

You get what you're paid for?

The Royal College of Radiologists (RCR) members' experiences of the NHS tariff system in England

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Throughout 2018, the RCR engaged widely with its membership and beyond to better understand how the Payment by Results¹ (PbR) tariff system is applied across the NHS in England, measuring its effect on the work of clinical radiologists and clinical oncologists.

The experiences gathered reveal a breadth of perceptions of the tariff system and how it works, some correct and some factually inaccurate. Fundamentally, our engagement exercise highlighted that tariff is an area which lacks clarity for many consultants working in RCR specialties.

From a practical application perspective, the examples also unearthed financial disincentives for clinicians in providing the best possible care to their patients. This situation needs to be addressed. It is important to recognise the vital role of clinical radiologists and clinical oncologists in the NHS through the tariff and coding system to build business cases for workforce planning and enabling optimum patient care and service provision for the future. This report sets out the main themes emerging from the experiences of RCR Fellows and members, and translates these into a series of logical next steps.

Introduction

Payment schemes within the NHS are complex and subject to much misunderstanding. An effective remuneration system for NHS procedures and activity is crucial, not only to service delivery, but also to drive innovation and improve care pathways. The commissioning structure and localised budget constraints in NHS England mean that the tariff system as it currently stands can be an obstacle to optimum care.

To summarise, PbR uses a nationally fixed casemix-based tariff to reimburse trusts for the amount and type of care provided, making a link between both the volume and casemix of hospital activity and income. PbR was designed so that money would 'follow' the patient and, because costs were fixed, competition for patients would be on the basis of quality rather than price. This has been used to encourage and promote patient choice. Procedures and diagnoses are coded and grouped for each admission/attendance and the tariff is allocated to the trust. The founding doctrine of this system is that accurate costings promote better decision-making and accommodate comparison between NHS providers which should drive increased efficiency.

Using our members' experiences as the basis, a key purpose of this paper is to make a case for influencing national tariff so that it is a fairer, clearer system that is fully reflective of clinician workload, and can be uniformly applied for the benefit of patients. Identifying key issues and next steps to improve service provision for patients within appropriately resourced radiology and oncology departments, this paper maps the implications of tariff against the real-world examples gathered through our engagement activities.

Through the relevant Casemix Expert Working Groups (EWGs) and collaboration with the National Casemix Office (NCO), the RCR intends to influence the tariff at a national level to achieve the best outcomes for patients.

Additionally, we will offer support to colleagues in clinical radiology and clinical oncology, working alongside heads of service, clinicians and appropriate experts to ensure that reference costs more accurately reflect the work performed so that funding is used in the optimum way to deliver the best outcomes for patients.

Key messages from members' experiences

- Current tariff prices do not always fairly recognise the workload forming a clinical episode, particularly in relation to imaging.
- National tariff is not dynamic enough to take into account the increased imaging generated as a result of changing a care pathway or bringing innovative radiotherapy procedures into practice for the benefit of all patients.
- Tariffs are broadly based on mandated reference cost returns from trusts, and these cost returns are often inaccurate.
- The market forces factors (MFF) need revisiting to take into account regional patient demographics and trust overheads such as private finance initiatives (PFI). This has been recognised by NHS Improvement and a draft revision has been consulted on.
- Tariff can create regional variation due to price and efficiency affecting viability of certain services.

Tariff overview

Before describing the collected experiences of our members, it is important to understand the basics of how the tariff system works in England. There is greater nuance and complexity than we have the room to explain in this report, but a comprehensive overview of the various NHS payment systems can be found via the BMA briefings.²

The fundamental features of PbR are nationally determined classifications, currencies and tariffs.

Classification is the means to categorise activities performed into certain currencies. Each aspect of a patient hospital episode is recorded, and a clinical coder translates their care episode into codes using two classification systems: ICD-10 for diagnoses and OPCS-4 for interventions and procedures (which includes diagnostic imaging).

Currencies are the 'unit' of healthcare for which a payment is made. These can take a number of forms covering different time periods from an outpatient attendance to a prolonged stay in hospital.

Tariffs are the set prices paid for each currency. Fundamentally, tariff prices are based on national average unit costs, as submitted by providers. These prices are adjusted equally for providers to reflect changes in costs over time (for example, due to inflation, technology and efficiency improvements). Some tariffs are also adjusted to take account of National Institute for Health and Care Excellence (NICE) guidelines on cost-effective technology. Finally, tariffs are further adjusted using the market forces factor (MFF) (see below) to give a price for a trust that reflects unavoidable local differences in costs.

