Monitor
Making the health sector work for patients

NHS England

2015/16 National Tariff Payment System: national prices methodology discussion paper

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Executive summary

NHS England and Monitor first took responsibility for setting the NHS National Tariff Payment System ('the tariff') for 2014/15. With that tariff now in effect, we are launching the stakeholder engagement process tor the 2015/16 tariff with this early discussion paper, which focuses on potential changes to national prices. The paper has three objectives:

1. Set the scene – highlighting the decisions we'll have to make and the process we'll go through in making them, including how stakeholders can influence our decisions.
2. Engage early on key decisions – we are seeking views on our current proposals for the key decisions for 2015/16 national prices; these decisions are about currency design, the approach to modelling prices and the framework for setting the efficiency factor. We are also seeking views on other potential changes that are at an earlier stage of development.
3. Collect evidence – this is an opportunity for the sector to provide views and supporting material on matters where we are currently constrained by a lack of evidence, in time for us to give them proper consideration in this review.

If we are to adopt new proposals for the 2015/16 tariff, we believe they must be transparent, based on evidence, have been consulted on effectively, and that we have assessed their likely impact. We want our decisions to be well understood, expected and consistent within a broader policy framework. We also want our stakeholders to understand the pace and direction of our long-term reforms. This means that many parts of the tariff should endure from one tariff to the next, particularly the way we make decisions and the factors we consider. As such, the 2014/15 national tariff will form the baseline from which the 2015/16 tariff is developed.

A central aim of the 2014/15 tariff was to provide stability to the sector, so it introduced minimal changes to currencies and the method by which we set national prices. However, we think the 2015/16 tariff should include more significant changes. This document explains why we are considering more significant changes and the potential changes we have considered so far. Where we have preferred options, we identify them and the reasoning behind our preference.

Why we are considering more significant changes for 2015/16

Shifting to new patterns of care is a priority if the health sector is to achieve a long-term balance between growth in patient needs and expectations, and largely static commissioning budgets. But we recognise this is a large ask, coming on top of the

latest NHS restructuring, the drive to raise levels of care quality and patient safety, and current financial constraints.

The tariff has an important part to play in achieving this balance. It is a key source of information for budget setters, commissioners and providers when making crucial decisions, such as which services to commission, what services to provide and where improvements can be achieved.

To help this process, it is important that prices remain current and clinically relevant. That means we must continually update our currencies. However, it is just as important to ensure that the method for setting prices for these currencies is clear and well understood, and that the resulting prices are fair and accepted by the sector. For these reasons, we think it is important not only to move on from the transitional rollover method we used to set prices for 2014/15, but also to clarify how we intend to decide key inputs into price-setting, such as the efficiency factor.

Currencies

Currencies group together activities, based on their use of resources, for the purposes of collecting cost information and setting a price for the activity. When deciding on the currency design we must balance the need for currencies to be clinically relevant and enable the capture of accurate cost data, against the potential for unintended consequences of moving from one design to another.

We consider that moving to Healthcare Resource Group (HRG) 4+ design as the payment currency design for 2015/16 would be premature, although we are working towards a possible move in future tariffs. Our preferred approach is to update the currency design base to the 2011/12 Reference Cost design, updated for changes that were already used for national prices in 2014/15. We set out the options and our reasoning in Section 3.

Approach to calculating national prices

The approach to calculating prices is closely tied in with the choice of currency design. If we decide to keep the currency design mostly unchanged from 2014/15, it would be possible to apply a rollover for a second successive year. That would mean that relative prices would be based on data collected in the 2010/11 Reference Costs. We think we should strive to use more up-to-date information in setting prices. Together with our preference to update the currency design, our preferred option is to calculate prices from costs and activity data using a model based on the Department of Health's Payment by Results model.

We note that some modelled prices have been volatile from year to year, and that some prices have relied on manual adjustments. We would like to minimise both of these and are investigating whether we could achieve this by using several years of Reference Costs data as inputs into the model, where possible and appropriate.

Section 4 sets out the options we have considered and the reasons for our preferred options.

Cost adjustments to national prices

We make adjustments to prices derived from the model to reflect expected changes to the costs of providing services with national prices. This is based on our price-setting principles that prices should reflect efficient costs and provide appropriate signals to providers and commissioners. We set out our considerations and preferred options in Section 5.

Cost uplifts reflect increases in costs over which providers have little influence. Our intention is to apply the same approach to cost uplifts as we used for 2014/15, but we will review the process by which we consider any extra costs relating to requirements in NHS England's Mandate.[1] In particular, we are reviewing how we engage with stakeholders and how we consider relevant evidence. We plan to set out the process we will follow in our next tariff engagement document, which we will publish in the summer.

The efficiency factor quantifies our expectation of providers' ability to deliver services at a lower cost without compromising the quality of care. We are developing an enduring framework and think that there may be a case for setting different efficiency factors for different types of services. However, the data currently available is insufficient and not always comparable – particularly for services provided in non-acute settings. This makes it hard for us to estimate the efficiency factor at different levels of disaggregation with confidence. We are working towards possibly developing a more disaggregated approach in future tariffs.

For 2015/16, our preferred option is to set a single efficiency factor, based on estimates from the acute sector, where data is more established and there is a history of estimating changes in efficiency. We will also engage with stakeholders to understand how that estimate could best be used in the guidance we provide for services that do not have a national price (these are typically services provided outside acute settings). We also note that providers and commissioners are able to agree prices for such services that reflect different assumptions about efficiency if they have good reasons for doing so.

Understanding the scope and causes of 'leakage'

Finally, we discuss the concept of leakage, which is based on the observation that estimates of the efficiencies achieved by providers have typically been lower than the efficiency requirement applied to national prices in recent tariffs, while providers' financial position has typically not deteriorated by a commensurate proportion. However, there is a great deal of uncertainty around the scope of leakage and the

[1] We refer to these costs as 'service development'.

ways in which it might be occurring. This paper is an opportunity to seek a better understanding and approach to this issue. We are interested in stakeholders' views on possible causes and drivers of leakage, and what are the forms in which leakage might occur. Section 5 provides more detail on the subject.

1. Introduction

NHS England and Monitor[2] took over responsibility for the NHS national tariff from the Department of Health (DH) in 2013 and published the '2014/15 National Tariff Payment System' in December.[3] This set of prices and rules helps commissioners work with providers, such as NHS trusts and foundation trusts, to identify which healthcare services provide best value to patients. The current processes for deciding the tariff are very different from those previously followed by DH, and there are new and different opportunities for stakeholders to take part in them.

Some of the most important changes concern the methodology used to determine what national prices should be. The currencies, national prices, methods for determining national prices,[4] of the method for considering local modifications, and the rules for local variations and price setting are subject to a statutory consultation process, under the Health and Social Care Act 2012 ('the 2012 Act'). As well as giving stakeholders an opportunity to comment on the proposals, the 2012 Act provides a statutory process for clinical commissioning groups (CCGs) and 'relevant providers' to challenge the method or methods we have proposed for determining the national prices of specified healthcare services.[5] If a sufficient proportion of those commissioners or those providers object, the method may be referred to the Competition and Markets Authority (CMA, previously the Competition Commission).

The introduction of this process is one of the main reasons for this paper – to give stakeholders the chance to engage early on the methodology for national prices in the '2015/16 National Tariff Payment System'. We want to give you a chance to influence our thinking and work through the most significant issues as we develop our proposals.

The 2014/15 national tariff was our first and focused on providing stability to the sector while we took on our responsibilities during this period of transition. We introduced minimal changes to the methodology for determining national prices used by DH. However, for 2015/16 we consider that there is value in introducing more significant changes to the methodology for setting prices and to our process.

This paper discusses potential changes from the 2014/15 tariff to currencies, the way prices are modelled and cost adjustments that we are considering. It discusses

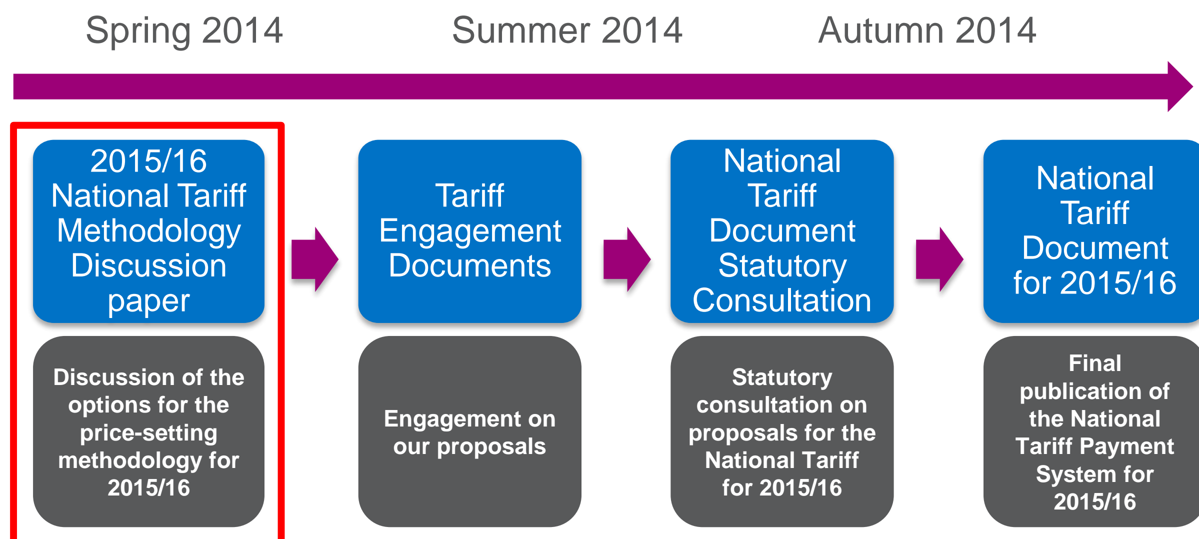
[2] Unless named individually, this document refers to NHS England and Monitor jointly.
[3] See NHS England and Monitor (December 2013), '2014/15 National Tariff Payment System', available at: www.monitor.gov.uk/NT
[4] The methods are the data, method and calculations used to arrive at the proposed set of national prices, but not the prices themselves.
[5] 'Relevant providers' refers to licence holders (including NHS foundation trusts) and to any other person who provides a healthcare service for the purposes of the NHS for which there is a proposed national price specified in the notice sent by Monitor under section 118(1) of the 2012 Act.

incremental changes to the methodology used to set national prices for 2014/15, rather than offering a comprehensive proposal for 2015/16.

