

Payment by Results

In 2002 the Department of Health announced a fundamental change to the way in which NHS hospitals in England are paid for the work they do (Department of Health 2002b). Under this new system – Payment by Results (PbR) – hospitals are reimbursed for the activity they carry out using a tariff of fixed prices that reflect national average costs.

This reform introduces some strong levers into the NHS system that are intended to improve efficiency and quality. In theory, PbR creates a strong incentive for hospitals with above-tariff services to reduce costs to avoid running at a loss. It provides commissioners with an extra incentive to manage demand for care because each individual admission has a cost attached to it; it also offers greater opportunities to put pressure on providers to improve quality, as it makes it easier for commissioners to switch providers or reconfigure services. In conjunction with patient choice, PbR could also encourage providers to improve the quality of their care to avoid losing the custom of patients. Such a payment system also allows the price setter – the Department of Health – to adjust prices as an incentive for providers to change volumes or patterns of work.

The government is currently considering whether and how the system can be improved and extended to more services in the future (*see* Department of Health 2007b).

This briefing explains how Payment by Results works, examines the evidence on whether the system has achieved, or is likely to achieve, the policy aims set for it, and describes the government's current proposals for the future of PbR.

How does Payment by Results work?

Prior to the introduction of Payment by Results, primary care trusts (PCTs) negotiated contracts with hospitals, which involved agreeing a price for a certain amount of activity. A variety of contractual forms were used. For example, block contracts involved agreeing a total price for the provision of a service without specifying the volume of activity; cost and volume contracts linked agreed volumes of work with an agreed total cost.

Under PbR, hospitals are paid on a 'per case' basis, with prices fixed nationally, in advance. Treatments and procedures are assigned to a 'healthcare resource group' (HRG), which are groups of health care activities that are clinically similar and require similar levels of resources. Prices for activities in each group are set by the Department of

AUTHOR: JO MAYBIN
j.maybin@kingsfund.org.uk

Health and detailed in a national tariff. For example, in the 2007/8 tariff, the price for providing a stomach-related diagnostic test was £407, and the price for a coronary bypass £7,375 (Department of Health 2006d). The same price is paid by commissioners no matter which hospital provides treatment and it covers all the activities involved in the procedure. For example, a coronary bypass includes administering anaesthesia and a period of post-operative care in intensive care or a specialist heart unit, in addition to the operation itself.

An important feature of PbR is that prices contained in the national tariff are set on the basis of the average (mean) cost of providing a particular procedure, calculated using data from all NHS hospitals in England (including foundation trusts). Non-clinical costs, such as food, cleaning and building-related costs are also included in this calculation. Since 1998, all hospitals treating NHS patients have had to collect and submit data to the Department of Health every year detailing their costs, broken down by the types of treatment they provide. These reference costs have tended to be apportioned retrospectively, with finance staff estimating at the end of the year how much of their total expenditure was spent on which treatments (Street 2006).

As the tariff price for a treatment may be higher than the actual costs of provision (and, indeed, the previous locally negotiated price), a PCT may not be able to buy the same volume of care as it could before the introduction of PbR. To alleviate this problem, the government set up a transitional system under which PCTs are reimbursed for the difference between the reference costs of a local provider and the tariff price. This 'purchaser parity adjustment' payment is being reduced year-on-year, from 50 per cent of the difference between reference costs and tariff in 2006/7 to 25 per cent in 2007/8, the final year in which it will be paid (Department of Health 2006f).

In addition, the government has introduced the Market Forces Factor (MFF), which supplements the national tariff, giving each trust a slightly different payment for services depending on where in the country they are located. This is intended to compensate for unavoidable regional variations in costs – for example, the higher unit costs of staff due to London weighting, and variations in the costs of land and buildings. This money is paid to hospitals direct by the Department of Health, rather than through an adjustment to the prices paid by PCTs; this is to ensure that PCTs are not tempted to switch to a hospital with lower costs, setting up price competition between hospitals in the same area with different costs and potentially destabilising high-cost hospitals, which would reduce access to services for some sectors of the population.

