

# Payment by volume (not results)

INVITED COMMENTARY ON... PAYMENT BY RESULTS IN MENTAL HEALTH<sup>†</sup>

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**Abstract** Payment by results, a system for paying healthcare trusts, is intended as a fair and consistent basis for hospital funding. It relies on a national tariff structured around a case-mix measure known as healthcare resource groups. It is often argued that if payment by results works as planned, the National Health Service will become more efficient and productive. However, the use of a case-mix measure, the healthcare resource group, which derives from the diagnostic related (or diagnosis-related) group, has attendant problems. These include the risk that the payment structure will be inaccurate, unfair and liable to cause the financial destabilisation of trusts. There is also the risk that healthcare institutions will falsify patient classifications ('up-coding') to ensure higher remuneration. It has been argued that payment by results may be particularly unsuited to psychiatry. The ability of healthcare resource groups to accurately predict resource use in psychiatry is doubtful. In conclusion, mental health trusts will need to adapt to payment by results but there will inevitably be losers.

## Payment by results and diagnosis-related groups

Payment by results is described as a transparent, rules-based system for paying trusts (Department of Health, 2006). It is linked to clinical activity and adjusted for case mix, and is designed to ensure a fair and consistent basis for hospital funding. It replaces commissioning through block agreements and purports to free healthcare funding from historical budgets and the negotiating skills of managers. It relies on a national tariff structured on a case-mix measure known as healthcare resource groups. Furthermore, it takes account of regional variation in wages and other costs of service delivery (<http://www.dh.gov.uk/PolicyAndGuidance/OrganisationPolicy/FinanceAndPlanning/NHSFinancialReforms/fs/en>).

As with most things, payment by results is not all that it seems. First, it is best regarded as payment by volume. Its aim is to allow commissioners to commission the volume of activity required to deliver service priorities, from a plurality of providers, on the basis of a standard national price tariff and it is linked to prospective payment and therefore does not rely on results. Central to payment by results

is the measure of case mix, the healthcare resource groups (Department of Health, 2006). These are derived from the 'diagnostic related groups' that were introduced by legislation in the USA in 1983 as a means of prospective payment for Medicare hospital expenditures. Diagnostic related groups in one form or another have been adopted by at least 19 members of the Organisation for Economic Co-Operation and Development as a means of price control for hospital reimbursement (International Council of Nurses, 2006). In the UK they are more usually called diagnosis-related groups.

Diagnosis-related groups are a classification of hospital case types into groups expected to have similar hospital resource use. The groupings are based on diagnoses, age, gender, medical procedures and the presence of complications. Originally, diagnosis-related groups were expected to have the following attributes: they should be medically meaningful; classes of patients should be grouped together on the basis of variables that are commonly available in hospital discharge summaries; and there should be a manageable number of them (Fetter *et al*, 1980). The characteristics that go into each diagnosis-related group were assumed to have predictive power, i.e. to predict the quantity of hospital resources likely to be consumed on an average hospital stay. In effect, patients are assigned to one of a possible 500 or so diagnosis-related groups and the hospital is prospectively reimbursed a sum. If the hospital

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spends less than that sum it achieves a profit that it can keep and if it spends more than that sum, it sustains financial loss. It is easy to see why the expectation is that diagnosis-related groups, like our healthcare resource groups, would drive down cost or, if you wish, would result in greater efficiency.

## Benefits and limitations

The King's Fund (2005) notes that in Australia shorter waiting times have been reported and in Sweden shorter lengths of stay, as a direct result of the introduction of a payment system based on diagnosis-related group. It therefore argues that, if payment by results works as planned, the NHS will become more efficient and productive, undertaking more operations and treatments. As an indirect consequence of payment by results, there may be greater transparency about the work of hospitals; as unrecorded or badly recorded work will not be reimbursed, trusts will be forced to keep better records, which can then be open to the public. And it may assist funders in predicting more accurately future healthcare costs.

Problems have been recognised since the inception of diagnostic related groups in the USA. This and similar classification systems need to be both accurate and fair. Accuracy refers to the degree that the grouping predicts resource utilisation, and fairness to the relationship between payment and actual cost incurred.

For example, in the USA cystic fibrosis can be coded in any one of 87 diagnostic related groups, but Horn *et al* (1986) found that patients with cystic fibrosis stayed on average 14.9 days in hospital, whereas other patients in the same diagnostic related group spent 8.3 days. The average cost of treating a patient with cystic fibrosis was \$7262, compared with \$2908 for other patients in the same group. Yet, for all of these patients, the hospitals were reimbursed the same sum. In other words, disease type or severity, particularly dependence levels, influence resource utilisation.

The implication is that hospitals that treat more severely ill patients are likely to be at a financial risk. Thus, diagnosis-related groups and, by implication, healthcare resource groups create the financial incentive to avoid high-dependency patients. If the payment system is seen as unfair, there is a risk that providers may resort to 'up-coding', i.e. coding a patient's diagnosis as more severe or acute than is actually the case (a point touched on by Fairbairn, 2006, this issue). For example, as the King's Fund (2006) argued, the NHS tariff pays two prices for different kinds of heart attack treatment: £1775 for treatment of patients without medical complications

and £3676 for those with complications. The risk is that hospitals will falsify the code (or worse still, give unnecessary treatment) in order to make more money.

In practice, it is more likely that documentation will be insufficient to assign a correct healthcare resource group. Other potential drawbacks of diagnosis-related groups include the much vaunted advantage of reduction in length of stay: it may be that patients will simply be 'discharged quicker and sicker', adding extra burden on family or poorly resourced home-care (International Council of Nurses, 2006).

The real question is how far payment by results is applicable to mental health. Its reliance on healthcare resource groups suggests that there may be problems here. It is acknowledged that the diagnosis-related group system, and by implication healthcare resource groups, faces difficulties in psychiatry and other chronic conditions. My colleagues and I have shown that the term 'psychoses', which is one of the top ten diagnosis-related groups and which includes schizophrenia, bipolar affective disorder, psychotic depression and other psychoses, is not homogeneous enough to accurately predict resource utilisation (Oyebode *et al*, 1990). We found that if length of stay was used as a proxy for resource use, then marital status and electoral ward of residence were better predictors of resource use than diagnosis.

There is little doubt that there is genuine difficulty in applying the diagnosis-related group/healthcare resource group model to psychiatry. It is possible that recognising psychiatric procedures such as rehabilitation, detoxification and intensive in-patient care as classification variables in the same way that surgical procedures are recognised may improve the accuracy of the model. It is also possible that the inclusion of demographic and residential data such as marital status and electoral ward of residence may improve accuracy.

## Conclusions

Payment by results is a radical change to the tariff structure in the NHS. The aim is to drive efficiency but the risk is that quality may be compromised. There is also the added risk to trusts. Although there are transitional arrangements to forestall undue financial risk, all commentators accept that it has the potential to destabilise hospital finances and may very well have already done so in some cases (Association of Chartered and Certified Accountants, 2003; King's Fund, 2005). Its likely impact on mental health services is probably less predictable than its effect in the acute hospital sector. But mental health trusts will have to adapt to the new world

whenever payment by results is brought in. There will inevitably be winners and losers. Information and cost management systems will probably greatly determine which trusts survive.

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