Payment by results: a guide for emergency physicians

Ian Higginson, Henry Guly

PAYMENT BY RESULTS

Payment by results (PbR) is a new funding mechanism being introduced into the National Health Service. It is a key part of current health reforms and will impact significantly on the way emergency departments are financed and run. This paper aims to describe the basics of payment by results, examines how it relates to and impacts upon emergency medicine, and considers how emergency physicians can set about integrating this new system into current practice and thinking.

A simplistic view of PbR is that emergency departments (EDs) should get paid for what they do. Because demand for emergency medicine is rising, and emergency medicine is efficient, we should therefore be able to take advantage and run successful, developing departments.

The assumptions here are that:

- Commissioners will pay Trusts for what happens in EDs
- Trusts will distribute income earned by EDs, back to EDs
- Income will cover expenditure
- EDs will be able to continue doing what they do, and to develop.

This paper challenges those assumptions. We have used our own ED as a starting point, modifying local circumstances to enable broader generalisation. Clearly managerial arrangements differ between hospitals but the basic principles will still apply.

Abbreviations: CDUs, clinical decision units; CT, computed tomography; DoH, Department of Health; EDs, emergency departments; FCEs, finished consultant episodes; GPs, general practitioners; HRGs, healthcare resource groups; MFF, the market forces factor; PbR, payment by results; PCTs, primary care trusts

www.emjonline.com
There are inherent risks under PbR. The key risk for commissioners is paying for work at a nationally set price if this price is higher than the local cost of provision. For healthcare providers, risk arises if activity falls, if their costs are high, or if the tariff is so low that it cannot cover costs. Both commissioners and providers are at risk if actual activity differs from planned activity. This is particularly the case for some elements of unplanned care.

Future developments in PbR include a move from average-cost based pricing to normative pricing (where tariffs are set with the intention of driving best or more efficient practice), attempts to base costing on patient level data rather than using top down costing, and “unbundling” payments for different elements of care. The current HRGs (HRG 3.5) are already being modified in HRG 4, which is targeted for introduction in 2009/10 (table 2). For emergency medicine HRG 4 will represent a complete change in the way activity is grouped, since the main determinants will be investigations performed, and treatments given. The idea is to make the HRGs more reflective of resources consumed, and also allow them to become “setting independent” so that they can be applied to emergency care delivered in a variety of settings. HRG 4 may be further refined, or replaced with currencies used elsewhere in the world. They are developed by the NHS information centre.

### Glossary of terms

- **ICD10**: International Classification of Diseases (10th revision). The international standard diagnostic classification, managed by the World Health Organization
- **OPCS-4**: Office of Population, Censuses and Surveys Classification of Surgical Operations and Procedures (4th revision). Translates into code all operations and surgical procedures that can be carried out on a patient during an episode of health care in the NHS acute sector. Mandatory NHS standard, managed by NHS Connecting for Health
- **HRG**: Healthcare resource group—grouping of treatment episode which are similar in resource use and clinical response. These are the equivalent of diagnosis resource groups (DRGs) used elsewhere in the world. They are developed by the NHS information centre.

(1) How Trusts charge the primary care trusts (PCTs) for activity performed in the ED
(2) How Trusts distribute income derived from PbR within their organisations
(3) The financial reality of running an ED.

### How does an emergency department, under payment by results, derive income for the activity it undertakes?

To answer this question we need to examine:

(1) How Trusts charge the primary care trusts (PCTs) for activity performed in the ED
(2) How Trusts distribute income derived from PbR within their organisations
(3) The financial reality of running an ED.

