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# What is Payment by Results?

- Payment by Results (PbR) was introduced to improve **efficiency**, increase **value for money**, facilitate **choice**, enable service **innovation** and improvements in **quality**, and **reduce waiting times**.
- PbR uses a **national tariff of fixed prices** that reflect national average prices for hospital procedures.
- Patient treatments within a cluster of diagnosis and procedure that consume the same level of resources are assigned to a **Healthcare Resource Group**.
- The price for a particular procedure is called the **reference cost** and is standardised across the NHS with adjustments made for market forces.
- Some drugs are excluded from the PbR tariff. These are usually **high-cost drugs**.
- PbR allows **unbundling** of treatment to enable different aspects of the treatment to be performed by different service providers. This encourages alternatives to traditional hospital 'bundles of care'.

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## What is Payment by Results?

Payment by Results (PbR) underpins the NHS systems reform agenda and was announced in 2002 by the Department of Health (DH) as a way of reimbursing hospitals in England for the activity they carry out (for example, patient episodes, outpatient attendances and diagnostic tests).<sup>1</sup> It uses a national tariff of fixed prices that reflect national average costs and has presented both opportunities and challenges to the NHS in England by creating an unprecedented level of financial risk for primary care trusts (PCTs) and greater potential for financial instability as a whole. In Scotland, Wales and Northern Ireland, hospitals are reimbursed for activity undertaken based on local contracts agreed with their health boards.

The currency of patient activity associated with PbR is the Healthcare Resource Group (HRG). An HRG is essentially a casemix grouping. Different patient treatments within a cluster of both diagnosis and procedure which are deemed to have consumed the same level of resources are assigned to an HRG.

Prices in the national tariff have been set on the basis of the average (mean) cost of providing a particular procedure, using data gathered from all NHS hospitals.<sup>1</sup> They include non-clinical costs such as food, cleaning and estate costs. The price for a particular procedure in the tariff is called the reference cost.<sup>2</sup> This is standardised across the NHS with adjustments made for market forces.<sup>3</sup> The market forces factor is an index of the relative differences in unavoidable costs faced by NHS organisations; for example, a procedure carried out in central London would have higher overhead costs than the same procedure carried out in Devon. This new basis of reimbursement is a major departure from the former system of negotiations that resulted in a 'block contract' with a resource allocation based on historical activity and expenditure.

Some (usually high-cost) drugs – known as PbR excluded drugs – are not included in tariff prices. This is because the existing HRG

classifications will not necessarily allow for fair reimbursement of these items due to the numbers being low and unpredictable, the relevant HRG including more routine treatment or the distribution of different activity within the HRG being uneven across providers.

Because the tariff price is made up of many constituent parts, there is the potential to 'unbundle' these. The key purpose of unbundling is to put in place incentives that encourage appropriate alternatives to traditional hospital 'bundles of care', such as direct-access diagnostics and the provision of rehabilitation in non-acute settings.

### Why was PbR introduced?

PbR has been designed to contribute towards the achievement of several key objectives of health system reform.<sup>4</sup> It is intended to:

- Improve **efficiency** and increase **value for money** through enhanced service quality, as both commissioners and providers can retain and invest surpluses and savings to improve services
- Facilitate **choice**, by enabling funds to go to the services chosen by patients
- Facilitate **plurality** and increase **contestability**, by enabling funds to go to any provider (whether NHS or independent) which can treat patients at tariff prices and to NHS standards, and by enabling service providers to compete on an equal basis
- Enable service **innovation** and improvements in **quality**, by rewarding providers whose services attract patients and by focusing negotiations between providers and commissioners on quality and innovation, as the price is fixed
- Drive the introduction of **new** models of care closer to where people live and work, by enabling funds to go to providers offering care in non-traditional and community-based settings
- **Reduce waiting times**, by rewarding providers for the volume of work done

- Make the system **fairer** and **more transparent**, through consistent fixed-price payments to providers based on volume and complexity of activity
- **Get the price 'right' for services**, by paying a price that ensures value for money for the taxpayer and incentivises the provision of innovative, high-quality patient care.

