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Limitations of the HRG Tariff: Efficiency Comparison

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The method by which the Department of Health (DH) assesses operational efficiency is called the reference cost index (RCI). The DH states that:

'The RCI shows the average cost of an organisation's aggregate activity, compared with the same activity delivered at the national average cost…. the complexity of care that organisations provide is taken into account in the index' (DH 2008).

The preceding articles in this series have highlighted a previously unrecognized role for the specialty of care in the reference costs (Jones 2008a,b). With this in mind it is possible to compare the calculated RCI using different criteria. Overnight elective admissions only account for 29% of elective admissions but account for 62% of the elective cost. For the purpose of genuine like-for-like comparison day case admissions are deliberately excluded based on the fact that the interpretation of a day case is so ambiguous that some Trusts are able to count large numbers of 'outpatient' minor procedures and tests as a 'day case' and this has the potential to considerably skew the RCI calculation (Jones 2007).

This calculation will be illustrated using two groups:

1. The core surgical group of specialties has been chosen to focus on surgical procedures rather than elective admissions for medical reasons. This core surgical group of specialties (General Surgery, Urology, Orthopaedics, ENT, Ophthalmology, Oral Surgery, Gynaecology, Plastic Surgery, Pain Management, Neurosurgery) accounts for 57% of elective overnight costs. 3,620 specialty-HRG combinations are represented in this group.
2. Specialist surgery or paediatric specialist interventions. Some 3,950 specialty-HRG combinations are represented in this group.

A key test of any performance evaluation tool is how well the tool performs at the extreme limits. Almost any performance tool will show adequate results for the bulk of situations near the average, however, only the better tools will give good performance evaluation at the extreme limits. Tables 1 and 2 show the results of such testing. Any organization with a Trust code commencing with a 5 is a PCT owned provider.

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For the core surgical group in 132 out of 162 organisations the two methods give a result which is within 1.5 percentage points of each other. This is to be expected given the 'standard' nature of this group. However, PCT run providers cluster at the bottom of the Table 1. These community hospitals (or groups of community hospitals) are most likely to offer a limited range of surgical interventions, i.e. their case mix diverges from the national average. On all except one occasion the standard HRG-based calculation tends to present a picture of more divergent apparent efficiency. The conclusion is that the Specialty-HRG calculation is better able to reflect the true efficiency of such organizations.

The V4 HRG was designed to reflect the realities of specialist care. On 15 out of 24 occasions in Table 2 the Specialty-HRG version gives a result closer to 100% than the standard HRG version of the RCI calculation. Once again we can conclude that this method appears to be the better of the two. Some organizations compare less favorably, most notably, RH8 whose apparent RCI jumps from 26% to 44% above national average. The RCI for this organization for the core surgical group is very close to 100% using both methods. Since the RCI is usually driven by the HRGs with the highest numbers of admissions a review of coding and/or costing & pricing in specific specialist services may be needed to understand the root causes of this difference, i.e. the two methods can be used to triangulate the root causes of cost differences.

In conclusion, there are alternative views regarding the so-called efficiency of acute providers. For the bulk of providers there is less than a two percentage point difference between the two methods. However, calculation of the RCI using the joint Specialty-HRG view appears to better cope with the extremes in provision of simple and complex work streams. For the same reason payment using a tariff based on Specialty-HRG combinations would lead to fewer under- and over-payments relative to the national average.

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Table 1: Calculated reference cost index for acute providers in the core surgical group of specialties.

Trust Code	Core Surgical Cost	RCI (HRG)	RCI (Spec-HRG)	Difference in RCI
5F1	£2,044,616	92%	95%	-3%
5N6	£1,157,477	97%	91%	6%
5NV	£8,908,193	122%	115%	7%
5LQ	£3,517,998	108%	100%	7%
RET	£6,173,113	133%	122%	10%
5HG	£1,859,104	54%	66%	-12%
5PC	£2,294,365	18%	31%	-13%
5P7	£3,461,950	165%	151%	14%
5N7	£1,322,895	209%	194%	15%
5QQ	£2,088,784	168%	151%	18%
5N5	£1,198,020	118%	101%	18%
5N4	£2,066,118	171%	153%	18%
5N1	£1,200,620	67%	90%	-23%
RBV	£2,138,269	157%	131%	26%
5QL	£11,381,865	167%	101%	65%
5J5	£11,116,075	249%	176%	72%
5JE	£16,060,522	233%	110%	122%

Footnote: Organizations with less than £1M of costs for the core surgical group have been excluded.

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Table 2: Calculated reference cost index for acute providers for specialized adult and paediatric services.

Trust Code	Core Surgical Cost	Specialist Services Cost	RCI (HRG)	RCI (Spec-HRG)	Difference in RCI
RW6	£29,365,548	£6,135,513	106%	102%	4%
RX1	£31,024,940	£13,176,793	123%	119%	4%
RK9	£17,410,553	£15,067,557	111%	107%	4%
RTG	£21,501,688	£938,834	118%	123%	-4%
RF4	£23,824,706	£1,929,714	85%	90%	-4%
RJ1	£16,405,207	£17,068,480	106%	101%	4%
RL4	£9,488,768	£5,062,765	104%	100%	5%
RTX	£15,763,793	£636,685	103%	108%	-5%
RDE	£13,286,991	£757,895	84%	88%	-5%
RPR	£5,494,078	£976,730	109%	104%	5%
RCX	£5,229,832	£828,732	180%	175%	5%
RXC	£17,424,375	£1,231,799	112%	117%	-5%
RR1	£13,057,351	£5,722,534	102%	108%	-6%
RV8	£14,226,236	£678,619	94%	100%	-6%
RA9	£11,693,776	£3,264,800	93%	86%	6%
RTE	£18,207,450	£7,502,216	111%	105%	6%
RCB	£9,076,198	£2,877,283	155%	148%	7%
5QN	£1,209,834	£1,703,851	89%	81%	8%
RGQ	£7,667,231	£1,184,728	169%	161%	8%
RXH	£14,029,863	£8,786,153	104%	95%	9%
RGR	£3,280,700	£2,246,786	100%	88%	12%
RJZ	£15,504,805	£12,442,046	86%	98%	-12%
RAN	£23,006,643	£1,874,586	79%	96%	-17%
RH8	£23,908,821	£1,004,516	126%	144%	-18%

Footnote: Organizations with less than £500,000 of specialist costs have been excluded.