There are also some additional top-ups to the tariff for specialist services with low or varying demand levels, such as infectious disease centres.

As previously mentioned, the tariff costs of a procedure include several stages of that procedure. The government encourages 'unbundling' of the tariff to allow the payment to be split up, so that different parts of a treatment can be delivered by different providers. This allows PbR to support another key government policy objective, which is to deliver more care outside hospitals in an effort to improve cost-effectiveness and patient convenience (Department of Health 2006b). For example, rehabilitation after an operation may be performed in a community facility rather than an acute hospital; unbundling the tariff for that operation would allow part of the money for the treatment to go to the community facility. In 2006, the government published indicative unbundled tariffs for diagnostic imaging and rehabilitation services for a limited number of conditions; local health organisations can use this information to guide their negotiations over prices for unbundled services (Department of Health 2006f). There is no centrally published data on the extent to which unbundling is being used in practice.

What types of care does it cover?

When the Department of Health published their plans for the introduction of Payment by Results in autumn 2002, they proposed that the system should eventually be introduced to most areas of hospital service provision, covering most inpatient, day-patient and outpatient activity including for both planned and unplanned treatments and procedures (Department of Health 2002b). In 2003/4 the system was introduced in a partial form for a limited number of elective (planned) procedures, with a focus on ‘creating incentives to increase elective activity and increase capacity nationally, in order to sustain reduction [*sic*] in waiting times’ (Department of Health 2002a). PbR was applied to 15 HRGs, including heart, cataract, knee, hip and breast surgery and varicose vein procedures, and only for activity in these areas that was above an agreed 2002–2003 baseline (Department of Health 2002a).

The system has been extended each year since then to cover: most care in foundation trusts (2004/5); planned (elective) care in all NHS hospitals (2005/6); non-elective and outpatient care, accident and emergency (A&E) and minor injuries units (MIUs) by 2006/7.

Although the national tariff has now been extended to A&E and MIUs, payment for 80 per cent of their planned activity is guaranteed (irrespective of actual activity) in order to preserve capacity and hence local access. In 2006 the tariff arrangements for emergency admissions were changed: each commissioner agrees a level of activity with the provider, and any activity above that level is paid at only 50 per cent of the value of the tariff. This was introduced in order to share out the financial risk of any increase in emergency admissions between the PCT and hospital and also to provide an incentive to reduce the growth in emergency admissions. It provides an example of how the Department of Health is using the tariff to try to change the behaviour of service providers (Department of Health 2006e).

Independent sector treatment centres are paid according to pre-agreed contracts and are not currently included in the Payment by Results system. However, in future any provider of services paid for by the NHS will be paid according to the NHS tariff; those independent providers that are currently part of the national ‘extended choice network’ are already paid through Payment by Results (Department of Health 2007a).

Why was it introduced?

The principal stated aims of the reforms to the financing system are:

- to facilitate the achievement of waiting time reduction targets in a decentralised way;
- to reward efficiency and quality in provision;
- to support patient choice of provider by allowing money to follow patients;
- to provide a transparent and fair way of paying providers for NHS care; and
- to reduce transaction costs and negotiating disputes over price between PCTs and hospitals (Department of Health 2002b).

Payment by Results was expected to help to reduce waiting times by encouraging increased activity. The assumption made by the Department of Health was that in the short term, the extra costs incurred by a hospital for performing more operations (their marginal costs) would be lower than the reimbursement they would receive through the tariff, making it financially worthwhile to perform more activity.