Introduction of PbR has encouraged increased activity (and thus reduced waiting times) because the extra costs incurred by, for example, performing more operations are lower than the reimbursement received through the tariff, as the extra operations are carried out at marginal cost. Hospitals therefore look critically at those activities for which their costs are higher than the tariff rate in an attempt to drive further efficiencies out of the system for reinvestment. In addition, PbR has provided commissioners with an extra incentive to manage demand for care, since each individual admission has a cost attached to it. Knowing the fixed price for an HRG also reduces transaction costs and disputes over price between PCTs and hospitals.

## Updating of HRGs and HRG4

There have been four major revisions of English HRGs since 1992, the previous being version 3.5, which was released in October 2003. HRGs are reviewed periodically with a major revision every three to four years to ensure they reflect current clinical practice. HRG4 was introduced in February 2009 and is a major advance on previous versions in that it introduces HRGs to new clinical areas and the casemix groupings produced have the specific goal of enabling patient-level funding. In brief, the major changes from version 3.5 to version 4 are:

- **Increased coverage:** HRG4 recognises a wider group of clinical professions and services. Like previous versions, HRG4 is organised into clinically relevant chapters and subchapters, although there are some major differences at chapter level between version 3.5 and HRG4; for example, there is a new subchapter to cover high-cost drugs (subchapter XD).
- **Revised code structure:** code length has

been increased to allow more information to be conveyed and to facilitate analysis.

- **Cross-chapter procedure hierarchies:** when a number of procedures are recorded, a procedure hierarchy list is used to decide which procedure is dominant and so should be used to assign the HRG (the list used within version 3.5 has been extensively updated for HRG4).
- **Cross-chapter primary diagnosis hierarchies:** for multi-episode activity where no significant procedure has occurred, but where different primary diagnoses have been recorded for at least two of the episodes in the spell, a primary diagnosis hierarchy list is used to decide which of the episode primary diagnoses should be deemed to be the primary diagnosis of the spell. The primary diagnosis of the spell is used to determine the spell HRG. The primary diagnosis hierarchy list is a new concept introduced in the second iteration of HRG4, released to the NHS in January 2008. In the original HRG4 release, the primary diagnosis of the spell was that of the first episode within that spell.
- **Multiple-trauma HRGs:** a new mechanism has been defined to identify high-resource, complex treatments associated with multiple-trauma cases.
- **Complications and co-morbidities:** improved complication and co-morbidity splits allow HRGs to better reflect varying degrees of clinical complexity and severity.
- **Unbundling:** in version 3.5, each episode generates a single HRG. The introduction of unbundling in HRG4 means that an episode or spell can now be assigned multiple HRGs (see also section on 'Unbundling of PbR').
- **Setting independence:** version 3.5 HRGs only addressed admitted patient care. HRG4 introduces the concept of setting independence, which means that the same HRG may be generated regardless of care setting; for example, for care delivered in an outpatient setting.
- **Spell-based HRGs:** in version 3.5 HRGs are grouped on the basis of finished consultant episodes. Under HRG4, spell-based HRGs cover the whole stay from admission to discharge.<sup>5</sup>

## Box 1. Excluded drugs<sup>7</sup>

AIDS/HIV antiretrovirals  
Antifungals  
Antifibrinolytic drugs/haemostatic blood products  
Betaine  
Cytokine inhibitors  
Drugs affecting bone metabolism  
Drugs affecting the immune response  
Drugs used in metabolic disorders  
Drugs used in neutropenia  
Allergen immunotherapy  
Growth hormone and growth hormone receptor antagonists  
Hyperuricaemia associated with cytotoxic drugs  
Immunomodulating drugs  
Intravenous/subcutaneous human normal immunoglobulins  
Somatostatin analogues  
Torsion dystonias and other involuntary movements  
Vasodilator antihypertensive drugs/primary pulmonary hypertension drugs  
Viral hepatitis (B & C) and respiratory syncytial virus  
Ocular diagnostic and peri-operative preparations and photodynamic treatment