We have previously published our planned work programme for developing the payment system in 2014. There are four strands to our work programme, all aimed at ensuring that the payment system promotes value for patients. As well as developing the tariff, we are working on a long-term payment system design to make it do more for patients, on improving the cost data that will underpin the payment system, and on starting to monitor and support local price-setting. Figure 1 illustrates the tariff workstream for developing the 2015/16 national tariff and how this paper fits into it.

We plan to produce an early discussion paper on the national price method for future tariffs but we will continue to review our engagement process and its results. We welcome your feedback on the usefulness of this early stage of engagement.

Figure 1: Tariff development programme for 2014



Although stakeholders can submit views on our ideas and proposals at any stage of engagement during development of the 2015/16 national tariff, we intend each stage to focus on different issues. The aim of the first stage, following the release of this methodology discussion paper is to consult on the desirability and appropriateness of key changes in the method for setting national prices. For example, this discussion paper seeks your comments on the approach for setting the efficiency factor – one of the key components of the method for setting 2015/16 national prices. We would like to hear your comments on whether the options we set out in this paper are appropriate both conceptually and practically.

Although we have aimed to outline most of the changes to the method we are likely to propose for setting national prices for 2015/16 in this methodology discussion paper, this paper is not an exhaustive list of potential amendments. We expect to propose extra changes when we release the tariff engagement documents in the

second stage of engagement during the summer. By the second stage, the engagement will focus on implementation as well as our proposals. It will also include discussion of prices that would apply if the proposed methodology is used, and our initial assessment of the impact of these proposals.

The third stage of engagement with the sector on the methodology for 2015/16 national prices will follow publication of our Consultation Notice and full impact assessment. During this stage, stakeholders can give their views on the detailed proposals for the national tariff. In addition, CCGs and relevant providers have the opportunity to challenge the proposed method for determining national prices. If a sufficient proportion of either of these groups objects, we would need to decide whether to refer the method to the CMA or to revise the proposal and re-consult.

The rest of this document is structured as follows:

- Section 2 discusses the context for the 2015/16 tariff.
- Section 3 outlines proposed changes to currencies.
- Section 4 sets out the options we have considered for modelling national prices, including the options for updating key input parameters.
- Section 5 discusses adjustments that we would consider making to national prices.

Further detail is provided in the annexes.

Responses to this paper should be sent to: paymentsystem@monitor.gov.uk by **midday** on **Friday 23 May 2014**.

We want to hear from you about the issues raised in this paper, in particular with regard to the questions at the end of each section. A response form is available here.

Unless marked confidential, we intend to publish the responses on our website.

2. Context for the '2015/16 National Tariff Payment System'

This section sets out the statutory considerations that frame our work on the 2015/16 national tariff. We outline the policy context, the principles that guide our price-setting decisions, and the process that we intend to use to develop changes to the national tariff. We provide an overview of the 2014/15 tariff and identify what we intend to retain for the 2015/16 tariff, and what we consider changing.

Statutory considerations

Chapter 4 of the 2012 Act sets out the respective price-setting roles and responsibilities of Monitor and NHS England. These roles and responsibilities effectively replace the role of DH's Payment by Results (PbR). In summary, NHS England is the lead body for specifying the services (currencies) subject to national prices and for the rules for local variations. Monitor is the lead body for the determination of prices for these currencies, the rules for local price-setting, and the publication of the National Tariff Payment System documentation. To deliver these responsibilities, the two organisations need to work closely together.

The National Health Service Act 2006 ('the NHS Act 2006'), as amended by the 2012 Act, states that NHS England is to seek to achieve the objectives specified in its Mandate, and comply with any requirements so specified.[6] Monitor's main duty in exercising its functions is to protect and promote the interests of people who use healthcare services by promoting provision of healthcare services which is economic, efficient and effective; and maintains or improves the quality of the services.[7]

In carrying out our functions regarding price-setting, Monitor and NHS England must consider both duties specific to pricing and their general statutory duties. Pricing-specific duties include Monitor's duty to have regard to the objectives and requirements specified in NHS England's Mandate[8] and the duty of both bodies to have regard to differences in the costs incurred by providers for different types of patients and differences in the range of services they provide, for the purpose of ensuring a fair level of payment.[9]

[6] The 2012 Act, section 23(1).
[7] The 2012 Act, section 62(1).
[8] The 2012 Act, section 116(13).
[9] The 2012 Act, section 119(1).

Monitor's relevant general duties include its duties to:

- Act with a view to enabling integration of services and to preventing anti-competitive behaviour in the provision of NHS services which is against the interests of patients.[10]
- Have regard to the need to maintain the safety of patients and the desirability of securing continuous improvement in the quality of NHS services.[11]
- Have regard to the duties of commissioners relating to access to services and making the best use of resources.[12]
- Exercise its functions consistently with the performance by the Secretary of State of his duty to promote a comprehensive health service under the National Health Service Act 2006.[13]
- Have regard to the NHS Constitution.[14]
- Have regard to the need to eliminate discrimination and promote equality of opportunity (its 'public sector equality duty').[15]

Similarly, in addition to its duty relating to its Mandate, NHS England must consider its general duties, such as its duties to promote and have regard to the NHS Constitution,[16] and its duties as to continuous improvement in the quality of services,[17] reducing inequalities and eliminating discrimination,[18] and promoting innovation and integration.[19]

Policy context

Shifting to new patterns of care is a priority if the sector is to achieve a long-term balance between growth in patient needs and expectations and largely static commissioning budgets. But we recognise this is a huge ask, coming on top of the latest NHS restructuring, the drive to raise levels of care quality and patient safety, and the tightening financial squeeze.

Changing the patterns of NHS care is bound to affect funding flows within the NHS from 2015/16. We expect that commissioners will have less money for hospital-based acute services, and will want to invest more in preventative, community-based

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[10] The 2012 Act, section 62(3) to (6)
[11] The 2012 Act, section 66(1) and (2)(a).
[12] The 2012 Act, section 66(b) to (d).
[13] The 2012 Act, section 62(9).
[14] The Health Act 2009, section 2.
[15] Equality Act 2010, section 149.
[16] The NHS Act 2006, section 13C and the Health Act 2009, section 2.
[17] The NHS Act 2006, section 13E.
[18] The NHS Act 2006, section 13G and the Equality Act 2010, section 149.
[19] The NHS Act 2006, sections 13K and 13N.

interventions, including mental health services. We anticipate the financial impact of these changing patterns will be different for each service and may affect some adversely. But the reason we will propose changes is that we assess that, in aggregate, they should lead to better care for patients within the available budget. We will engage with the sector on the detailed changes that we propose to introduce for the '2015/16 National Tariff Payment System' through the tariff engagement documents in the summer. This discussion paper, which focuses on the methodology for setting prices, is a precursor to the summer's engagement exercise which will be broader in scope.

For the national tariff as a whole in 2015/16, comprising currencies, national prices, national variations and the rules for local price-setting, our starting point is to try to allocate risk better across the sector. We believe that risk should reside with those organisations best placed to manage it, so we're developing proposals for sharing risk differently both between providers and commissioners and among providers. We hope this work will also help to kick-start the patterns of care prioritised in NHS England's planning guidance.[20] Our policy forward look[21] sets out a number of options we are investigating, three of which we discuss in detail in this document:

- considering changes to the currency and price-setting method for planned care, in particular outpatient attendances, to inspire efficiency and innovation
- a more sophisticated method for estimating providers' potential to improve their efficiency
- reflecting costs more accurately in national prices by updating our cost base.

Price-setting principles

Our aim is to set prices that encourage better patient care within the budget available. We think the following principles support this overall aim and reflect our statutory duties, best practice in price regulation and input from the sector:

- prices should reflect efficient costs
- prices should provide appropriate signals.

We explain each of these below.

[20] NHS England (2013), 'Everyone Counts: Planning for Patients 2014/15 to 2018/19', available at www.england.nhs.uk/wp-content/uploads/2013/12/5yr-strat-plann-guid-wa.pdf

[21] Monitor and NHS England (2014), 'How Monitor and NHS England are working to make the payment system do more for patients from 2015/16', available at www.monitor.gov.uk/node/6082

Prices should reflect efficient costs

In other parts of the economy, prices for a product or service generally reflect the resource costs of providing that product or service. Consistent with our duties, and in particular Monitor and NHS England's duty in relation to ensuring that prices for the provision of NHS services are set at a fair level for providers of the services,[22] we consider that prices should reflect the efficient costs of provision. 'Efficient costs' in this context means the costs that a reasonably efficient provider should expect to incur in supplying healthcare services to the level of quality expected by commissioners.

In turn, providers should be able to recover their efficiently incurred costs (which will typically include provisions for the depreciation and financing of capital expenditure as well as for necessary operating expenditure). This is particularly important in the long term, as it would enable providers to invest in new equipment and innovation. To plan ahead effectively, providers need to be confident that their efficiently incurred costs will be remunerated in full through the tariff.

However, prices should only reflect efficient costs as far as practicable. In setting prices, and designing the price system more generally, there is an inevitable tension between sophistication and simplicity. On the one hand, a sophisticated approach to setting prices means having a proliferation of prices for different types of services and different types of patients. This will tend to reflect underlying efficient costs more accurately than a price system with fewer prices. On the other hand, a simpler set of prices, while reimbursing the total costs of all services, may reflect the underlying costs of individual services less accurately. The advantage of a simpler set of prices is being easier to understand and operate, and cheaper to administer. In setting prices, we need to balance the need for prices to reflect efficient costs and the need for the price system to be as simple and as transparent as possible.