Health resource groups (HRGs) are the currency for the majority of acute healthcare services, based on groups of services that are clinically similar and require similar resources to deliver. The tariffs on these HRGs include different rates for day-case, inpatient (split elective and non-elective) or outpatient services. There are currently over 2,500 HRGs that have a mandatory tariff representing around 60% of all payments made to hospitals and other acute providers.

HRG4+ is the version of currencies currently in use in NHS England. Most HRGs are 'bundled' into set pathways, procedures or groups of services. **Unbundled HRGs** accommodate for separately reporting, costing and remunerating different components within a care pathway. Providing a mechanism for moving parts of a care pathway, unbundled HRGs are in use for diagnostic imaging, nuclear medicine and radiotherapy.

Tariff prices have traditionally been based on the average cost of services reported by NHS providers in the **mandatory reference costs** collection. The introduction of Best Practice Tariffs (BPT) in 2010–11 was intended to ensure that tariffs were determined by quality clinical practice rather than an average, often outdated, cost.³ BPTs pay a price for episodes in accordance with a specified standard, with the aim of reducing unexplained variation in clinical quality and increasing the adherence to best practice pathways. A specific approach has been developed for each BPT, based on the clinical characteristics of best practice and the availability and quality of data.

The Department of Health's (Department of Health, 2012a) criteria for BPTs are either:

- High impact (that is, high volumes, significant variation in practice, or significant impact on outcomes)
- A strong evidence base on what constitutes best practice
- Clinical consensus on the characteristics of best practice.



Health resource groups (HRGs) are the currency for the majority of acute healthcare services, based on groups of services that are clinically similar and require similar resources to deliver.

Sitting alongside PbR is **specialised services**. These services are commissioned and planned nationally and regionally by NHS England and, in effect, have no tariff. Treatments commissioned under this system generally cater for patients with rare cancers, genetic disorders or complex conditions. They often deliver progressive care and techniques (including advanced radiotherapy techniques) and are set up to be a testing ground for innovations in clinical practice. These services are not available in every locality because they often have to be delivered by specialist teams of doctors, nurses and other healthcare professionals who have the necessary skills and experience, and often involve expensive equipment. In total, there are 146 specialised services directly commissioned by NHS England.⁴

Four factors determine whether NHS England commissions a service as a prescribed specialised service. These are:

- The number of individuals who require the service
- The cost of providing the service or facility
- The number of people able to provide the service or facility
- The financial implications for Clinical Commissioning Groups (CCGs) if they were required to arrange for provision of the service or facility themselves.

Alongside the mandatory national tariff, the provider will also receive an additional payment determined by their **market forces factor** (MFF). This is unique to each provider and reflects the fact that it is more expensive to provide services in some parts of the country than in others. There may also be other adjustments to the tariff for long or short stays, for specialised services or to support particular policy goals. The aim of the MFF is to compensate for unavoidable geographical cost differences between providers in the delivery of services. For staff expenditure, variation can occur directly or indirectly. Direct costs are the salaries paid to staff; indirect costs include expenditure incurred through labour turnover, agency staff costs, vacancies and reduced productivity.

This means that in difficult to recruit areas, MFF can inversely reward poor employment practices. There are plans to revise the MFF to include business rates and to change the scale to include travel to work times.

It is worth noting at this stage how it works in the rest of the UK, as this will explain the focus of this report being on England. The NHS in Scotland and Northern Ireland operate slightly differently, with less complexity and scope for misrepresentation, while Wales uses an older version of HRGs. In Northern Ireland, **block contracts** remain the dominant payment system. A block contract is a payment made to a provider to deliver a specific, usually broadly-defined, service. For example, a hospital could be given a block contract to undertake acute care in a particular geographical area. In Scotland, the Scottish National Tariff is a list of standard average prices created by distributing published costs information in the NHS Scotland Costs Book. The Scottish National Tariffs reflect the varying complexity of hospital activity through the use of HRGs.

The *NHS England Long Term Plan*, published in January 2019, has a recurring focus on the PbR system and its need for review.⁵ NHS Improvement will consult on tariff proposals for 2019/2020 in the first quarter of 2019, and a full review of the system is intended for 2021. The stated intention of this review is to foster greater levels of integrated care. NHS England has conceived less granular payment contract models based on a capitated, whole population budget, along with an improvement payment scheme and a gain/loss share arrangement. This is similar to the block contracts in use in other UK sectors. These are in development and have been piloted across 'multispecialty community providers' (MCPs) and 'primary and acute care systems' (PACS) models.⁶ The RCR will remain engaged with this process and collaborate wherever necessary to ensure that clinical radiologists and clinical oncologists are not disadvantaged.