## PbR exclusions

Some services and procedures remain outside the scope of PbR and the price of these remains subject to local negotiation. Services not currently covered by PbR include primary care services, community services, mental health services and ambulance services. Plans were developed to introduce PbR for the latter two services in 2008–09, but were shelved because it was recognised that further work was needed to improve data quality and develop local currencies and prices that will cover the range and impact of their activity.<sup>1,6</sup>

A number of high-cost drugs, devices, procedures and products have been excluded from the scope of the tariff (Boxes 1–3).<sup>7</sup> Drugs on the excluded drugs list have high costs relative to the rest of the activity within the relevant HRG, and are provided disproportionately by a subset of trusts within the HRG. Some drugs on the excluded list have more than one indication for use and commissioners need to be clear with providers which indications they are willing to pay for and at what price.

It is important to note that the inclusion of a drug, device, procedure or product on the

PbR exclusions list does not mean that it will automatically be funded by commissioners. It does mean, however, that the costing and payment is performed in a different way from HRGs.

For all excluded drugs, devices and blood products, commissioners and providers agree a local price and an arrangement for monitoring activity. This local price forms an additional payment to the relevant HRG. In most cases, the additional payment should cover only the cost of the excluded drug, product or device and associated consumables. However, some procedures may entail additional costs over and above the cost of any device used, and these costs should also be taken into account in determining the value of the additional payment.

It is worth noting that in 2006–07, tariff prices were reduced (by approximately 1% of the overall tariff) to reflect the impact of cost data regarding high-cost drug use. This meant that before a high-cost drug could be used, robust engagement was required with local commissioning processes to support its use.

In all cases, commissioners and providers need to determine whether they wish to agree

## Box 2. Excluded devices<sup>7</sup>

Aortic stents  
Aneurysm coils  
Bespoke orthopaedic prostheses  
Bone-anchored hearing aids  
Carotid, iliac and renal stents  
Continuous positive airway pressure/bilevel positive airway pressure  
Deep brain, vagal, sacral and spinal cord stimulators  
Gliadel wafers  
Implantable defibrillators  
Cardiac resynchronisation therapy  
Implantable defibrillators with cardiac resynchronisation therapy capability  
Ilizarov frames  
Insulin pumps and pump consumables  
Intrathecal drug delivery pumps  
Implantable loop recorders  
Three-dimensional navigation system mapping catheters  
Occluder septal devices

## Box 3. Excluded procedures/other<sup>7</sup>

Cleft lip and palate  
Dynamic graciloplasty  
Endoprosthetic replacement for benign bone tumours  
Gastric banding  
Head and neck cancer reconstructive surgery  
Photodynamic treatment for wet age-related macular degeneration  
Pelvic reconstruction  
Well babies

volumes and prices for PbR exclusions as part of service-level agreements or on a case-by-case basis. Case-by-case payment is often limited to exceptional treatments. Use of any drugs or devices must also be in keeping with relevant clinical guidance and guidelines (for example, those issued by the National Institute for Health and Clinical Excellence [NICE]).

## Impact of NICE on PbR

Clearly, in the context of PbR, the direction by the Secretary of State for Health that funding should be made available for the treatment of patients whose clinicians recommend treatments in line with NICE appraisals<sup>8</sup> represents a challenge for commissioners and providers alike, since these treatments are

normally supported by a 'three-month' funding direction.

The cost implications of NICE guidance are taken into account in PbR in three main ways:

- Through an adjustment within the national tariff uplift (dealing with pay and prices, pay reform and technical issues)
- Through specific adjustments directly to the national tariff prices
- Through an exclusion to PbR; for example, high-cost drug exclusion.