Prices should provide appropriate signals

When prices reflect efficient costs they signal to buyers the resource costs of a product or service. In the NHS payment system, prices signal to commissioners the costs of each service they commission from providers. For Monitor to fulfil its duty to protect and promote the interests of people who use healthcare services,[23] it is important that national prices provide signals and incentives that enable delivery of

[22] See, in particular, the 2012 Act, section 119(1).
[23] 2012 Act, section 62(1).

unit cost reductions that, all else being equal, will allow better healthcare in the NHS for a given budget. There are two main ways in which this can happen:

- with appropriate signals, commissioners can make the best decisions about which mix of services is likely to offer the highest value to their local population, thereby encouraging the best use of available fixed budgets, and
- prices set appropriately give incentives for providers to reduce their unit costs by finding ways of working more efficiently.

We are mindful that, in aiming to serve patient needs better, we may have to balance short-term and long-term considerations. For example:

- Overall, setting prices **too high** may disadvantage patients by reducing the volume of services that commissioners can purchase within a fixed budget. Inappropriately high prices may also reduce the incentive for providers to find cost savings, which would have a negative impact on patients in the longer term.
- Setting prices that are **too low** can be just as detrimental to patient interests, particularly in the long term, as:
    - providers may not be adequately compensated for the services they provide, potentially leading to withdrawal of services, compromise on service quality, and/or under-investment in the future delivery of services, and
    - commissioners may over-purchase those services – because they could perceive the resource costs of those services as lower than they really are – at the expense of purchasing other services.

The 2014/15 tariff

The 2014/15 national tariff payment system consists of six broad elements:

- nationally determined currencies
- national prices
- national variations such as the Market Forces Factor (MFF), the marginal rate rule and top-ups for specialised services
- local modifications
- local variations
- local price setting.

This paper sets out the changes we are considering to the first two elements in the 2015/16 tariff.

In the 2014/15 tariff we applied a ‘rollover’ approach, which meant keeping both currencies and relative national prices broadly unchanged. We also largely followed the approaches previously used by DH to update prices for expected cost inflation, and to set an ‘efficiency requirement’ relating to our expectation of providers’ ability to deliver healthcare services at a lower cost.

2014/15 is a transition year, in which the sector is adjusting to the new price-setting regime and a new commissioning landscape. In setting the 2014/15 tariff we were mindful that adding to the disruption could have had an adverse impact on patients. As a result, we wanted to keep national prices stable so that commissioners and providers would have more certainty about their expenditure and income, respectively.

Process for making new proposals

We want our decisions to be predictable and consistent within a broader policy framework, and for stakeholders to understand the pace and direction of our long-term reforms. This means that many parts of the tariff should endure from one tariff to the next, particularly the way we make decisions and the factors we consider. As such, the 2014/15 national tariff will form the baseline from which the 2015/16 tariff is developed.

Our process for setting the method for national prices in 2015/16 is designed to produce the best possible decisions, and to deliver the list of national prices on time. It involves several important steps, of which this paper is one. A key element is collecting as much relevant information and as many stakeholder views as we can to inform our decisions.

We are adopting this process so that stakeholders can help shape our proposals and decisions, and see how their views and evidence may affect our decisions. At the same time, the process will place NHS England and Monitor under increased discipline to produce proposals that are consistent and robust.

Our view is that proposals for the 2015/16 tariff must meet the following principles if they are to be adopted:

- **Transparency:** We must be clear about our policy goals, the options we have considered to meet these goals, and our reasons for choosing between options when making proposals and decisions. This is an over-arching principle, in that we must not only meet the remaining principles in this list, but demonstrate transparently that we have done so.

- **Evidence-based**: We are committed to evidence-based decision-making. Where we make firm recommendations in this document, we set out our understanding of the relevant evidence to support these recommendations. If we believe the evidence is lacking, we will say so, and we will be clear about the implications of a lack of evidence (eg it might mean that we cannot

support a particular proposal at this time). This standard applies equally to policies developed by NHS England and Monitor, and to feedback we receive from stakeholders.

- **Effective sector engagement**: Stakeholders must have an opportunity to understand, assess and influence policy development. For some policy proposals, this might be achieved in a single step, but for more substantial policy change we might need to go through several steps. This paper, for example, concentrates on the most important proposals for the 2015/16 tariff, because they are likely to influence many of the more detailed proposals we will make in our second stakeholder engagement process in the summer.
- **Impact assessment**: We have developed a consistent framework for assessing the impact of all policy proposals. Where possible, we will use these impact assessments to inform our proposals, and include details in our stakeholder engagement processes. The draft framework for our impact assessments is published alongside this paper.[24]

Developing the method for national prices

The rest of this paper discusses the options we are considering for developing the method for 2015/16 national prices. For some changes we are quite far along the development process and we set out a preferred option. For other changes we are still assessing our options and whether implementation in the 2015/16 tariff is feasible. In both cases, stakeholder views are essential to how or whether we take these options forward. The options discussed here are not exhaustive, and we may set out more proposals for change in the tariff engagement documents.

There are aspects of the tariff that stakeholders are keen for us to review, but for which we may not be able to fully develop proposals for 2015/16 if we are to be consistent with our process for making new proposals (as set out above). We are beginning work on these aspects now so that we can make proposals for future tariffs. Elements of the tariff that we are looking into but consider we will not be able to make substantive changes to in time for 2015/16 include cost uplifts[25] and national variations such as the Market Forces Factor (MFF). We are also assessing whether there is a case for changing the reimbursement of specialised services, and whether it is feasible to propose a change in time for the 2015/16 tariff.

[24] Monitor (April 2014), '2015/16 National Tariff Payment System: Draft Impact Assessment Framework', available at: www.monitor.gov.uk/node/6272

[25] However, we set out in Section 5 that we are reviewing the process for setting the 'service development' uplift for costs relating to new requirements in NHS England's Mandate.

Question:

1. What would you like to see from NHS England and Monitor to be confident that we are being transparent, evidence-based and consultative, and that we have assessed the impact of our proposals for the 2015/16 tariff?

3. Currency design

Currencies are used to define the basis for payment for NHS services, as well as being the basis for the collection of information on costs in the form of Reference Costs.

For admitted patients, currencies are generally based on a spell of care covering a patient from admission to discharge. These are captured in healthcare resource groups (HRGs), which group together diagnoses, treatments and care that may typically occur during the spell of care and use similar levels of resource. The diagnoses, care and treatment a patient receives are coded by the provider of care to determine the corresponding HRG and its associated price. For outpatient services, attendances are used as the payment currency and are categorised by treatment function code (TFC). There are other currencies in use, such as pathway payments.

The 2012 Act requires NHS England to specify the currencies for which national prices should be set, and for this to be agreed with Monitor. We have been working together to determine the most appropriate currencies for 2015/16. It is important that currencies are clinically relevant and that there is reliable activity and cost information on which to base prices.

In this section we discuss the options we are considering for the design of currencies we would use to set national prices for 2015/16. We set out our preferred option and the changes we propose to make relative to the currencies used for 2014/15. Where we have not set out new proposals, our current intention is that currencies should remain unchanged from 2014/15.

HRG-based currencies

As in previous years, the currency design for admitted patient groups will be based on HRGs. These are developed using diagnosis (ICD) and procedure (OPCS) codes, combining them to create clinically meaningful groups of activity where the treatment has similar costs.

The HRGs are reviewed annually by the Health and Social Care Information Centre (HSCIC) to ensure they remain clinically relevant, to accommodate new and revised codes and coding guidance, and to improve the classification of patient activity.[26] The development of the HRGs is informed by feedback from the sector, through issues raised via a helpdesk operated by HSCIC, and through clinical review by expert working groups chaired by representatives of the relevant Royal Colleges. The annual collection of Reference Costs uses the most recent HRG design.

[26] Health and Social Care Information Centre (HSCIC) (2013), *The National Casemix Office Design Framework 2012-2017*, available at: www.hscic.gov.uk/media/13778/National-Casemix-Office-Design-Framework/pdf/National_Casemix_Office_Design_Framework_HRG4__v5_1.pdf

For national prices in 2014/15, we based currencies on the design used to collect the 2010/11 Reference Costs, with a few changes to ensure that the currencies continued to be clinically relevant. We are giving careful consideration to which design we should use for setting 2015/16 national prices.

Our primary objective is to choose a currency design that balances the potential for better patient outcomes against the risks of implementing a particular design. We need to consider whether, and to what extent, changes to currencies could benefit patients, but we also need to make sure that:

- the prices we calculate under any new currency design will be based on robust activity and cost information
- we understand the likely impact of the changes and can demonstrate that they are likely to be beneficial to patient care
- changes will not delay producing national prices and publishing the tariff.

We considered three main options to form the basis of the 2015/16 currency design:

- Option A – continue to base the design on the 2010/11 Reference Cost design
- Option B – update the base to the 2011/12 Reference Cost design
- Option C – update the base to the 2012/13 Reference Cost design.

Option C is the most recent design that we could use, but it also represents the biggest change from the currency design we used for national prices in 2014/15. Options A and B are based on HRG4, while Option C is based on an HRG design that represents a more significant change with new features. This design is referred to as HRG4+.

We consider that basing national prices on Option C is too risky for 2015/16. We understand that it may have some benefits, and we are working on a possible move (or a partial move) to an HRG4+ based design in future tariffs. We believe that the costs of implementing such a move in 2015/16 outweigh the benefits because:

- Most importantly, if we were to propose HRG4+ for 2015/16, we would not have the time or resources to adequately engage the sector on the suitability of all the associated changes. Since this would be a significant (and technically complex) change, with considerable sector-wide impacts, it is important that the sector is fully and extensively engaged in the decision-making process. Such an engagement is necessary to ensure the appropriateness of the currency design, the quality of national prices and that we have a clear understanding of the impact of these changes on patients.

- The HRG4+ design that could be implemented in 2015/16 (given the latest list of Reference Costs, collected in 2012/13) is not complete. While approximately 70% of HRGs incorporate the features of the HRG4+ design, the rest are scheduled to be re-designed in future Reference Cost designs.

- We only have one year of Reference Cost data (2012/13) for the partial HRG4+ design. In contrast, we have several years of data underpinning the HRG4 system. The lack of cost data for HRG4+ makes it harder to check whether cost benchmarks for each service are reliable, and whether they will be stable over time. For setting 2015/16 national prices, there is greater scope to compare costs over a longer period by analysing historic data for the HRG4 currency design. At the same time, we can gather more HRG4+ based cost data for possible use in future tariffs.

