cost mapping

Understanding where you stand cost-wise should be valuable intelligence, but the reference cost publications seem to happen without anyone paying much attention. With a continuing and even growing role, is it time people took more notice of the annual cost publication, asks Steve Brown

It can be all too easy to dismiss the annual publication of NHS reference costs. An audit of the 2013/14 costs found that nearly half of a sample of 75 acute providers had materially inaccurate reference cost submissions. And with sector regulator Monitor promoting major changes to NHS costing through its costing transformation programme, switching the service from what is traditionally seen as top-down reference costs to more accurate bottom-up patient-level costing, it is hard to know what to make of the ongoing reference costs collection and publication.

But despite concerns about some inaccuracies, reference costs continue to play a significant role in the NHS right now – and arguably that role is increasing. The national average costs produced by reference costs – using a currency based on healthcare resource groups and outpatient attendances – underpin the national tariff and are likely to do so for several years yet.

They also form the basis for many local prices outside of national tariff areas. And the cost data will be needed to inform development of new payment approaches such as year-of-care and capitation contracts.

It is also too simplistic to view reference costs as a completely separate approach to patient-level costing – reference costs bad, patient-level costing good. In fact many organisations have been pursuing patient-level costing for a number of years. In the latest reference costs, some 128 providers used patient-level costing to inform some or all of their reference costs return.

Reference costs reality

Monitor's proposals for 'transformed' costing will see a revised methodology adopted in a consistent manner across all providers, but the reality is that patient-level costing is already driving some of the numbers in reference costs, particularly in the acute sector. In some ways, reference costs should act as a marker for how costing teams are stepping up to the challenge of improving costing in general, including the adoption of patient-level costing.

Patient-level costing is already driving some of the numbers in reference costs

In its reference cost reports, the Department of Health lists a number of local and national uses of the cost data. But this year a new one has been added as Lord Carter is proposing to use the reference costs as the starting point for a new efficiency metric – the adjusted treatment index. This effectively builds on the reference costs index to support NHS providers in making up to £5bn of productivity improvements.

The Department, which collects reference costs on behalf of Monitor, published the 2014/15 data in the middle of November. The latest publication shows how £61bn of NHS funding was spent by 239 NHS providers delivering care in the last financial year. While the value of reference costs may divide opinion, the high-level statistics certainly qualify as interesting reading.

The £61bn – up from £58bn in the 2013/14 collection – represents just over 55% of total NHS revenue expenditure. Admitted patient care (day case, elective and non-elective) – covering 2,782 treatments and procedures and more than 16 million finished consultant episodes – accounts for 41% of reported costs. Outpatient attendances account for 14%, mental health 11% and community services a further 9%, with accident and emergency, outpatient procedures and other non-acute services making up the balance.

More than a third of the £25bn spent on admitted patient care is in just three areas: the musculoskeletal system (16%, £3.9bn); the digestive system (12%, £3.1bn); and cardiac care (10%, £2.4bn). Add in respiratory (£2.1bn) and obstetrics (£2bn), and together the five HRG chapters, out of a total of 21, account

FCE-based average costs			
Point of delivery	**2012/13 (£)**	**2013/14 (£)**	**2014/15 (£)**
Day case	693	698	721
Elective inpatient*	3,366	3,375	3,573
Non-elective inpatient*	1,489	1,542	1,565
Excess bed days	273	281	303
Outpatient attendance	108	111	114
A&E attendance	114	124	132

**excluding excess bed days*

for more than half of the total admitted patient care spend.

The average costs for care in different settings – an elective inpatient episode at £3,573, for instance – may not provide any meaningful benchmarks. But they should provide some useful 'rule of thumb' ball park figures to inform general discussions about how pathway costs fit together (see table above).

The reference costs split effectively into two parts – the reference costs index (RCI) and the schedule. The RCI provides an indication of relative cost difference between different NHS providers. In essence, it does this by taking a provider's actual costs (unit costs x activity summed across all HRGs) and dividing this by the expected costs (national average mean unit cost x activity) – multiplying the result by 100. A trust with a score of 100 has costs equal to the national average. A score of 110 suggests costs are 10% above the average, while 90 indicates 10% below average costs.