Background

The PbR system was developed to recognise, remunerate and record the inherent complexity found across a patient's healthcare experience. Under the current system, an inpatient admission receives a national price which covers the care received during their spell in hospital, including the cost of diagnostic imaging.

Radiology departments receive payment in two ways; block contracts and by activity. In case of the latter, precise coding is essential to ensure appropriate remuneration is received. Precise recording and coding is also important as departmental budgets, future departmental workforce and equipment planning and reference costs are all calculated using this information.

For clinical oncology, the situation is more complex. Radiotherapy is funded centrally through specialist commissioning, as are chemotherapy drugs. Out-patient and inpatient care are subject to PbR, as are some of the supportive medications associated with chemotherapy delivery such as anti-emetics. The disconnect between local and central funding means certain survival-enhancing drugs (such as those reducing risk of bone secondaries developing and/or progressing) are subject to a postcode lottery and differential access around the country.

An overarching issue for both clinical radiologists and clinical oncologists can be found in how groupings of tariff currencies are applied, according to different care settings. For example, divergent levels of payment are made to trusts dependent on how a scan or procedure is requested.

Unbundled tariffs include only direct access and outpatient access to diagnostic imaging and nuclear medicine services, and external-beam radiotherapy. This is where it is vital that activity is recorded/coded accurately somewhere, so that it then flows into the national system. All other scans are 'bundled' into a pre-determined pathway, often not fully recognising the radiology workload or complexity of imaging techniques.

This can be a huge hindrance to workforce planning as trusts often use tariff balance sheets to place value and direct resources to 'income-generating' departments. This fails to recognise that the effectiveness of those other departments is reliant on the timely and accurate diagnosis provided by radiologist teams. Recognition needs to be given to the fact that bundled tariffs need unbundling at local level to provide good services to patients throughout their pathway experience.

Diagnostic imaging – when are payments bundled?

Diagnostic imaging does not attract a separate payment (meaning it is bundled) where:

- The patient data groups to a procedure-driven HRG with a national price in outpatients
- The national price has a treatment function code (TFC) with a zero value for any diagnostic imaging that is assumed to be connected to the outpatient attendance (for example codes LA08E, SB97Z and SC97Z, which relate only to the delivery of renal dialysis, chemotherapy or external-beam radiotherapy)
- Diagnostic imaging is carried out during an admitted patient care episode or during an accident and emergency (A&E) attendance
- Imaging is part of a price for a pathway or year of care (for example, the best practice tariff for early inflammatory arthritis)
- Imaging is part of a specified service for which a national price has not been published (for example, cleft lip and palate).

Findings

To paint the practical picture of clinical radiologists' and clinical oncologists' experience of the extant tariff system and its potential pitfalls, the RCR extensively engaged with: its own committees; Special Interest Groups (SIGs); the *Getting It Right First Time project* (GIRFT); and experts in the field. Please see Appendix 1 for a list of consultees. Their invaluable input is gratefully acknowledged. **This section summarises the themes and examples that arose during this engagement process.**

For the RCR specialties, their experiences assert that the English national tariff system is:

1. **Not reflective** of clinical complexity or departmental role in a hospital episode
2. Generative of **perverse incentives** and **competing priorities**
3. A **barrier to integration** of care
4. A perpetuator of **variation** in care
5. **Prohibitive to** the introduction of **innovations and planning**.

Reflecting the participants' opinions and perceptions, the experiences noted here are not universal across all geographies or departments, or sometimes an accurate reflection of system protocols, but this only serves to further highlight the variation in how the system is applied, not only from trust to trust, but at departmental level.

1. Not reflective of clinical complexity or departmental role in a hospital episode

Imaging is becoming increasingly diverse and with this comes greater cost variance. Radiology is instrumental in the vast majority of hospital episodes, but this role is often under-recognised with other departments receiving the bulk share of funding garnered through coding practices and poorly informed reference costs. Current tariffs do not reward the quality or speed of imaging reporting, failing to accurately reflect the complexity of certain examinations. An example of this can be found in the reporting of certain computed tomography (CT) urograms.

This procedure has a single tariff but actually involves performing and reporting three individual scans. Additionally, due to coding protocols (outpatient treatment function codes [TFC] codes include a zero tariff for diagnostic imaging) and the bundling of imaging when a patient is admitted to hospital, radiology departments often do not generate any extra financial return for carrying out multiple scans. This is despite the fact that such episodes can consume a large proportion of consultant radiologist time.