Option A would provide further consistency in the design, given that 2015/16 would be its third year of use. While we may need to make some changes to the design, for example updating for changes in the OPCS and ICD10 codes, the overall stability of the design would allow us to use a rollover approach to set prices (as discussed in Section 4). This could be beneficial to providers and commissioners.

However, Option A is five years removed from current clinical practice. The key benefit of adopting Option B would be using a more recent Reference Cost design, which is closer to current clinical practice. Similarly, under Option B we would be able to use more recent costs to set prices. The implications of choosing Option A or Option B as currency design on which prices are set for 2015/16 is discussed further in Section 4.

To implement Option B, we would also need to incorporate changes into the 2014/15 payment design that relate to:

- **Technical issues** – these include improvements to data quality, underlying coding changes (updates to OPCS codes), error correction and label changes to improve consistency.
- **Clinical review and casemix[27] design principles** – these include ensuring that HRGs meet design criteria, improving the clinical relevance of groups, and implementing improvements in coding relating to length of stay. There are also some principles introduced in the 2011/12 Reference Costs including improved recognition of the resource associated with children, complications and comorbidities, and multiple procedures – both for procedure hierarchy and multiple procedures.

[27] Casemix is a way of describing and classifying healthcare activity. Patients are grouped according to their diagnoses and the interventions that are carried out.

- **Policy and price issues** – these include changes to support fairer reimbursement of high cost drugs and devices, to support National Institute for Health and Care Excellence (NICE) guidance, and to respond to known price or clinical issues.

We propose to base the 2015/16 currency design on Option B, with changes to reflect currencies already added for 2014/15, as described above. We are also considering extra changes, which are outlined in the rest of this section. Further rationale for these changes is set out by the HSCIC[28] and in annex 1.

Questions:

2. Do you agree that admitted patient currencies in 2015/16 tariff should be based on the 2011/12 Reference Cost design, rather than the 2010/11 design?

[28] HSCIC, *HRG4 2011/12 Reference Cost Grouper Documentation*, available at: www.hscic.gov.uk/article/2610/HRG4-201112-Reference-Costs-Grouper-Documentation

4. Approach to calculating national prices

Section 2 included a brief recap of the method used to set national prices for 2014/15.[29] One of the major features of this method was that we used prices that were already in place for 2013/14 as the base, rather than recalculating cost-based prices using a model. The 2015/16 tariff has a different context and a new set of circumstances, and we need to think about the best way to set prices.

We see the 2015/16 tariff as a precursor for potential major reform in 2016/17. We are keen to introduce new processes into the national price setting process that will prepare us for a potentially more complex tariff review next year. But we also want to keep the national prices reasonably stable and make sure that they are delivered on time.

With this in mind, our preferred option is to use a model to set the 2015/16 national prices, rather than a rollover approach. The model would be based on the one used by DH to set the 2013/14 prices, with some updates. The most significant change to the modelling process would be in the management of model inputs and model outputs that were previously adjusted manually. We are taking steps to monitor and address price volatility, using a clear and logical process. Implementing these changes now should put us in a good position to consider more substantial changes to the tariff in 2016/17 and deliver value to patients.

This section explains the process of reasoning we have followed to arrive at this preferred option. It sets out:

- the steps we need to take in choosing our high level approach to setting prices
- two potentially viable options for our approach to setting national prices in 2015/16: a rollover or a model using new cost data
- why we propose to use a model with new cost data to set prices for 2015/16, subject to feedback we get on this paper.
- why we propose that for 2015/16 the model will be based on DH's PbR approach.
- specific plans for implementing this modelling approach:
  - proposed data input updates
  - our plan for policy and technical changes to the model

[29] A fuller explanation can be found in Monitor and NHS England (2013), '2014/15 National Tariff Payment System Document', available at: www.monitor.gov.uk/NT

- how we will model new currencies
- our plan for stakeholder engagement on the model.

It is important to note that the choice of currency design and the approach to calculating national prices are related. Our decision on the options set out in Section 3 will influence the options we could apply in price-setting.

Steps to choose our high level approach to setting prices

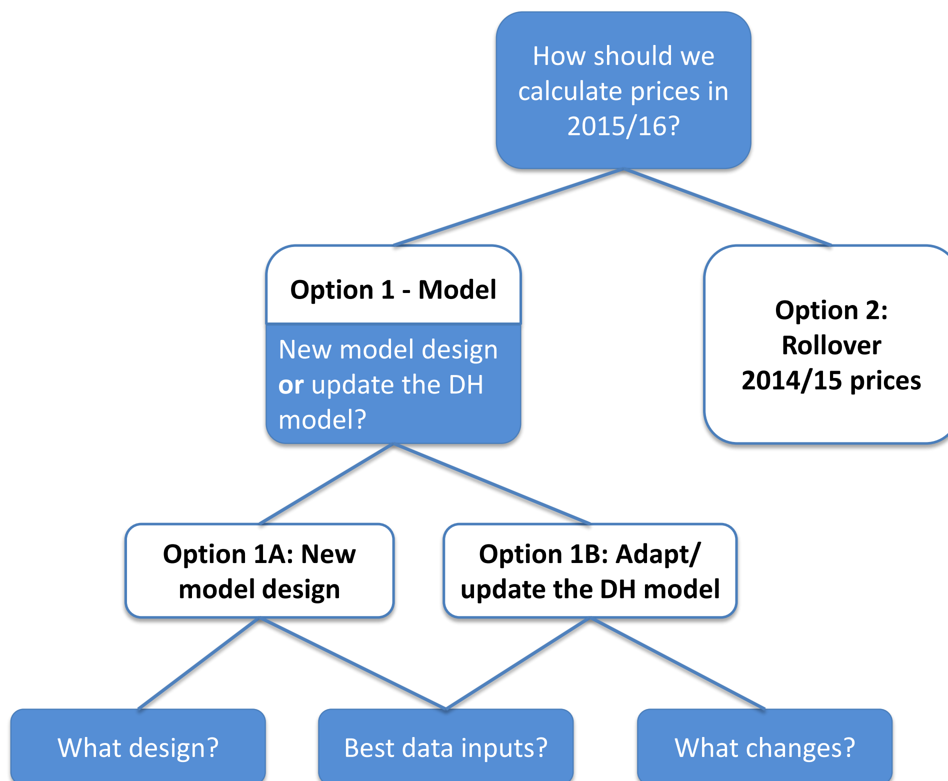
The selection of an approach to calculating national prices is not a single step process. It involves layers of decisions, such as:

- Should we roll over the 2014/15 national prices, or model prices using updated cost data?
- If we are going to use a model, should we build a new one from scratch, or should we try to make incremental changes from the modelling approach that was used by DH for the 2013/14 tariff?[30]
- Regardless of the modelling approach, what are the best and most up-to-date data inputs?

This is illustrated in Figure 2.

[30] For more detail on the DH model, please see: Department of Health (2013), 'Payment by Results in the NHS: tariff for 2013 to 2014', available at: www.gov.uk/government/publications/payment-by-results-pbr-operational-guidance-and-tariffs

Figure 2: Options for the approach to calculating national prices



Options for national prices in 2015/16: rollover or a model using new cost data

There are two approaches available to us in setting national prices for 2015/16:

- continue the 'rollover' that was used to set national prices in 2014/15; or
- calculate a new set of prices with a model that uses updated cost data.

Both options share some important elements: in both cases we would adjust the level of prices using cost uplifts and an efficiency factor.

The difference between the two approaches is the method used to derive a 'base' set of prices for each service. This base should reflect the relative cost of each service in the tariff and is one of the most important steps in setting national prices. The relative prices for each service will influence the commissioning decisions (ie which mix of services to purchase within a fixed budget) and, therefore, patient outcomes.

Under a **rollover** approach, the price for existing currencies in the previous year's national price list is used as a base. There is no need for new cost data or a detailed cost model. Relative prices remain stable – there are no adjustment steps to change the price level of any individual service in relation to all the others. However, we would still need to model new or substantially changed currencies from costs.

Prices can still reflect current service costs under a rollover approach, but the link becomes weaker the more time passes between collecting cost data and setting prices. Given that we have already used a rollover approach for one year (ie 2014/15), the last set of cost data that was used to inform the national prices directly was the 2010/11 Reference Costs.[31] If national prices in 2015/16 were also set by a rollover approach, relative prices would be based on cost data from five years earlier.

The alternative for 2015/16 is to use a **price model** that is based, where appropriate, on updated input data (eg cost data). Within this broad approach, there are different options in relation to the data used and calculations performed. But, in general, a model would produce base prices that reflect more up-to-date data, subject to the currency design.

Context for choosing the best approach to calculating prices

When responding to this paper, stakeholders may wish to consider the broader context of reform for the tariff. In particular, the timing of any major reforms to national prices in the next couple of years. This might influence your preference on whether to move to a modelled approach to the national prices in 2015/16.

We anticipate the 2016/17 tariff will include two major changes:

- a significant redesign of currencies[32]
- the implementation of the first major elements of our long-term payment system design.[33]

Clearly, these changes would affect the 2016/17 tariff, but the extent to which they ought to affect proposals and decisions for the 2015/16 tariff is less obvious. For example, a modelled approach to the tariff would be necessary for 2016/17 if we decide to adopt a major redesign on the basis of HRG4+. But for 2015/16, it is possible to justify either a model or a rollover on the grounds of expected long-term changes:[34]

- a model for 2015/16 could be seen as a stepping stone towards more major reform in 2016/17. Moving to a modelled approach earlier would allow Monitor to establish and test important processes in the use of a model to set national prices, which should make for a smoother tariff review next year. It would also give stakeholders an indication of our general modelling approach, so that

[31] As part of the 2013/14 tariff that was set by DH.
[32] See the discussion of ‘Option C’ in Section 3.
[33] We plan to publish a paper setting out our vision for the long-term payment system design later this year.
[34] A rollover is possible in 2015/16 as long as the currency design for the tariff is similar to the one used in 2014/15 and 2013/14.

they could give feedback about the suitability of this approach for the long term.