#### Table 1  Healthcare resource groups relating to emergency departments (version 3.5)

<table>
<thead>
<tr>
<th>HRG codes</th>
<th>Code label</th>
<th>A&amp;E tariff payment</th>
<th>Basic tariff (£06/07)</th>
</tr>
</thead>
<tbody>
<tr>
<td>U06</td>
<td>Attendance disposal invalid for grouping</td>
<td>No payment</td>
<td>Nil</td>
</tr>
<tr>
<td>D0A</td>
<td>Dead on arrival</td>
<td>Standard</td>
<td>£21</td>
</tr>
<tr>
<td>V01</td>
<td>High cost imaging (died/admitted)</td>
<td>High cost</td>
<td>£99</td>
</tr>
<tr>
<td>V02</td>
<td>High cost imaging referred/discharged</td>
<td></td>
<td></td>
</tr>
<tr>
<td>V03</td>
<td>Other high cost investigation (died/admitted)</td>
<td>Standard</td>
<td>£71</td>
</tr>
<tr>
<td>V04</td>
<td>Other high cost investigation (referred/discharged)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>V05</td>
<td>Lower cost investigation (died/admitted)</td>
<td>Standard</td>
<td>£71</td>
</tr>
<tr>
<td>V06</td>
<td>Lower cost investigation (referred/discharged)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>V07</td>
<td>No investigation (died/admitted)</td>
<td>Minor A&amp;E and minor injuries unit</td>
<td>£54</td>
</tr>
<tr>
<td>V08</td>
<td>No investigation (referred/discharged)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>V100MC</td>
<td>Non-24 h A&amp;E department/casualty department</td>
<td></td>
<td></td>
</tr>
<tr>
<td>V100MI</td>
<td>Discrete minor injuries unit</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A&E, accident and emergency; HRG, healthcare resource group. High cost imaging = CT or MRI. High cost investigation = plain x ray, cross match, ultrasound, histology. Lower cost investigation = ECG, urine, haematology, biochemistry.
submitted unverified to the PCT. Audit of letters to general practitioners (GPs) that rely on the same information shows that there is under-recording of activity (particularly treatment activity) performed in the ED.

For any given ED, activity performed is translated into HRGs by its parent Trust. The Trust submits this information to commissioners, and is reimbursed for the activity. How much the ED sees of the money depends on how the Trust manages its finances.

**Financial flows within Trusts**

Most NHS Trusts are structured into directorates, which can broadly be thought of in three groups:

- Corporate directorates, providing functions necessary for the Trust as a whole (for example, human resources). These charge their services to other directorates as “overheads.”
- Clinical support directorates, providing services linked directly to patient care. These charge their services to front-line directorates on a pay-per-use basis (“recharging”). Our Trust plans to introduce recharging for diagnostics, theatres and anaesthetics. Over time Trusts will become more sophisticated in their recharging structures, and in calculation of overheads.
- Front-line directorates, responsible for delivering patient care. These will derive their income largely from providing healthcare (for example, through PbR), although other income streams may exist (for example, research). EDs will commonly be regarded as, or be part of, front-line directorates.

Modern financial regimens, driven by PbR, should lead to the distribution of income “earned” to the directorates that earn it. Overheads are apportioned between directorates. Support directorates will charge directorates who use their services. Funding received for education and training should be passed straight through. There will be adjustments for Trust savings/
efficiency targets. Directorates will be expected to achieve financial balance.

The broad picture is summarised in fig 2. Table 3 shows how the income will flow, including details about how recharging might fit in (using our Trust as a model).

Arrangements for how income will be distributed within Trusts will vary. For ED patients Trusts will receive income for all ED and clinic attendances, and all inpatient spells following admission. In our Trust our directorate will receive income for the former two, but the inpatient HRG will only be paid to the directorate holding the dominant HRG for a particular spell.

EDs are highly dependent upon PbR income. In our Trust, 74% of our Trust income is “PbR” income, but for our ED the proportion is around 94%.

Finances of an emergency department

It is possible to conceptualise how ED finances work, as shown in fig 3.

Where EDs are directorates in their own right financial management is straightforward. However, many EDs belong to larger directorates, and it is likely that their overheads, and some recharges/claw backs, are not separated out on balance sheets. This makes financial planning at departmental level challenging.

