Health (2010) *Payment by Results Guidance for 2010–11*. Department of Health.
- Department of Health (2011a) *No Health without Mental Health: A Cross-Government Mental Health Outcomes Strategy for People of All Ages*. Department of Health.
- Department of Health (2011b) *Payment by Results Quality and Outcomes Indicators: Report for Product Review Group Quality & Outcomes Sub Group*. Department of Health.
- Department of Health (2012a) *A Simple Guide to Payment by Results*. Department of Health.
- Department of Health (2012b) *Reference Costs 2011–12*. Department of Health.
- Department of Health (2013) *Mental Health Payment by Results Guidance for 2013–14*. Department of Health.
- Ellis RP (1998) Creaming, skimping and dumping: provider competition on the intensive and extensive margins. *Journal of Health Economics*, **17**: 537–55.
- Farrar S, Sussex J, Yi D, et al (2007) *National Evaluation of Payment by Results*. Health Economics Research Unit, University of Aberdeen.
- Farrar S, Yi D, Sutton M, et al (2009) Has payment by results affected the way that English hospitals provide care? Difference-in-differences analysis. *BMJ*, **339**: b3047.
- Farrar S, Chalkley M, Yi D, et al (2010) *Payment by Results: Consequences for Key Outcomes Measures and Variations across HRGs, Providers and Patients*. Health Economics Research Unit, University of Aberdeen.
- Farrar S, Yi D, Boyle S (2011) Payment by results. In *Understanding New Labour's Market Reforms of the English NHS* (eds N Mays, A Dixon, L Jones): 66–77. King's Fund.
- Grimwood GG, Edmonds T, McGuinness F, et al (2013) *Delivering Public Services: The Growing Use of Payment by Results (Standard Note SN/HA/6621)*. House of Commons, Home Affairs Section.
- Healthcare Financial Management Association (2012) *Next Steps in Developing a Payment Mechanism for Mental Health* (Mental Health Finance Faculty Discussion Paper). HFMA.
- Kahn KL, Rubenstein LV, Draper D, et al (1990) The effects of the DRG-based prospective payment system on quality of care for hospitalized Medicare patients: an introduction to the series. *JAMA*, **264**: 1953–5.
- Mannion R, Marini G, Street A (2006) Demand management and administrative costs under payment by results. *Health Policy Matters*, **12**: 1–4.
- Mannion R, Marini G, Street A (2008) Implementing payment by results in the English NHS: changing incentives and the role of information. *Journal of Health Organization and Management*, **22**: 79–88.
- Mason A, Goddard M (2009a) *Payment by Results in Mental Health: A Review of the International Literature and an Economic Assessment of the Approach in the English NHS* (CHE Research Paper 50). Centre for Health Economics, University of York.
- Mason A, Street A, Miraldo M, et al (2009b) Should prospective payments be differentiated for public and private healthcare providers? *Health Economics, Policy and Law*, **4**: 383–403.
- Mason A, Goddard M, Myers L, et al (2011a) Navigating uncharted waters? How international experience can inform the funding of mental health care in England. *Journal of Mental Health*, **20**: 234–48.
- Mason A, Ward P, Street A (2011b) England: the Healthcare Resource Group system. In *Diagnosis-Related Groups in Europe: Moving Towards Transparency, Efficiency and Quality in Hospitals* (eds R Busse, A Geissler, W Quentin, et al): 197–220. Open University Press.
- National Audit Office (2011) *Delivering Efficiency Savings in the NHS*. National Audit Office.
- NHS England, Monitor (2013) *How Can the NHS Payment System Do More for Patients? A Discussion Paper*. NHS England.
- O'Reilly J, Busse R, Hakkinen U, et al (2012) Paying for hospital care: the experience with implementing activity-based funding in five European countries. *Health Economics, Policy and Law*, **7**: 73–101.
- PriceWaterhouseCoopers (2012) *An Evaluation of the Reimbursement System for NHS-Funded Care: Report for Monitor*. PWC.
- Propper C, Sutton M, Whitnall C, et al (2007) *Did 'Targets and Terror' Reduce English Waiting Times for Elective Hospital Care?* (CMPO Working Paper no. 07/179). Centre for Market and Public Organisation.

MCQ answers

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Self R, Rigby A, Legget C, et al (2008) Clinical Decision Support Tool: a rational needs-based approach to making clinical decision. *Journal of Mental Health*, 17: 33–48.

Speak B, Hay P (2012) *The Utility of the Mental Health Clustering Tool (MHCT) as a Generic Outcome Measure for the Payment by Results Quality and Outcomes Framework in Working Age and Older Adult Mental Health Services: Final Report*. Care Pathways and Packages Project Consortium.

Street A, Maynard A (2007) Activity based financing in England: the need for continual refinement of payment by results. *Health Economics, Policy and Law*, 2: 419–27.

Tennant R, Hiller L, Fishwick R, et al (2007) The Warwick–Edinburgh Mental Well-being Scale (WEMWBS): development and UK validation. *Health and Quality of Life Outcomes*, 5: 63.

Wing JK, Curtis RH, Beevor AS (1996) *HoNOS: Health of the Nation Outcome Scales: Report on Research and Development. July 1993–December 1995*. Royal College of Psychiatrists.

## MCQs

Select the single best option for each question stem

### 1 Payment by results is:

- a a prospective funding system
- b an activity-based funding system
- c a case-mix-based funding system
- d all of the above
- e none of the above.

### 2 Payment by results potentially creates incentives for:

- a underprovision of services
- b overprovision of services
- c duplication of services
- d providing more expensive services
- e longer length of in-patient stay.

### 3 Clusters are:

- a case-mix-homogeneous groupings
- b patient-need-based homogeneous groupings
- c resource-use homogeneous groupings
- d complexity homogeneous groupings
- e all of the above.

### 4 Payment by results in acute medical services:

- a was introduced to increase efficiency
- b was introduced to focus negotiations between commissioners and providers on quality
- c has not led to a measured change in quality
- d has been associated with increased efficiency
- e all of the above.

### 5 The tariff:

- a is the currency for paying for healthcare services
- b can show volatility, which can reduce its credibility
- c should be set low enough by commissioners to encourage cost-saving behaviour
- d is the total cost for all providers to produce a unit of activity
- e all of the above.