- On the other hand, if major reform components are to be delivered in the 2016/17 tariff, stakeholders might prefer prices to remain stable in the short term. In that case, a rollover might be better.

Option 1 – Modelling prices from updated costs

Producing a model has several important steps, and the two most important are:

1. collection and analysis of data to establish unit cost benchmarks for each (pre-determined) currency; ie a 'base' set of prices, which can be adjusted according to policy objectives

2. translation of these cost benchmarks into prices through cost adjustments (see Section 5) and policy-based adjustments.

The key feature of any model for 2015/16 would be use of more up-to-date data to establish cost benchmarks for each service. This has a direct link to our price-setting principles in terms of improving cost reflectivity. There will always be some lag between the Reference Costs used to model prices and when the prices are in use. This means that there is some risk of prices being different from the true underlying costs for in 2015/16. Nonetheless, the ability to use and analyse more recent cost data is a key argument in favour of using a model rather than a rollover.

We also have an opportunity to introduce new data and use data in new ways to improve model outputs. For example, we can automate processes to mitigate the volatility in the price of individual services.

The introduction of a model in 2015/16 also gives us a chance to introduce and test some important processes. For example, we are planning to produce documentation for the model, and include this in the stakeholder engagement processes. If we introduce these processes in a year with relatively few substantive changes to the tariff as a whole, it will help us prepare for the changes that may come in the 2016/17 tariff.

A report for Monitor by PricewaterhouseCoopers (PwC) expressed some concern about the volatility in Reference Costs at a service level.[35] Our main objective is to create a more stable and reliable tariff, and we think that there are technical changes we could introduce for 2015/16 that would mitigate the potential for price volatility. We also want to have processes that are transparent and well structured, so that stakeholders have a full understanding of the path from input data to final prices.

[35] PricewaterhouseCoopers (PwC) (2012), 'Evaluation of the reimbursement system for NHS-funded care: report for Monitor', available at: www.monitor-nhsft.gov.uk/sites/default/files/Evaluation%20Report%20-%20Full%20Report%20FINAL.pdf

There are potential downsides to using a model rather than a rollover. There is a risk that our modelling for 2015/16 national prices might not be fully aligned with longer term reforms to the national payment system. We are currently developing our long-term strategy and at this stage do not have a full picture of the 2016/17 tariff, including the major areas of potential change: (i) currency design and (ii) implementation of our long term payment system design.

The use of a model is a more complex process than a rollover, which increases the risk that the tariff could be published later than it was for 2014/15. The tariff production timetable is already tight, and all the modelling steps used to set national prices will be subject to formal objection process. We could get bogged down in minor but time consuming objections to modelling steps.

We may not be able to use the most recent cost data; ie the 2012/13 Reference Cost dataset. This dataset was collected using significantly different design principles (HRG4+) than the one we are proposing for the 2015/16 tariff (HRG4). Our plan is to map the 2012/13 Reference Cost data from the HRG4+ design back to the HRG4 design, but this is the first time this process has been used and we will need to go through a series of checks before we know whether it is suitable for use in the model.

Option 2: Rollover

Our alternative to a model is to set prices for 2015/16 by rolling over the prices already in place for 2014/15. At a headline level, we would calculate national prices for 2015/16 by using the 2014/15 prices as a base,[36] and adjusting those prices[37] for:

- expected cost pressures on providers (ie cost uplifts) and
- our expectations for improved efficiency on the part of providers (ie the efficiency factor).

A rollover would apply for all currencies that have not changed materially since we set 2014/15 national prices.[38] So, the viability of a rollover as an option for setting 2015/16 prices is closely linked to the currency decision - specifically, it is only viable if we stick with the currency design of the 2010/11 Reference Costs. This is not our preferred option in Section 3 – we recommend moving to the currency design of the 2011/12 Reference Costs, which is significantly different. Responses to this

[36] For an explanation of how this was implemented for 2014/15 national prices, see NHS England and Monitor (2013), '2014/15 National Tariff Payment System Document', available at: www.monitor.gov.uk/NT

[37] Where prices for 2014/15 are manually adjusted, the rollover may need to be applied to relativities, rather than to absolute prices to prevent illogical relativities.

[38] We are also proposing a number of currency changes and these will need special arrangements. Our proposed method for determining national prices for new or substantially changed currencies is set out later in this section.

document in favour of a rollover for the 2015/16 national prices should, therefore, address both:

- arguments directly in favour of the rollover approach and
- arguments for maintaining the currency design from the 2010/11 Reference Costs ('Option A' in Section 3).

A rollover approach has several virtues, and remains a plausible option for the 2015/16 national prices if we decide to proceed with Option A. Notably, a rollover brings stability, making it simpler for commissioners and providers to plan effectively for meeting the needs of their patients. As we noted earlier, some stakeholders may see another year of stability as a logical step towards bigger reform in the 2016/17 national tariff.

A rollover is also a simple approach to setting national prices, which means that it is easily understood by a wide range of stakeholders. Debate will still occur around important price issues, but there are fewer technical details that might otherwise require stakeholder attention.

On the other hand, we have some significant concerns about the use of a rollover to set the 2015/16 national prices. Using a rollover increases the risk that relative prices would be out of date because most of the prices would be based on the 2010/11 Reference Costs used to set the base for the rollover: ie 2013/14 national prices. In other words, a rollover for 2015/16 prices would be based on cost data that is five years out of date. This might be too much of a gap, in light of our principle of reflecting efficient costs, although we note that a model would only shorten this gap by two years at best.

More generally, a rollover constrains reform to the setting of national prices, because a model offers more opportunities to improve national prices. For example, under a modelled approach we can update relative price levels to enable commissioners to choose more appropriately between higher value services, or to better incentivise providers to make efficiency gains in key areas. The use of a rollover limits these options, ie its emphasis on stability has the downside of potentially holding back desired changes.

Our preferred option: modelling prices from updated cost data

Having considered the two options, our preferred option is to use a price model as the base for 2015/16 national prices (Option 1). More specifically, we propose to update and adapt the DH model used for national prices in 2013/14 (Option 1b).

Why we prefer Option 1

Moving to a model would keep the national prices as up to date as possible and introduce some important new elements to the price-setting process without creating too much risk.

The use of a model also gives us a chance to start addressing concerns that were raised in PwC's report about the price-setting process.[39] For the 2015/16 tariff, we would like to improve the transparency of the process for calculating prices. We also propose to set new criteria for improving the quality of inputs into the model (eg Reference Costs). Annex 3 has more details about these changes.

If we pursue this option, we propose to publish the national price model as part of our stakeholder engagement processes. We want to support an effective, open discussion of our models without causing delays to delivering the tariff.

Opting to use a model raises questions about how it would be structured. One of our key decisions is whether to design a completely new model, or make incremental changes to the approach used by DH for 2013/14 prices.

Why we prefer Option 1b

We are mindful that if we are going to use a model, we need to manage risks around potential misalignment with long term policy, delays in delivering the tariff, and not drawing resources away from other important issues.

We would guard against long-term policy risk by being circumspect with modelling changes for 2015/16 national prices. We would also retain a modelling approach that is broadly consistent with the one used by DH for the 2013/14 prices. This should also reduce the risk of later delivery of the tariff.

We expect that most stakeholders will be familiar with the data we intend to use for the 2015/16 national prices. This should help their understanding of the model.

How we propose to implement a model for 2015/16 national prices

Implementing the model would entail updating the 2013/14 PbR model, updating input data, modelling any new currencies, making extra policy and technical changes to the model, and engaging with stakeholders about it.

In light of the risks noted in the previous section, we propose to use a model that represents only an incremental change from the one used by DH. This modelling approach is understood by the sector, whereas a new model would probably require a significant lead time and stakeholder engagement that would not be feasible in the

[39] PricewaterhouseCoopers (PwC) (2012), 'Evaluation of the reimbursement system for NHS-funded care: report for Monitor', available at: www.monitor.gov.uk/sites/default/files/Evaluation%20Report%20-%20Full%20Report%20FINAL.pdf

time available for producing the 2015/16 tariff. Further, most of the reforms that we want to bring to national prices will be driven by our long-term payment system design, and this strategy is still developing. It would be more appropriate to make substantial changes to the modelling approach once the first major steps of the strategy have been tested through consultation.

Proposed data input updates

One of the opportunities to improve the tariff lies in improving the data inputs to the national price model. This will be an ongoing process, but we plan to take the first steps in setting the 2015/16 national prices if we adopt our preferred option. We are currently considering a few changes to the way inputs are prepared for use in the 2015/16 national tariff, mainly in relation to Reference Costs.

There are two reasons for this:

- The 2013/14 PbR model relied on manual adjustments to prices. Using an improved set of Reference Cost input data should allow us to reduce the need for manual adjustments in the modelling process and improve transparency.
- Modelled prices have been volatile from year to year (as noted in the PwC report).[40] Some of this volatility is expected, for example where a currency is changing. Using an improved set of input data should allow us, over time, to reduce unexplained volatility in national prices.

We are currently considering the following possible changes to the inputs for the 2015/16 national tariff model, compared with the 2013/14 PbR model:

- where possible and appropriate, to use an average of several years of Reference Costs input data, rather than a single year
- to use a revised set of data cleaning rules for the Reference Cost dataset
- to use a modified, publicly available set of Hospital Episode Statistics (HES) input data, so that stakeholders have full transparency in our modelling process
- whether to update the calculations for Short Stay Emergency (SSEM) bandings
- to limit the number of manual adjustments to national prices.

Annex 3 contains more detail on these proposals.

[40] PricewaterhouseCoopers (PwC) (2012), 'Evaluation of the reimbursement system for NHS-funded care: report for Monitor', available at www.monitor-nhsft.gov.uk/sites/default/files/Evaluation%20Report%20-%20Full%20Report%20FINAL.pdf

Of the above, using an average of several years of Reference Costs would represent the most significant change to how prices are determined. The biggest benefit of this approach is the potential to reduce volatility in prices. Using several years of Reference Costs would also give us a larger dataset from which to calculate the prices for low-volume services. This should improve the robustness of these estimates.