It is likely that at this stage, in many Trusts, there is no real certainty regarding fixed, variable and hence marginal costs for the ED. Unsurprisingly, there are no published data looking at the cost of running an “average” ED in the UK. Calculation of marginal costs is crucial when making plans around changes in ED activity.

Whether an ED makes a profit under PbR depends on whether income streams are transparent, and costs are known. Without hard data it will be impossible to engage in informed financial planning. There is a widespread feeling in our Trust that income for our ED will not meet costs. This is mostly based on the belief that tariffs do not reflect true costs in the ED. However, our costs are not known, so we cannot test our hypothesis.

IMPACT OF PAYMENT BY RESULTS ON EMERGENCY DEPARTMENTS

PbR is likely to result in clinical teams rethinking the way they practice, as happened in the USA when prospective payment systems were introduced, as it was realised that EDs carry significant financial risk.

There will be a focus on maximising income throughout Trusts but EDs may be “loss-making” under the PbR system. While it is untenable that EDs will close purely due to this, failure to generate surpluses will precipitate reassessment of our role, and of the specific financial arrangements relating our departments. It should be remembered that the overall economics of running an ED cannot simply be viewed at departmental level. If the ED admits a patient, the hospital will earn revenue associated with downstream activity. In competitive environments, using the ED as a “loss-leader” to bring in revenue generating activity may be a more sophisticated approach.

Competition for activity around high-tariff-low-cost patients is likely. In the ED “non-urgent” patient visits will carry the lowest costs, and are likely to be the target for competition. Indeed, we are already seeing a version of this locally with a PCT proposing to put general practitioners into the ED to see primary care patients (case study 1). This could multiply the loss-making effect of low-tariff-high-cost patients since fixed costs and overheads are likely to remain largely unchanged.

It is worth noting that PCTs are currently able to act as both commissioners and providers of emergency care. This has significant implications if one considers that PbR is meant to
Case study 1: GPs working in the ED

- **Summary:** A PCT has persuaded a Trust to allow PCT-employed GPs to work in the ED, seeing “primary care” patients. The PCT will indirectly pick up the tariff, but will pay “rent” to locate the GPs in the ED.
- **Implications:** Loss of income for the Trust. “Primary care” patients likely to carry the lowest marginal costs of all patient groups, so cost base for other patient groups skewed. If GPs request investigations, the ED bears further increase in costs through recharging. Lack of data around cost means that “rent” cannot be accurately calculated, and the financial impact of the GP service will be unknown. Cost base to PCT transparent, and PCT will make profit provided tariffs exceed rent/cost of GPs.
- **Long term solution:** Calculate true cost of seeing minors in the ED and use as basis for “rent.” Recharge PCT for all investigations performed.
- **Notes:** Interesting concept from business perspective. The PCT is both a commissioner and provider, so the Trust is effectively allowing a competitive enterprise onto its premises. It is doing so under pressure from the PCT, in its role as a commissioner.

Case study 2: Increasing attendances

- **Summary:** ED attendances are increasing. In the past this has been regarded as a problem, because traditional budget systems usually failed to match increased demand with increased expenditure. Under PbR there is a potential opportunity because more patients should mean more income.
- **Implications:** The basic problem is that the cost of running the average ED is unknown. Specifically we do not know the marginal cost of seeing additional patients, and cannot compare that with the current tariff. It is possible that for each patient we see, we make a loss, or it is possible that some groups of patients are more “profitable” than others. Without this knowledge it is impossible to plan accurately which parts of our practice to develop, and which we can afford to “give away,” when examining our position from a financial perspective.
- **Solution:** Understand our costs.
- **Notes:** The marginal cost of seeing an ED patient is probably higher than expected. In addition, marginal cost analyses are only likely to be useful in EDs with spare capacity, a situation not usually found in the UK. Business plans based on current tariffs are risky because the operation of PbR will change. In addition, it is possible that as capacity is stretched, diseconomies of scale will come into play.

**Financial structure**

EDs should be run as separate business units, even if operating within larger directorates.