A significant proportion of PbR excluded drugs have been reviewed by NICE.

## Pass-through payments

These are additional payments for use of a particular device, technology or drug and can

be made to providers over and above the relevant tariff reimbursement.<sup>6</sup> In such instances, PCTs and providers must agree that payment is intended primarily for new devices, drugs, treatments or technologies or to new applications of an existing technology. There may also be a limited number of technologies that are not new but are:

- Coded to a relatively high-volume HRG where the activity within the HRG is heterogeneous in nature (an example would be myocardial infarction, which is a relatively high-volume HRG but may have a high-cost treatment associated with it)
  - Delivered in a limited number of centres
  - Of disproportionate cost relative to the HRG tariff.
- The following criteria and conditions apply to any pass-through payment arrangement.
- The arrangement is initially for a maximum period of two years from the date the arrangement first applies.
  - PCTs should consider cost-effectiveness evidence, including recommendations from NICE health technology assessments, guidelines or other relevant national guidance; for example, from the Scottish Medicines Consortium, *The Cochrane Library* or the National Prescribing Centre.
  - The price should be agreed in advance and relate only to the additional costs associated directly with the device or technology and its use relative to alternative treatment.
  - If appropriate, the device, technology or procedure should be included on the NICE list of interventional procedures.
  - PCTs should give due regard to the procurement arrangements for the drugs, devices, technologies or treatments identified as being suitable for pass-through funding.
  - The DH should be informed of arrangements.

Some new drugs may warrant 'pass-through' funding. These may be drugs that have recently been launched and for which NICE guidance is not expected within a short timescale, or new drugs that will not be subject to NICE guidance.

## Impact of specialised activity

Statistical analysis has been undertaken to estimate the impact of specialised activity on providers' costs. Procedure and diagnosis codes identified from the Specialised Services National Definitions Set are used as indicators of specialised activity.<sup>9</sup> Where the impact has been found to be statistically significant, a specialised supplement to the tariff has been calculated, with the level of supplement determined by the analysis. This supplement is a percentage of the relevant HRG tariff, known as 'top up'.

## Unbundling of PBR

This refers to splitting the fixed tariff price between two or more service providers that are providing different elements of the treatment covered by the fixed price, as the tariff costs of a procedure include several stages of that procedure. Under the arrangements for unbundling of tariffs, providers and commissioners need to engage with each other to adjust tariffs, particularly where local plans include commissioners seeking to move part of the care pathway to an alternative care setting.<sup>1,4,6</sup>

In HRG4, some significant elements of cost and activity have been 'unbundled' from core HRGs in cases where variation in cost within a HRG can be shown to be due to a single high-cost component which is not invariably found in that group. The impact is that under HRG4 a case will be assigned more than one HRG if it includes any 'unbundled' elements. The 'unbundled' component becomes an HRG in its own right as an addition to a core HRG for the episode of care.<sup>5</sup>

Unbundling of tariffs therefore allows PBR to support another key government policy objective – the delivery of more care outside hospitals in an effort to improve cost-effectiveness and patient convenience. 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. The view of the government is that a refusal to agree an unbundling approach by either the commissioner or provider must not be an obstacle to service redesign.<sup>1,4,6</sup>

## The future of PbR

PbR has caused problems for specialised services, where there are varying or low levels of demand. HRG4 should overcome this problem. The government is also considering further additions to the pricing system to offer incentives to hospitals in relation to efficiency and quality 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. This is not dissimilar to the Quality and Outcomes Framework which is already in operation in primary care.<sup>1</sup> All of this is intended to drive efficiency and quality.

PbR has undoubtedly improved the fairness and transparency of the payment system. There are clearly incentives in the system intended to drive change, and all commissioners and providers are looking to exploit these. PbR has also, perhaps, had a positive effect on activity and efficiency in elective care.<sup>10</sup> However, PbR has not been in place long enough for any conclusions about its effectiveness to be drawn.

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# What is

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