The system is also intended to improve efficiency. The intention is that hospitals will have to look critically at those activities for which actual costs are higher than the tariff rate. Experience from countries with similar activity-based payment systems suggests that hospitals do react to such incentives, for example, by reducing excessive lengths of stay. Under PbR, where a hospital’s costs are

less than the tariff, the surplus must be kept by the hospital and reinvested in services – not given back to the commissioner to reduce the price of the activity or used to produce more activity for the same total cost. This opportunity to reinvest any surpluses is intended to provide an incentive to providers and to reward those whose costs are already at or below tariff price. It is not clear whether this opportunity is sufficiently attractive to hospital managers and staff to stimulate an improvement in efficiency.

The government claims that, as prices of activities are standardised, providers will compete on quality, with providers offering the highest quality care at the tariff price attracting more contracts and patients and, as a result, generating more income to reinvest in services.

What is the evidence on the impact of Payment by Results?

As Payment by Results has been in place for only a short time, evidence on its impact is limited, and few if any firm conclusions can be drawn about the system's effectiveness. The following summarises available evaluations of PbR in England, with some additional evidence from similar systems abroad.

INCREASING ACTIVITY

International experience has suggested that the introduction of pay-per-case financing systems leads to an increase in hospital activity (Miraldo *et al* 2006), but two early assessments of the impact of PbR on provider activity in England found no strong evidence of this (Audit Commission 2005, Farrar *et al* 2005). However, some researchers have concluded that this may be because organisations were still familiarising themselves with the system (Farrar *et al* 2005). In a study in South Yorkshire, where PbR was adopted earlier than elsewhere, PCTs reported that the most significant impact of the system had been the cost of paying for activity performed above planned levels (Yorkshire and Humber Strategic Health Authority 2006). It is possible that apparent rises in activity may in fact be a result of providers coding their activity more accurately in order to ensure they were reimbursed in full.

INCREASING EFFICIENCY

A study in Sweden compared the technical efficiency (measured as the number of discharges, complex surgical operations and outpatient appointments completed for the amount of money invested in treatment and buildings) of health care providers in Swedish counties where output-based reimbursement and internal markets had been introduced with those that had retained a system of block contracts. The researchers found that efficiency levels were higher among those hospitals with output-based reimbursement (Gerdtham *et al* 1999). They concluded that switching from a budget-based to an output-based system could reduce costs by around 13 per cent.

Interviews with early adopters of the system in England did not yield information on the system's impact on efficiency. Interviewees reported that pressure for efficiency was already present in the system in the form of 'hard budgets, growing demand and full capacity' (Sussex and Farrar 2006). Further research found reduced lengths of stay among those specialities brought under the Payment by Results system compared with those to which PbR had not yet been applied; however, the researchers advised against inferring a causal relationship, concluding 'that we may be observing differential trends in lengths of stay between tariffed and non-tariffed HRGs that would have happened anyway' (Farrar *et al* 2006).

REWARDING AND INCREASING QUALITY

There is so far little evidence on what impact (if any) the introduction of Payment by Results is having on the quality of service provision. A recent study involving interviews with staff found that providers and commissioners did not think that PbR had yet stimulated trusts to compete on quality (Sussex *et al* 2006). An early evaluation of the system found that on the relatively crude measure of mortality following treatment, the difference between outcomes in those clinical areas where PbR had been introduced compared with those where it had not was marginal (Farrar *et al* 2006).

A large-scale research project of a similar payment system introduced for services for Medicare patients in the United States in the 1980s concluded that the payment system had no apparent effect on mortality rates following hospitalisation (Rogers *et al* 1990), but that patients were more likely to be discharged home in an unstable condition than they had been before the system's introduction (Kosecoff *et al* 1990).

Economists and other commentators have pointed out that PbR may offer an incentive to providers to reduce their costs and that this might, in some cases, have a negative impact on the quality of care (Farrar *et al* 2005, Monitor 2006). Not all quality improvements require additional investment or extra costs, but it may be true that some providers have higher costs because they offer higher quality services rather than because they are inefficient (Boyle 2007).