This approach would facilitate business planning. The key is working out costs. With detailed costing information we can look at how to become more efficient, and can perhaps challenge our overheads. We will be able to answer fundamental business questions around such issues as competition and the increasing demand for emergency care.

ED attendances are increasing: under PbR there is a potential opportunity because more patients should mean more income. However, we do not know the marginal cost of seeing additional patients, and cannot compare that with the current tariff. If that is possible that for each patient we see, we make a loss, or it is possible that some groups of patients are more “profitable” than others (case study 2).

Finally, we can answer the simple question of whether the ED can make a profit, or must make a loss. If our ED does not make a profit, then there would be a strong case for reorganising the ED finances, perhaps treating it as a support directorate rather than a front-line directorate, or more realistically adopting a hybrid model.

**HOW SHOULD EMERGENCY MEDICINE, AND YOUR EMERGENCY DEPARTMENT, RESPOND TO PAYMENT BY RESULTS?**

**At a national level**

There is a clear need for emergency physicians to be involved in the design of current and future payment systems, and the setting of tariffs. This is happening through the Clinical Effectiveness Committee of the College of Emergency Medicine, which has undertaken detailed work looking at costings. The speciality is also represented on the committee of clinical working group leads advising the DoH through the “PbR Transition Board.” However, it should be noted that the process of setting tariffs is internal to the DoH. We also need to start building a clearer picture of what is happening in EDs nationally. While the average ED is indefinable, there are undoubtedly patterns emerging which can inform financial planning, and which can help us benchmark.

**Clinical engagement**

There is currently poor clinical engagement with the concept of PbR, and its implications. This should be addressed through a combination of communication and education, aiming for more “local ownership” of departmental finances. It is usual for our colleagues in general practice, or in the private sector, to have a detailed understanding of the financial workings of their practices. In the authors’ experience this is not the case in emergency medicine. If clinicians can be engaged the drive to record activity accurately is more likely to be successful, and clinicians are more likely to spot problems with the way their departments are costed/charged (for example, identifying charges for expensive equipment bought by other departments). It is, after all, our responsibility to understand the costs associated with our practice.
Information management

It is essential to ensure that activity recording is accurate. In the first instance EDs should audit coding accuracy. Teams must recognise the importance of recording activity on ED computer systems since this is linked directly to income, and should also ensure that the most common diagnostic groups on CDUs are accurately coded. It is essential that ED computer systems are capable of recording activity in a way that integrates with clinical process and practice. Administrative processes and computer systems should be designed to align with HRG 4, and we should ensure that the grouper integrates with our systems so that patients with multiple investigations and treatments are grouped appropriately. Of course, good information management and data quality control comes at a cost.

Maximising income streams

We must record all activity as currently there may be some that is unrecorded (for example, telephone consultations). We should also look for opportunities to increase activity, provided the income generated outstrips costs. Good information management will help maximise income streams.

Financial planning

Keeping a close eye on developments in reimbursement systems will help us plan ahead, rather than react.

Integrating financial planning into clinical planning

There will clearly be financial implications associated with changes in clinical practice. Traditionally clinical practice has always been the prime driver, but we will now be forced even more to examine clinical issues from a financial perspective (for example, can we afford to do this?) and we will need to involve commissioners so that financial arrangements can be made to support advances in practice (case study 3). Finally, there are going to be times when the financial implications of changes in systems or clinical care will be impossible to predict. In this case we will still need to rely on common sense.

Acknowledgements

The author is indebted to colleagues around the Derriford Hospital/ Plymouth PCT for time spent being interviewed. Also thanks to Mr Nigel Brayley for his detailed advice on work that has been going on at national level. IH initially undertook this work as part of a Masters in Health Services Management. HRG edited the manuscript.

Authors’ affiliations

Ian Higginson, Henry Guly, Emergency Department, Derriford Hospital, Plymouth, UK

Funding: None.

Competing interests: None.

References


Useful additional source