Lastly, we would be able to incorporate 2012/13 Reference Costs where they can be 'mapped back' from the 2012/13 design to the 2011/12 design we are proposing to use to set prices. This would allow us to use more up-to-date costs than otherwise would be the case.

We recognise, however, that there are some potential risks in using several years of Reference Costs. The design of Reference Costs has changed somewhat from year to year, so we would need to be careful to use consistent data across the years.

There is also a risk that we would be using outdated information that does not reflect current costs of service – if, for example, efficiency gains have been achieved that are not captured in Reference Costs from earlier years. This issue could be compounded if coding has become more accurate over time since using older Reference Costs would then have a distorting, rather than stabilising effect on prices.

We think that we can mitigate most of these risks through carefully selecting those currencies for which Reference Costs data can be used across a number of years. Overall, we consider that the benefits of using several years of Reference Costs outweigh the risks, but we are interested in stakeholders' views.

Our plan for policy and technical changes to the proposed model

Apart from the changes to data inputs set out in the previous section, we are also considering a limited number of updates to the modelling approach used by DH in 2013/14. Some are technical (for example because of currency changes), while others are driven by potential policy changes. The latter are likely to have a more significant impact on prices. We would set out any technical changes as part of a model handbook.

Modelling prices for new currencies

Regardless of whether we use a model or a rollover, we will need to calculate prices for the new currencies proposed in Section 3 of this document, ie currencies proposed for the 2015/16 tariff that were not in the 2014/15 tariff.

We propose to set the price for new currencies in the same way as for similar currencies that are already in the tariff. This means that we propose to price new currencies using the calculation methods used in the 2013/14 PbR model (including the updates set out above).

Our plan for stakeholder engagement on the model

Our modelling work for the 2015/16 national prices will be transparent, to give stakeholders the best opportunity for comment. We believe that this approach will, over time, maximise the quality of the model and lead to better price-setting. We are planning three separate publications during our stakeholder engagement process that relate to the proposed model:

- a general stakeholder engagement document that will include our major modelling proposals and the rationale behind them
- a comprehensive model handbook, describing each step in the modelling process and
- the model itself.

Questions

3. Do you agree with our preferred option of modelling national prices from updated cost data, rather than using a rollover? Please note that the decision must be consistent with the choice of currency design.
4. Do you agree with our preferred option of developing the DH PbR 2013/14 model, rather than constructing a new model?
5. Do you agree with our preferred option for updating the model inputs? Specifically:
    a. applying more comprehensive data cleaning to the Reference Cost inputs to the model
    b. using an average of Reference Cost data across a number of years, where appropriate (rather than using data for a single year)
    c. updating SSEM bandings

5. Cost adjustments to national prices

The proposed model described in Section 4 will give us a base set of unit cost benchmarks, but further adjustments will be needed to convert these cost benchmarks into prices. We would need to adjust costs to reflect the years between when the Reference Costs were collected (for example 2011/12) and when the tariff applies. We propose to retain DH's approach and use the cost adjustments from the corresponding tariffs (ie 2012/13, 2013/14 and 2014/15), as appropriate. This section, however, refers to the adjustments we need to make for expected cost changes in the tariff year (2015/16). This section includes:

- a summary of our approach to cost uplifts
- a proposed change in the way we set the efficiency factor and
- a request for stakeholder views in relation to 'tariff leakage', which some stakeholders have raised as a potential reason for adjusting prices.

Cost uplifts

As with prices more generally across the economy, providers will tend to find that some of their input costs change from year to year due to factors beyond their control. Typically these changes are increases in input costs. In other parts of the economy, when all providers of a product or service experience a general increase in input costs, this typically feeds through into the prices they charge for the product or service. Since we are setting prices on a prospective basis, for changes in costs which providers have little control over, it is appropriate that prices in the tariff account for expected cost increases.

For the 2014/15 National Tariff Payment System, we used an approach consistent with that used by DH under PbR, which is tailored to the expected cost pressures facing NHS providers. This approach includes uplifts in four categories:

- input cost inflation – this includes pay increases, drug costs and changes in operating costs, as well as general inflation[41]
- changes in the cost of the Clinical Negligence Scheme for Trusts (CNST)
- changes in capital costs (ie changes in costs associated with depreciation and private finance initiative (PFI) payments)
- additional costs as a result of new requirements in NHS England's Mandate. We call these 'service development'.

[41] General inflation in this case is measured by the Gross Domestic Product (GDP) deflator.

For each of these factors, we calculated price adjustments to reflect the additional expected cost pressures in 2014/15 for an average provider. For 2015/16 we propose to take the same approach to cost uplifts. Although at this stage we do not propose any changes to the method in relation to cost uplifts, responses to this paper are an opportunity for stakeholders to comment on our approach to cost uplifts.

Service development

We are committed to a review of our processes with regard to the service development uplift and, in particular, how we engage with stakeholders and how we consider relevant evidence. We intend to undertake this review of our process over the coming months so that we have an agreed position, ready to respond to the contents of the next refresh of the NHS England Mandate in the autumn. We plan to set out the process by which NHS England will consider the Mandate and propose any appropriate service development uplifts in the tariff engagement documents in the summer.

Efficiency factor

Our price-setting principles (set out in Section 2) say that prices should reflect efficient costs, and that they should provide appropriate signals to providers and commissioners. The 'efficiency factor' is an adjustment to base prices and one of the mechanisms through which we aim to achieve our price-setting principles. Patients and taxpayers expect that providers will become more efficient over time. This means that they should deliver services at a lower cost without compromising quality. The efficiency factor quantifies our expectation.

Regardless of the budget environment, the efficiency factor passes the benefits of provider efficiency gains on to patients by reducing the price of services in line with expected reductions in the cost of provision. This function is important even in the absence of tight funding constraints, which means that some form of efficiency factor will be an ongoing part of national price setting in the NHS. In 2015/16, we anticipate that the efficiency factor will be one of the measures that help deliver the best value for patients within the NHS' overall funding constraint.[42] Other measures include providers and commissioners working together to change the volume and mix of services in a way that provides the best value for patients.

Setting the efficiency factor is an inherently difficult task that requires an element of judgement. In the remainder of this section we set out the approach that we propose to employ, starting with national prices for 2015/16. We discuss the key challenges to estimating the scope for providers to become more efficient, and outline how we would use our judgement to set the efficiency factor.

[42] Monitor (2013), 'Closing the NHS funding gap: how to get better value health care for patients', available at: www.monitor.gov.uk/closingthegap

Setting the efficiency factor for 2015/16 and beyond

We are keen to develop a consistent framework for estimating and setting the efficiency factor for 2015/16 and in subsequent national tariffs. Such a framework would offer more predictability and clarity for providers and commissioners. In turn, that should allow for better planning and, ultimately, better outcomes for patients.

However, we recognise that it may not be possible at this stage to apply an ideal framework, owing to issues around data quality and availability. In light of these constraints, we set out our views on the best option for setting prices for 2015/16, and a roadmap of how we might get to an ideal framework in the longer term.

We are using this opportunity to seek views on both the proposed approach for the 2015/16 national tariff and on our intentions for the long-term framework for the efficiency factor. We commissioned advice from Deloitte on the framework and our proposals take into account their advice and recommendations, which are published alongside this discussion paper.[43] Stakeholders' views will inform the framework we use in 2015/16 and subsequent years. We will set out that framework, along with a range for the efficiency factor for 2015/16, in the tariff engagement documents in the summer.

There are two key issues we need to address for this framework: the level of disaggregation at which the efficiency factor should be set; and the techniques used to estimate the efficiency factor. We consider each in turn before setting out our preferred approach for the efficiency factor for 2015/16.

Considering one or more efficiency factors

For 2014/15 we applied a single efficiency requirement for all national prices.[44] However, there are arguments for potentially setting several efficiency factors, which could be:

- a specific factor for each provider
- different factors for different service types[45] or
- different factors for groups of providers that meet certain criteria.

Supply conditions (including delivery models and the mix of inputs) are different across service types,[46] and payment systems have historically been different

[43] Deloitte (2014), 'Methodology for Efficiency Factor Estimation: report for Monitor', available at: www.monitor.gov.uk/node/6272

[44] We also stated that commissioners and providers should take the efficiency requirement into account as part of their negotiations around locally determined prices.

[45] Service types may refer to points of delivery (ie acute hospitals, mental health and community care, and ambulance service), but it could also refer to segments of care around which we may design future changes to the payment system.

[46] For example, some services may be able to adopt technological changes more rapidly.

(resulting in different incentives to improve efficiency).[47] As a result, it may be reasonable to expect the potential for future efficiency gains to vary between different types of services, which could justify greater disaggregation of the efficiency factor.

There is a relationship between the way we set prices and the incentive on providers face to improve their efficiency. Prices are based on average Reference Costs (plus adjustments). This means that for each HRG, each provider faces a specific efficiency challenge corresponding to the difference between its own costs and the national price for that HRG. This is true even if a single efficiency factor is used for all national prices.

As such, while greater disaggregation might give the impression of greater accuracy, it needs to be balanced against the greater complexity that it introduces. Such complexity could weaken the price signals in the tariff, making them less effective. We need robust evidence that moving to disaggregated efficiency factors would have an overall positive impact.

The decision on what the right level of disaggregation is for the efficiency factor depends principally on two issues:

- Can we confidently estimate the efficiency factor at different levels of disaggregation?
- How material are the differences in the disaggregated efficiency factors that we estimate?

The data currently available is insufficient and not always comparable – in particular for services provided outside acute settings – for us to confidently estimate the efficiency factor at different levels of disaggregation. We are working to build up the evidence base to test the hypothesis that there may be different potential for efficiency gains across different service types, and to assess the impact of disaggregated efficiency factors.

There will be a number of gradual steps in terms of the data required for us to test this hypothesis. In future years, if we find robust evidence of material differences in the potential for efficiency gains, we will seek stakeholders' views on whether to move towards disaggregated efficiency factors.

[47] For example, block contracts are typically more prevalent for community care than for acute services.