PbR can only increase quality in combination with stronger commissioning and the patient choice policy, both of which are still in their early stages of development. It is difficult, therefore, at this stage to assess how successful the system will be in meeting this objective.

The government is aware of the concerns about quality: ensuring that Payment by Results rewards quality as well as extra activity is a key theme in the consultation on the future of the initiative (see under 'Current proposals for reform' below).

REDUCING TRANSACTION COSTS AND NEGOTIATING DISPUTES

The expected reduction in transactional and administrative costs has so far not been borne out. South Yorkshire experienced an increase in transactional costs with the introduction of PbR (Yorkshire and Humber Strategic Health Authority 2006), and research commissioned by the Department of Health has found that although the cost of negotiating on prices and volumes had reduced, this had been offset by other administrative demands, such as PCTs having to work to prevent increases in hospital activity levels (Marini and Street 2006). This research also found that the extra staff required to administer the new system had meant cost increases for both hospitals and PCTs of between £100,000 and £200,000 per organisation (Marini and Street 2006), in the context of national average annual turnovers of £156 million for NHS hospital trusts and £206 million for PCTs (calculated from Department of Health 2006a).

There is some evidence that the closer relationship between activity and financing introduced by PbR has led to an increase rather than reduction in disputes between PCTs and acute trusts (Marini and Street 2006), especially where the local health economy is in deficit (Audit Commission 2005). However, researchers have also found examples of co-operation between PCTs and trusts in negotiating the new system (Sussex *et al* 2006).

Current proposals for reform

The government is currently considering the future shape and scope of the Payment by Results system (Department of Health 2007b). It plans to address a number of concerns that have been raised about the current system and to consider how and in what form PbR can be introduced for other health services. The King's Fund's response to the consultation on these proposals is available on our website (King's Fund 2007).

ADDRESSING PROBLEMS WITH THE CURRENT SYSTEM

The system has caused problems for specialised services, which often require the full-time employment of staff and expensive equipment but have varying or low levels of demand. The top-up system included in the tariff for such treatments has not proved adequate, and strategic health authorities are currently providing additional support for some hospitals. The government reports that a revised version of the healthcare resource groups (HRG version 4) should overcome this problem, but

that this will not be introduced until 2010/11. The government is considering how such services should be reimbursed in the meantime, but has yet to publish any proposals.

In an effort to improve the quality of the data that is used to determine the tariff price, the government has recommended that trusts should base their information on patient-level information rather than on a retrospective apportioning of costs by finance departments. This approach is already being trialled by West Middlesex Hospital NHS Trust and Cambridge University Hospital Foundation Trust. The government is also asking whether the average cost should be calculated using data from a sample of trusts, rather than all trusts; this would speed up the process, making the prices more up to date, and would allow more focus on the quality of the data.

The government is also considering further additions to the pricing system in an effort to offer incentives to hospitals in relation to efficiency and quality of care. Although in general terms they support linking prices to average actual costs rather than to the cost of a service that is provided efficiently (the latter has been advocated by the Conservative Party), the government is working with its Clinical Advisory Panel to consider whether some particular prices might be altered on the tariff in order to encourage the most efficient practice in a particular area of care.

The introduction of an additional system of 'pay for performance' is also being considered, whereby contracts would offer a bonus payment if the provider met certain targets, not dissimilar to Quality and Outcomes Framework (QOF) already in operation in primary care.

There is a potential clash in policy objectives between PbR, which under certain circumstances can encourage hospitals to perform more activity, and the government's plans for more care to be delivered outside of hospitals in community settings such as GP surgeries (Department of Health 2006b). One way of tempering this is for the government to support local commissioning organisations unbundling HRGs and their related tariff. Future tariffs will be accompanied by a wider range of 'indicative' tariffs for unbundled HRGs, and a new version of the HRG codes (version 4), due to be introduced in 2010/11, will contain more unbundled HRGs (Department of Health 2007b).

