

USING NATIONAL TARIFFS TO PAY FOR HOSPITAL CARE

Introduction

In 2003 the Department of Health in England introduced a new system of financing hospitals called 'Payment by Results' (PbR). PbR is a prospective pricing system that makes a direct link between hospital income and the number and case-mix of patients treated. Introduction of the policy was motivated by a desire to affect the efficiency (cost per

patient treated), volume of activity and quality of care in English NHS hospitals. This paper presents the findings of the first extensive quantitative analysis of the effects of the policy in its first years of implementation on key outcomes and considers the implications for NHSScotland.

KEY MESSAGES

1. A cost per case based tariff system to pay hospitals has been introduced in England
2. This has led to reductions in unit costs of hospital care
3. There is some evidence that the new system has stimulated increases in the volume of activity without reduction in the quality of care
4. These positive results reflect the experience of casemix based financing in other health care systems
5. Scotland should consider whether there are ways of utilising HRG prices which would benefit the healthcare system

Table 2: Impact of Payment by Results on length of stay (days), proportion of day cases and growth in spells (change in percentage points)

Treatment group	Control group	Year	Length of stay	Day case proportion	Growth in spells
Foundation trusts	Non-foundation trusts	2004/05	0.02†	0.4†	-0.25
Foundation trusts	Scotland	2004/05	-0.08†	0.4†	1.33†
Non-foundation trusts‡	Scotland‡	2005/06	-0.03†	0.8†	2.57†

†Significant at $P < 0.01$, ‡Elective only

Data

We used episode data from the Hospital Episode Statistics for 2002/03 to 2005/06 for England and from SMR01 and SMR02 data for Scotland. Episodes were converted to spells (continuous in patient stays and day cases) for the analysis.

We used length of stay and day cases as a proportion of elective admissions as our measures of unit costs for hospital admissions.

For quality of care we followed convention and employed in-hospital mortality, 30-day post surgical mortality and emergency readmission following treatment for hip fracture.

Results

Impact on unit costs

The results for unit costs are consistent across most of the DiD analyses. Unit costs have fallen more quickly where PbR was implemented in elective admissions,

- length of stay has fallen more quickly and
- the proportion of day cases has increased more quickly

This is what was expected from the policy.

Detailed results are presented in Table 2. The first column identifies the group of trusts to which PbR is being applied and the second column is the control group. The third column is the period over which the differences are measured. The last three columns contain the coefficients from the regression analysis. These coefficients show the difference in the change between the treatment and control group: the average effect of the PbR policy.

Impact on growth of spells

Only when using Scotland as the control group, did we see evidence of higher growth associated with PbR. See Table 2.

Impact on quality of care

We find little evidence of an association between the introduction of PbR and a change in the quality of care. (We have not presented these results in the table.) There are no results supporting the concern that quality of care has suffered as a result of PbR.

Discussion

Validity of results

We used standard proxies for quality of care in our analysis. Mortality has been criticised as insufficiently sensitive to change in the quality of care. However, in the absence of other routine data, such as quality of life outcomes measures, which may be more sensitive to changes in the quality of care, they are widely used. It is possible that there may be dimensions of quality of care that could have been adversely affected by PbR that we have not captured.

We have exploited the natural experiment that was created by the stepped introduction of PbR policy in England and the absence of PbR in Scotland. The DiD method controls for differences between the two countries which do not vary over time. However, if a policy that might influence the outcomes in which we were interested, other than PbR, changes in one country and not the other, this may bias our results.

These results echo those of observed for other health care systems utilising casemix based funding within a purchaser-provider structure.

Lessons for Scotland?

Hospital activity in Scotland is also categorised into HRGs and since 2005 some groups of HRGs (more precise) have been assigned fixed prices. These prices have applied to cross boundary flows of services between NHS Boards, albeit the tariff is no longer mandatory. However, the majority of hospital services are funded through block contracts. It does not necessarily follow that Scotland could benefit from widening the National Tariff system.

Scotland has a vertically integrated system without commissioners and providers observed in many health care systems using casemix based prices. However countries, such as Finland, which have similarly vertically integrated health care systems, have successfully used casemix based pricing to fund hospitals. Scotland should consider what other ways there are to utilise HRGs in the funding of its hospitals and what the benefits might be.

Conclusion

Our analysis of the effects of PbR on key outcomes provides evidence that

- there have been reductions in unit costs of hospital care that are associated with the introduction on PbR in England in its early years of implementation
- these may have been achieved without detrimental impact on the quality of care.

The analysis suggests that, as with other casemix based hospital payment systems, PbR has achieved real changes in hospital health delivery in England. Scotland should consider whether there is a way that a cost per case financing system could be introduced within its current structure.

Research Team

Those interested in knowing more about this type of work, providing feedback, or in future collaborative work should contact Dr Shelley Farrar at the Health Economics Research Unit, University of Aberdeen, Polwarth Building, Foresterhill, Aberdeen, AB25 9ZD (Tel: 01224 553866; Fax 01224 550926; email s.farrar@abdn.ac.uk).

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For further details about HERU:

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