Considering different technical approaches

There are a number of techniques for estimating the efficiency factor and it is appropriate to consider their relative merits. The following techniques are discussed in detail in Deloitte's paper:

- providers' cost improvement plans
- simple cost benchmarking (such as the DH's Reference Cost Index)
- productivity indices (for example, total factor productivity)
- non-parametric techniques (specifically, data envelopment analysis)
- econometric regressions (such as stochastic frontier analysis (SFA))
- bottom-up modelling.

There is no perfect technique. Each of the above has both strengths and weaknesses. For example, simpler approaches could be easily replicated by stakeholders – which would improve transparency – but they may not distinguish between factors that providers can control and those that they cannot.

Since there is no clear-cut preferred approach, we are proposing to adopt a number of techniques in order to sense-check the results from each against the others. This approach is consistent with regulatory best practice. We consider that econometric techniques and bottom-up modelling are the most robust techniques, as they control for the factors providers can control, and are less sensitive to outliers. The latter would mainly be used to identify the specific actions that a typically efficient provider could undertake in order to improve its efficiency.

There is also a relationship between the level of disaggregation at which the efficiency factor is estimated and the choice of technique. More sophisticated techniques often require large amounts of data to provide reliable results. As noted above, there is currently insufficient and comparable data for us to apply our preferred approach to services provided outside acute settings.

Our preferred approach: setting a single efficiency factor for 2015/16

In light of the data limitations identified above, for 2015/16 our preferred option is to set a single efficiency factor, based on estimates from the acute sector, where data are more established and there is a history of estimating changes in efficiency. Identifying that single efficiency factor would involve weighing evidence from both top-down econometric techniques and bottom-up models, stakeholder views and our impact assessment.

We will also engage with stakeholders in order to understand how an estimate derived from acute services can best be used in the guidance we provide for

adjusting the price of services that do not have a national price (these are typically services provided in non-acute settings). We also note that, under the rules of the National Tariff Payment System, providers and commissioners are able to agree prices that reflect different assumptions about efficiency, where they have good reasons for doing so.

The process for making our decision

We propose to go through the following process in setting the efficiency factor in 2015/16 national prices:

1. **Producing an initial range** – We will produce a range of plausible estimates for providers to become more efficient based on econometric techniques and bottom-up modelling.

2. **Assessing the impact** – We will run prices based on a number of different estimates from the range through our impact assessment model.[48] This will help us identify potential costs, benefits and risks of various points within the range. In that way, we hope to be able to narrow the range to more attractive options.[49] For example, our assessment may indicate that at the top end of the range a large number of providers may to go into deficit. Conversely, our assessment might indicate that at the bottom end of the range a large number of commissioners may to go into deficit.

3. **Listening to stakeholders** – We will publish the (narrowed) range as part of the tariff engagement documents in the summer, where we will seek views from the sector about the appropriate efficiency factor. We will also seek views on the final proposals for the efficiency factor as part of the statutory consultation in the autumn.

4. **Deciding based on our statutory objectives** – Ultimately, our proposals and final decision will need to reflect our duty to ensure that healthcare is bought and paid for in a way that promotes the economic, efficient and effective provision of services that deliver good quality care to meet patients' needs, and the other objectives and factors we are required to consider by legislation. We will be transparent about the way our decision has been informed by these objectives and factors. The price-setting principles set out in Section 2 will be relevant to this decision and we expect to face difficult judgement calls. For example, we may set the efficiency factor at the top end of the (narrowed) range if we determine that this is likely to result in the best outcome for patients given the overall funding constraint. Conversely, we may set the

[48] The approach is discussed in: Monitor (2014), '2015/16 National Tariff Payment System: Draft Impact Assessment Framework', available at: www.monitor.gov.uk/node/6272
[49] For the avoidance of doubt, narrowing the range could be excluding either the top end of the range, excluding the bottom end, or excluding both the top and bottom ends.

efficiency factor at the bottom end of the range if we assess the best outcome for patients would be to minimise the financial strain on providers. We can also decide on a factor that lies between these two extremes.

Understanding the scope and causes of 'leakage'

We discussed the concept of leakage in recent guidance documents.[50] It is based on the observation that estimated achieved efficiencies have typically been lower than the efficiency requirement applied to prices in recent tariffs, while the financial position of providers has typically not deteriorated by a commensurate proportion. We recognised, however, that there is a great deal of uncertainty around the scope of leakage and how it might be occurring.

This paper is an opportunity to seek some clarity around the issue of leakage. We are interested in views from stakeholders on:

- What might be the causes and drivers of leakage?
- What are the forms in which leakage might occur?

It is too early to speculate on what our response might be to firm evidence of leakage, but our options are not limited to prices. We will consider the feedback from this consultation and intend to set out our next steps in the tariff engagement documents in the summer.

However, we will consider the concept of leakage, and any impact from it, separately from the efficiency factor. We are defining the efficiency factor specifically as the reduction in unit costs that providers can be reasonably expected to achieve while maintaining patient outcomes. If, after considering evidence on leakage, we decide that the appropriate response is to make an adjustment to national prices, it would be separate from the level of the efficiency factor.

[50] Monitor (2013), 'Guidance for the Annual Planning Review 2014/15', available at: www.monitor.gov.uk/node/5552; and NHS England (2013), 'Everyone Counts: Planning for Patients 2014/15 to 2018/19', available at: www.england.nhs.uk/wp-content/uploads/2013/12/5yr-strat-plann-guid-wa.pdf.

Questions:

6. What evidence would you want us to use in future years in order to be confident in our estimation of differential efficiency factors? Given current information constraints, do you agree with our preferred approach of estimating a single efficiency factor for 2015/16, based on data from the acute sector?

7. What might be the causes and drivers of leakage? What are the forms in which leakage might occur?

Annex 1: Questions for stakeholders

We want to hear from you about the issues raised in this discussion paper. Responses should be sent to: paymentsystem@monitor.gov.uk by **midday** on **Friday 23 May 2014**. A response form is available here.

Unless marked confidential, we intend to publish the responses on our website. If you would like your name or the name of your organisation to be kept confidential and excluded from the published responses, please make this clear in your response.

If you would like any part of your response – instead of or as well as your identity – to be kept confidential, please let us know and make it obvious by marking in your response which parts we should keep confidential. An automatic computer-generated confidentiality statement will not count for this purpose. As Monitor is a public body subject, for example, to Freedom of Information legislation, although we would not include the response in the published responses, we cannot guarantee that we will not be obliged to release it subsequently, even if you mark it as confidential.

Please note that, as well as the questions that appear here, the response document includes **three further questions** which relate to and appear in Monitor's '2015/16 National Tariff Payment System: Draft impact assessment framework', published alongside this discussion paper.

Process for price-setting policy changes

1. What would you like to see from NHS England and Monitor to be confident that we are being transparent, evidence-based and consultative, and that we have assessed the impact of our proposals for the 2015/16 tariff?

Currencies

2. Do you agree that admitted patient currencies in 2015/16 tariff should be based on the 2011/12 Reference Cost design, rather than the 2010/11 design?

Approach to calculating national prices

3. Do you agree with our preferred option of modelling national prices from updated cost data, rather than using a rollover? Please note that the decision must be consistent with the choice of currency design.

4. Do you agree with our preferred option of developing the DH PbR 2013/14 model, rather than constructing a new model?

5. Do you agree with our preferred option for updating the model inputs? Specifically:

    a. applying more comprehensive data cleaning to the reference cost inputs to the model

    b. using an average of Reference Cost data across a number of years, where appropriate (rather than using data for a single year)

    c. do you have any preference for any of the three options for updating SSEM bandings?

Cost adjustments to national prices

6. What evidence would you want us to use in future years to be confident in our estimation of differential efficiency factors? Given current information constraints, do you agree with our preferred approach of estimating a single efficiency factor for 2015/16, based on data from the acute sector?

7. What might be the causes and drivers of leakage? What are the forms in which leakage might occur?

Annex 2: Detail on proposed currency changes

In Section 3 we set out our preferred option of updating the basis for 2015/16 national prices to the 2011/12 Reference Costs design. This annex provides detail on the changes that updating to the 2011/12 Reference Costs design would entail. We also set out the rationale behind each type of change involved. All proposed changes are made in accordance with casemix design principles to help ensure consistency across each HRG.

A. Technical issues:

A1 Data quality improvements to support good coding practice

A2 OPCS4.7 updates

A3 Correction of errors

A4 Label changes and other technical issues

The HRG design is complex, with a number of inputs behind how hospital activity is currently grouped into individual HRGs. Technical updates, such as reflecting new, or improved inputs (such as the change to OPCS codes), ensure that the design is current and as simple as possible to understand. Where we receive feedback that a particular activity incorrectly maps to an HRG, we propose to update the design to address this.

Changes made in this category would help ensure that the HRG grouper[51] functions as it is intended using the current information available. It would also help to ensure that providers and commissioners can trust the grouper and associated technology to accurately reflect their activity, to feed into the reimbursement process.

B. Clinical review and casemix design principles:

B1 HRG complying with volume or cost design criteria

B2 Correcting a coding or mapping issue to ensure iso-resource and/or clinically meaningful requirement

B3 Review of procedure hierarchy values where multiple procedures take place

B4 Review and update of complications and comorbidities

B5 Review and update of intervention lists

B6 Implementation of multiple procedure logic

[51] The grouper is a software, created by HSCIC, which takes diagnosis and procedure information from patient records to classify it into clinically meaningful groups. The outputs from the grouper are used as activity currencies for costing and pricing.

B7 Change in design to recognise different resource requirement for children

B8 Length of stay checks to ensure HRG determined by appropriate procedure or diagnosis.

HRG design uses several different logics and processes to ensure that groups of activity meet the standards for design and lead to appropriate costs and, therefore, prices being attributed to each activity.

C. Policy and price-setting issues:

C1 Changes brought forward from later designs and already used to set 2014/15 national prices

C2 Changes to support appropriate reimbursement of devices and drugs

C3 Known price-setting or clinical issues

C4 Supporting NICE guidance

The design for 2011/12 Reference Costs adopts several changes relating to clinical practice, or the development of better information by which to group activity.