EXTENDING PAYMENT BY RESULTS

The plans for the roll-out of PbR have been modified. Payment by Results was to have been extended to mental health services in 2008/9. However, a pilot revealed significant variations in the way in which mental health services were provided; differing views about which treatments should be used for which conditions; and an absence of a strong causal relationship between interventions and outcomes. As a result the Department of Health has said that a national currency and tariff for mental health are 'still some way off' and recommended that efforts should for now focus on improving data quality and developing local currencies and prices (Department of Health 2007c).

Ambulance services, also due to be assigned a national currency and tariff in 2008/9, are not now expected to be brought under a national tariff until a common tariff has been established for urgent and emergency services that can apply across a number of settings, including accident and emergency, minor injury units and walk-in centres (walk-in centres are currently outside the scope of PbR). This is not expected to be ready until 2010/11 at the earliest. In the meantime, strategic health authorities are being asked to sponsor 'PbR Development Sites', establishing local currencies and prices that could be used as national exemplars.

The Department is also planning to explore how the system might be applied to community- and home-based maternity services; other community-based alternatives to hospital care; and care for long-term conditions.

However, the Department considers Payment by Results inappropriate to GP services as there is variation between the types of services provided by different primary care organisations and the types of contract they are working under.

The government plans to publish its plans for the next steps in the development for Payment by Results by the end of 2007.

References

Audit Commission (2005). *Early Lessons from Payment by Results*. London: Audit Commission. Available at: www.audit-commission.gov.uk/Products/NATIONAL-REPORT/B502FoFC-E007-4925-AD24-529C4889AD02/EarlyLessonsFromPaymentByResults11OCT05REP.pdf (accessed on 1 June 2007).

Boyle S (2007). 'Payment by Results in England'. *Eurohealth*, vol 13, no 1, pp 12–16. Available at: www.euro.who.int/document/OBS/Eurohealth13_1.pdf (accessed on 23 July 2007).

Department of Health (2007a). *A Code of Conduct for Payment by Results. Version 2* [online]. Available at: www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_4127045 (accessed on 9 August 2007).

Department of Health (2007b). *Options for the Future of Payment by Results: 2008/09 to 2010/11* [online]. Available at: www.dh.gov.uk/en/Consultations/Liveconsultations/DH_073103 (accessed on 27 June 2007).

Department of Health (2007c). *Options for the Future of Payment by Results: 2008/09 to 2010/11. Annex B. Specific Services* [online]. Available at: www.dh.gov.uk/en/Consultations/Liveconsultations/DH_073103 (accessed on 27 June 2007).

Department of Health (2006a). *NHS organisations forecast surplus and deficits 2005–06: Month 12* [online]. Available at: www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_4135757 (accessed on 1 June 2007).

Department of Health (2006b). *Our Health, Our Care, Our Say: A new direction for community services*. Cm 6737. London: The Stationery Office. Available at: www.dh.gov.uk/prod_consum_dh/idcplg?IdcService=GET_FILE&dID=456&Rendition=Web (accessed on 19 July 2007).

Department of Health (2006c). *Payment by Results (PbR) in 2007/08* [online]. Available at: www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_062914 (accessed on 31 May 2007).

Department of Health (2006d). 'Payment by Results in 2007–08 national tariff' [online]. Available at: www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_4140197 (accessed on 19 July 2007).

Department of Health (2006e). *Payment by Results. PbR 2007/08 Road-Testing. Appendix to Implementation Support Guide 2006/07* [online]. www.dh.gov.uk/prod_consum_dh/idcplg?IdcService=GET_FILE&dID=27456&Rendition=Web (accessed on 19 July 2007).

Department of Health (2006f). *The NHS in England: The operating framework for 2007/08* [online]. Available at: www.imhap.org.uk/ignition/temp/new_operating_framework.pdf (accessed on 27 June 2007).

Department of Health (2002a). *Implementing the New System of Financial Flows – Payment by Results: Technical guidance 2003/04*. Available at: www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_4007466 (accessed on 31 May 2007).