Hospitals face some unavoidable cost differences (reflected in provider specific market forces factors or MFFs). RCIs are most frequently reported having taken account of these unavoidable cost differences – adjusted using the MFF.

HRG-based tariffs

In contrast, the schedule provides costs at individual HRG level – and hence provides the starting point for HRG-based tariffs. (Typically HRG costs for one year will inform the tariff three years later – 2014/15 costs providing a tariff in 2017/18, for example). As well as providing national average costs for each HRG, the schedule shows lower and upper quartile costs across all submissions and average length of stay. The costs reported are the actual costs reported – not adjusted for MFF.

The RCI is possibly the most contentious part of reference costs. In many ways, RCIs do not compare like with like. While HRGs are a way of comparing costs for similar activities, each HRG will in fact cover a range of cases of differing complexity. Within a single HRG, a teaching hospital or specialist provider might expect to see a more complex caseload than a district general hospital, perhaps as a direct result of tertiary referrals from that general hospital. This will inevitably mean the specialist provider reports higher costs for that HRG than more routine service providers – pushing it higher up the RCI range.

As an index that shows costs relative to other providers, the index is also sensitive to the accuracy of costs in other providers. One provider could look expensive or cost-effective compared with another based on the accuracy of the costs of that other provider – not because of its own costs.

Keeping this in mind, the figures for 2014/15 show a range across all providers of 75 to 141 – or from 25% lower than national average costs to 41% higher. This full range of 66 percentage points is slightly narrower than the 78 percentage point range in 2013/14. However, this full range includes all organisation types – including mental health, community providers and ambulance trusts.

Looking at just providers delivering primarily acute services, where cost and activity data is arguably more robust and where the currency is more established, reveals a tighter range of just 28 percentage points – three percentage points tighter than last year.

This range stretches from 116 (King's College Hospital NHS FT) and 114 (Hinchingbrooke Health Care NHS Trust and University Hospitals Birmingham NHS FT) down to 88 (Surrey and Sussex Healthcare NHS Trust and Kingston Hospital NHS FT).

This range only tightens up slightly more if you look at the data by different provider types:

- Large acute, 23 percentage points
- Medium, 24 percentage points
- Small, 25 percentage points
- Teaching, 27 percentage points.

This reflects the fact that there are examples of all provider types towards the top and bottom of the index range.

Only 52 providers across all types (out of a total of 239) have costs that are more than 5% higher than national average costs. And when you look just at acute and teaching hospitals (not including the specialist providers), this falls to 22 or just 16%.

Only 52 providers have costs more than 5% higher than national average costs

Acute providers are traditionally regarded as having more robust costs than other sectors, driven by the existence of a national tariff and better activity data. But mental health trusts have also put more of a focus on costing in recent years – and the introduction of a cluster-based currency to underpin local pricing has made services more comparable. The full range of RCIs for mental health trusts stretched from 75 to 141. However, five trusts' RCIs are considered to be outliers. Stripping these providers out leaves a range of 81 to 124.

Many organisations regard the RCI as providing only a rough indication at best of relative costs. However, there are still organisations that report the annual index to their board and track performance over the years as a measure of improvement both of the costing team performance and of service efficiency.

Using the schedule

The schedule is arguably the more used part of reference costs – providing the starting point for national tariff setting and often feeding into local contracting, either using national average costs or local costs to set local prices. Given the relationship with tariff prices, perhaps the first thing to look at is relative stability of costs between years.

Back in 2012, Monitor published an evaluation of the payment by results reimbursement system that raised concerns about the impact that fluctuations in costs were having on the volatility of prices from year to year. In particular it said that 40% of individual prices had changed by 10% or more from one year to the next since 2005/06.

Average costs are likely to be more volatile for low-volume activities, where small numbers of high- or low-cost events could have a major impact. To compensate for this, we looked at HRGs in the 2014/15

schedule that also existed in 2013/14 (HRG4+ is being introduced in phases) and that included at least 100 episodes of activity.