Annex 3: Data input updates and management of model outputs

This annex provides detail on the model and data we intend to use should our preferred option of modelling prices from updated cost and activity inputs be adopted (see Section 4).

Although we do not plan to change the main calculation steps from those that were used by DH in 2013/14 (unless explicitly stated in this document), we do hope to improve the data that the proposed model would use. We have said before that the prices generated by the 2013/14 sometimes required manual adjustment. In particular, we would seek to minimise the extent to which the model results in:

- volatility in the modelled unit costs of individual services from year to year
- illogical relativities in the modelled unit cost levels of related services (eg where a complex version of a particular procedure shows up as being cheaper than a simple one – without an apparent reason for this being the case).

One way to address these issues is by inputting better data into the model. Specifically, we are looking to use:

- several years of Reference Costs input data, rather than a single year
- a new set of data cleaning rules for the Reference Costs data.

Further, we can improve the model over time by making the inputs as transparent as possible. In this context we are considering using publicly available HES input data in the model, with a clear set of preparation steps, so that our modelling process is transparent from start to end.

This annex also sets out:

- some options for updating the calculations for short stay emergency (SSEM) bands
- a proposal for a process to limit the amount of manual intervention in the tariff model.

Using several years of Reference Costs input data

Our proposed cost model would use Reference Costs to set cost benchmarks for each service. We expect that this would be a similar process to the 2013/14 DH model, which used the average unit cost for each service across all providers as the benchmark on which national prices were based. The 2013/14 model and its predecessors used a single year of Reference Costs.

Reference Costs have been a major source of price volatility in recent tariffs. We are concerned that this volatility, insofar as it is unjustified, might mean that the average unit costs for many HRGs are not reliable enough.

Using more than one year of cost data could help us to calculate unit cost estimates for each HRG that are less volatile, but still include the effect of long-term trends. Analysing and comparing more than one year of cost data could give us a chance to reduce 'noise' in the movements of Reference Cost data from one year to another. Combined with data cleaning (see the next sub-section) to further remove some of this noise, we should end up with less volatile cost data than if we had only looked at a single year.

We are investigating whether we can make a specific proposal for combining each year of data. A simple approach would be to take an average of the unit costs from, for example, three years (adjusted for inflation), but this is not the only way to combine the data. We will need to test different options, to see which ones deal with volatility but retain long term cost trends.

This approach faces an important technical hurdle, in that we need to be able to map Reference Costs data from different HRG designs into one common design. This is because whenever there was a change in HRGs, we run the risk that the Reference Costs time series will lose its continuity. This technical hurdle is one reason why previous tariff models have not used multiple years of Reference Costs data. A recent high level mapping by Deloitte suggests that we may be able to convert Reference Costs data from one HRG design to another for some HRGs, but not all.[52] We are only considering the use of multiple years of Reference Costs data for HRGs that we can reliably map across those years.

Better data cleaning

Using more than one year of Reference Costs data will help us to reduce volatility in the tariff from one year to the next. However, it does not directly address poor quality in some of the underlying Reference Costs data.

Better data cleaning is one opportunity for improvement. 'Cleaning', in this context, means working through data at a granular level to find and remove data points that appear to be unreliable before they are inputted into the model. Data cleaning is a common feature of cost models, particularly those that are relying on data from a wide range of sources.[53]

The DH model removed unit cost estimates on individual services that were deemed to be unrealistically high or low. However, the model still required manual

[52] Around 25% of HRGs will be directly comparable, and a further 70% of HRGs can be mapped subject to some assumptions. Please see Deloitte (2014), ‘Reference Cost Mapping, a report for Monitor’, available at: www.monitor.gov.uk/node/6272

[53] For example, Reference Costs are collected from numerous providers.

adjustments to modelled prices, which suggests that the cleaning process for Reference Costs data could be improved. We intend to retain the model's feature regarding unrealistically high or low unit cost estimates, and introduce new data cleaning rules.

For 2015/16, our priority is the identification of potentially unreliable data before they are used in a model. If we can identify problems early, we can remove the unreliable data or take other steps to make sure that the model produces a set of prices that is more robust. We note that this would be a continuing process and that any changes being proposed for 2015/16 should be considered as first steps in a longer term process of data cleaning and model output assurance.

In recent months we engaged Deloitte to advise on specific data cleaning steps for Reference Costs. [54] As a result, we are considering two steps for identifying unreliable data:

- overall data quality checks, based on statistical tests
- screening of providers and data points that have poor data quality.

We can use the information from these two steps to clean the Reference Costs inputs and to remove outliers. Deloitte has tested the potential impact of removing unreliable data from the Reference Costs data set. We are considering two levels at which we may remove unreliable data:

- whole provider (ie removing data for all HRGs for a given provider)
- individual HRGs or departments (ie removing data from a single HRG or department code combination for a given provider).

We are doing further tests to understand which forms of data cleaning have the biggest impact in terms of removing volatility and illogical relativities. This work will feed into any specific proposals for data cleaning that we will make for 2015/16 or for subsequent years.

As mentioned before these proposals are the first steps in a long term process – over time, we hope to automate as much of this cleaning process as we can, as long as we are able to do so in a way that allows stakeholders to understand and critique the steps that we take.

Improving the transparency of activity data used in the model

One of our long term goals is to make data preparation for modelling national prices as transparent as possible, so that stakeholders can point out errors and suggest improvements. This has some important implications for HES data in particular,

[54] Deloitte (2014), ‘Reference Cost Data Quality, a report for Monitor’, available at: www.monitor.gov.uk/node/6272

which goes through a number of preparation steps before it is ready to use in the model.

We are working towards being able to set out every step of HES data preparation, from raw data to the price calculations in model. One option that we are considering is to use a publicly available HES data set in the model. The public HES data is slightly less detailed than the HES data used to set national prices in previous years, which puts some restrictions on our data transformation (eg identifying spells from a list of episodes). But we think that any lack of precision might be outweighed by the benefits of transparency.

We are working through the technical requirements for using a public HES data set. If we decide that it is possible for 2015/16, then we will include a proposal in the tariff engagement documents in the summer.

Updating the calculations for SSEM bandings

The National Tariff Payment System includes a mechanism to pay providers a lower rate for admitted patient care (for a number of currencies in non-elective setting) if the patient stays in hospital for one night or less. This lower rate is a percentage of the full payment for the HRG in question, but the percentage varies by HRG. Specifically, each HRG is allocated to one of four SSEM 'bands', and each of these bands has a different percentage that is used to calculate the short stay payments.

The SSEM bands have not been updated since 2010/11,[55] and we are concerned that they may be out of date. From a technical perspective, updating the SSEM bands should not be difficult, in that the source data to calculate them has been collected in recent years. Indeed, some stakeholders have questioned why these particular data are collected every year (thereby creating a reporting burden for the sector) if we are not going to use them to update SSEM bands.

We are considering whether to update the SSEM bands for 2015/16, rather than relying on the bands used in 2014/15. However, any changes will only be implemented once after we conduct an assessment of the likely impact on the sector. We will present our proposal for stakeholder engagement in the summer.

We have asked Deloitte to review the current approach to SSEM bands.[56] Based on Deloitte's recommendations, we are considering a number of options:

- making no change (ie using the same inputs as for 2014/15)
- updating the inputs to the SSEM calculation (ie recalculating SSEM reductions based on the most recent input data)

[55] And they are arguably even older, being based on Reference Costs data from 2007/08.
[56] Deloitte (2014), 'Short Stay Emergency Tariff Review, a report for Monitor', available at: www.monitor.gov.uk/node/6272

- updating both the method of calculation and the inputs for the SSEM calculation.

Fewer and clearer manual changes to prices

The model DH used for 2013/14 contained a number of prices that were set with manual intervention, after the price modelling process was finished. In other words, for some of the currencies in 2013/14, DH decided that the price produced by the model was not sufficiently reliable.[57]

We want to reduce the need for manual intervention for 2015/16, through both better data inputs and through more automated processes after the price modelling process is finished. Table A3 sets out our proposals by reference to broad groups of prices (and other data points), that we found in the 2013/14 model.

Table A3: Proposals for post-model adjustments to prices

<table>
<tr><th>Price groups</th><th>Proposal for 2015/16</th></tr>
<tr><td>1. Modelled prices (and other data points) with no manual adjustments in 2013/14 (covers most of the prices and other data points) in Admitted Patient Care, Outpatient Procedures, Outpatient Attendances, and Accident & Emergency).</td><td>We propose to apply broadly the same methodology for deriving these prices (and other data points) in 2015/16 as was used for 2013/14, unless explicitly stated otherwise elsewhere in this document.</td></tr>
<tr><td>2. Manually adjusted prices (or other data points), ie prices adjusted away from the modelled price in 2013/14 (eg manual intervention following chapter lead review and road testing)</td><td rowspan="2">• If a modelled price is available and similar to the 2014/15 price, use the modelled price for 2015/16.
• Otherwise, apply a rollover method similar to our method used for 2014/15.</td></tr>
<tr><td>3. Prices (or other data points) without a (or with only a partially) documented methodology (this covers around 50 prices).</td></tr>
<tr><td>4. Prices (or other data points) derived from bespoke models (eg based on consultancy projects or expert reviews).</td><td>• If it is feasible to update the model with updated input data, use the updated modelled price (or other data point) for 2015/16.
• Otherwise, apply a rollover method similar to our method used for 2014/15.</td></tr>
</table>

[57] A number of stakeholders (eg expert working groups) helped DH to identify unreliable prices. For example, they helped to identify illogical relativities.

Please note that we are also proposing to follow a broadly similar post-model review process of national prices as applied by the DH PbR team in the 2013/14 national tariff.[58] This process aims to identify and to make manual adjustments to modelled prices if there is a good reason to do so. Any such manual adjustments will be documented and explained in the published model outputs.

We recognise that applying a rollover method to some of the prices (and other data points) is to some extent a pragmatic solution given the context for the 2015/16 national tariff. As such, we would look to improve our approach in subsequent years, although the precise approach would depend on the longer term structure of the national tariff.

[58] These processes were previously known as road test and sense check. We will not be able to follow exactly the same processes, but aim to broadly follow similar processes with a similar intention (eg to identify illogical tariff model outputs).

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