Department of Health (2002b). *Reforming NHS Financial Flows. Introducing Payment by Results*. London: Department of Health. Available at: www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_4005300 (accessed on 31 May 2007).

Farrar S, Ikenwilo D, Chalkley M, Sussex J, Yuen P, Scott A (2005). *Evaluation of Payment by Results – Interim Report to the Department of Health* [online]. Available at: www.abdn.ac.uk/heru/documents/Payment%20oby%20Results%20Interim%20Report%20Oct%2005.pdf (accessed on 19 October 2007).

Farrar S, Yi D, Scott T, Sutton M, Sussex J, Chalkley M, Yuen P (2006). *Report to the Department of Health. National Evaluation of Payment by Results. Interim Report: quantitative and qualitative analysis* [online]. Available at: www.abdn.ac.uk/heru/documents/PbR%20interim%20report%20ofeb%2007.pdf (accessed on 19 October 2007).

Gerdtham UG, Rehnberg C, Tambour M (1999). 'The impact of internal markets on health care efficiency: evidence from the health care reforms in Sweden'. *Applied Economics*, vol 31, pp 935–45.

Kosecoff J, Kahn KL, Rogers WH, Reinisch EJ, Sherwood MJ, Rubenstein LV, Draper D, Roth CP, Chew C, Brook RH (1990). 'Prospective payment system and impairment at discharge. The "quicker-and-sicker" story revisited'. *The Journal of the American Medical Association (JAMA)*, vol 264, 1980–3.

Marini G, Street A (2006). *The administrative costs of Payment by Results*. CHE Research Paper 17. York: Centre for Health Economics. Available at: www.dh.gov.uk/assetRoot/04/13/73/44/04137344.pdf (accessed on 1 June 2007).

Miraldo M, Goddard M, Smith PC (2006). *The Incentive Effects of Payment by Results*. London: Dr Foster Intelligence. Available at: www.drfooster.co.uk/library/localDocuments/paymentbyResults.pdf (accessed on 1 June 2007).

Monitor(2006). *Ensuring Payment by Results Enables System Reform*. London: Monitor. Available at: www.monitor-nhsft.gov.uk/documents/Ensuring_payment_by_results_enables_system_reform_FINAL.pdf (accessed on 1 June 2007).

O'Connor RJ, Neumann VC (2006). 'Payment by Results or payment by outcome? The history of measuring medicine'. *Journal of the Royal Society of Medicine*, vol 99, pp 226–32.

King's Fund (2007). 'Response to the Department of Health consultation on Options for the Future of Payment by Results: 2008/09 to 2010/11' [online]. Available at: www.kingsfund.org.uk/publications/consultation_responses/index.html (accessed 19 July 2007).

Rogers WH, Draper D, Kahn KJ, Keeler EB, Rubenstein LV, Kosecoff J, Brook RH (1990). 'Quality of care before and after implementation of the DRG-based prospective payment system. A summary of effects'. *The Journal of the American Medical Association (JAMA)*, vol 264, 1989–94.

Street A (2006). *Reform of hospital funding and the introduction of patient choice in England* [online]. York: Centre for Health Economics. Available at: www.york.ac.uk/inst/che/pdf/REES%205-2%20English.pdf (accessed 31 May 2007).

Sussex J, Farrar S (2006). *Payment by Results Evaluation Newsletter 1*. Aberdeen: Office of Health Economics. Available at: www.abdn.ac.uk/heru/documents/evaluation_news1.pdf (accessed on 1 June 2007).

Yorkshire and Humber Strategic Health Authority (2006). *The South Yorkshire Payment by Results Laboratory Project: early thinking – early learning: 2005/2006*. Leeds: Yorkshire and the Humber Strategic Health Authority. Available at: www.dh.gov.uk/assetRoot/04/13/73/43/04137343.pdf (accessed on 1 June 2007).