Looking first at HRGs across all settings combined, just over 1,300 HRGs exceeded the activity threshold and 21% of these had changed (up or down) by 10% or more compared with the previous year's costs. Treating HRGs in each setting separately (day case, elective, non-elective) revealed 3,350 setting-specific HRGs meeting the activity criteria, with 32% showing a cost change of 10% or more.

The schedule enables pathways to be examined for specific procedures and treatments. For example, 14,220 tonsillectomies were undertaken on adults in 2014/15 (HRG CA60A) at an average cost across all settings of £1,430. The vast majority of these were undertaken as elective inpatients (5,617) or day cases (8,387).

According to the schedule, day case activity now accounts for 59% of adult tonsillectomies, up from 53% in 2013/14. This increase may indicate that a best practice tariff – incentivising day case activity – is having the desired effect, providing benefits to patients.

The benefit for providers not only comes in the improved price paid for day cases but by incurring lower costs. According to reference costs, an average day case tonsillectomy costs £1,257 compared with £1,651 for an elective inpatient stay.

The 2013/14 reference costs audit does not make good reading for NHS costing. Monitor said it was 'concerned that almost half of trusts audited submitted materially inaccurate reference costs'. In particular it said that 'the lack of compliance suggests that most acute trusts … do not see the benefit of devoting resources to producing accurate costing information'. Monitor has suggested before that NHS providers will need to increase costing teams to meet the requirements of its costing transformation programme.

"As ever, more can be done, and we continue to work with others to help improve costing"
Sarah Butler, DH

A survey, run alongside each year's reference costs collection, shows how thin some costing teams are. In acute trusts, on average, fewer than two whole-time equivalent finance staff are running costing systems and producing cost information with minimal support from IT staff. This is closer to one member of staff for ambulance and community providers.

Costing teams are often also responsible for service line reporting, patient-costing work and education and training reference costs – as the service looks to move towards an integrated collection for reference costs and education and training costs.

This may well need to increase to improve reference cost quality, meet the needs of ongoing costing work, such as for education and training, and enable the switch to Monitor's proposed new patient costing regime.

The value for money report – to support the costing transformation programme – is due in the new year and will be crucial in helping the service to understand the importance of this investment. However, the recent audit is based on the 2013/14 costs and there is an expectation among national bodies that providers – not just those subject to the audit – will have responded to many of the issues raised, leading to improvements in the quality of the 2014/15 data.

Focus on accuracy

According to the Department of Health's deputy director of performance, Sarah Butler, good-quality cost data is more important than ever, given the role it has in supporting local decision-making, underpinning tariff and the development of payment systems – and, more recently, the development of efficiency metrics. But further improvements are needed.

'Both costing and cost collection have seen significant improvements over the past decade, which is s huge credit to everyone who works in the area both at local and national level,' she said. 'But as ever there is always more that can be done and we continue to work with organisations to help improve costing.'

At the national level, this includes the Department working with Monitor and other arm's-length bodies on the costing transformation programme, providing an ongoing collaborative process to support providers to improve their costing and improve the cost collection processes. But Ms Butler said the improvements would not be delivered by central initiatives alone.

'Ultimately, NHS providers have the most to gain from understanding their costs better. And so they have the responsibility to improve their internal costing processes and their systems to help better understand the cost of delivering services and to improve the quality of data submitted,' she said.

She suggested these improvements needed to start with organisation-wide recognition of the importance of costing – beginning with the board. 'Experience tells us that it is only through organisations actively using data and through good clinical engagement that we will see real improvements,' she said.

Greater use of the cost data nationally would also mean greater scrutiny. 'As the reference cost data set is being used more and more at a national level, it is even more important to focus on the quality of reference costs,' Ms Butler added..

The publication of annual reference costs has become a low-key affair. There is no big fanfare, no press release and not a huge amount of attention paid to them by the costing community, whose big focus is on completing the annual return rather than the compiled results. Unarguably, they can be better – as the 2013/14 audit has made perfectly clear – and will eventually be superseded by richer patient-level data. But given their importance as the starting point for tariff prices and their new role in underpinning the adjusted treatment index, they should perhaps be paid a little more attention.