For clinical oncology, current tariffs fail to adequately take account of the increasing complexity of radiotherapy techniques and the time involved in delivering these treatments. Compounding these time pressures is the added complexity of radiotherapy planning to deliver these new techniques. Now mandated to include peer review, tariff code updates can not keep pace with planning processes, and are progressively incongruous with actual work performed.

For example, breast cancer techniques have changed significantly since the tariff was introduced. Growing in complexity for clinicians, dosimetrists and radiographers alike, the tariff has not been adjusted to take the increasingly complex techniques into account. The stated view is that efficiency measures should fund the increased resource. This has impacted the rate at which these innovations, especially deep inspiratory breath-hold (DIBH), which reduces the incidence of late coronary artery disease developing, can be rolled out.⁷ The increased clinician time to do the same task is not recognised – against a backdrop of workforce shortages in all specialties involved in radiotherapy delivery. This should be addressed.

In addition to external-beam therapy, brachytherapy – both low and high dose rate – has recently been shown to improve biochemical release free survival (BRFS) in prostate cancer.⁸ However, the tariff for high dose rate (HDR) brachytherapy for prostate cancer is low. Given its proven benefit, we should be encouraging its use more broadly, but there is a disincentive to do so while other, potentially less, effective radiotherapy techniques attract a greater tariff.

Tariffs are broadly based on mandated reference cost returns from trusts. When looking at the cost returns from a clinical perspective, some are reported to be highly inaccurate, which may be skewing tariffs. It was noted during the roundtable event that the British Society of Skeletal Radiologists (BSSR) performed some bottom-up costings for some of their procedures several years ago which were subsequently used

as evidence to drive forward the recommendations for tariff price. This suggests that clinical input is welcomed by NHS England and NHS Digital. To address this, it was suggested that there needs to be an improvement in reference costs with more feedback to trusts who submit clearly inaccurate costings, and more clinical involvement prior to their release.

Case study

An assessment of tariff and coding for musculoskeletal (MSK) radiology in the Royal Devon and Exeter NHS Foundation Trust was undertaken in August 2018. In short, the assessment unearthed inconsistent practice which made any detailed analysis impossible.

A list of MSK codes was extrapolated from the radiology system (CRIS), with a focus on shoulder imaging and intervention. The list was sent to the trust's service line reporting team to gather a data sample. They were able to extract total income, activity and cost by specialty. Theoretically, an MSK radiology procedure should only be able to be coded as one of the following seven scenarios and the trust should earn the appropriate tariff.

These scenarios are as follows:

1. Procedure performed as an outpatient procedure – national tariff earned
2. Direct access procedure performed – national tariff earned
3. Procedure performed alongside an outpatient attendance – tariff should be unbundled and be paid in addition to the outpatient attendance
4. Procedure performed on an inpatient and so included in the inpatient HRG
5. Procedure performed as part of A&E attendance and so included in A&E tariff

6. Procedure performed post discharge – national tariff earned
7. Any of the above scenarios where there is no national price, in which case locally agreed tariff would apply.

A sample of 155 patients treated for MSK issues was analysed. This unearthed coding being listed for 12 different specialties, using 19 different HRGs and generating 30 different tariffs. In 57 of the 155 coding scenarios analysed, the tariff generated was nil.

Additional findings

- The tariff prices for MSK radiology appear low; a sample of patients on the shoulder pathway showed an average loss per patient of 25%.
- Further, ultrasound scans, X-rays, MRIs and CTs all feature in the radiology service line reporting teams top ten list of deficit-making HRGs.
- MSK attendances that require scans are largely in an outpatient setting. For outpatients, payment is based on the procedure booked rather than the procedure actually carried out. The assessment found this to be particularly detrimental to the MSK team as coders don't get involved in outpatient clinics, leaving no opportunity to correct anomalies, alter patient care plans, and so on.

2. Generative of perverse incentives and competing priorities

As intimated throughout this report, a major issue for radiology departments is that tariff balance sheets are commonly used to determine departmental budgets at trust level. If a tariff is set or reported inaccurately, there is pushback against performing clinically appropriate scans that run at a loss. It is the patient who loses out.

A reported past example of this was found in the DaTscan for Parkinson's disease. Prior to the current HRG4+, the tariff for this scan was approximately £350, but the tracer necessary to perform the scan cost approximately £950 and was only available from one manufacturer. Incurring significant loss before taking into account the costs of scanning, reporting and equipment, many smaller departments reportedly opted not to offer this service as a result. In turn, this put more pressure on larger departments as their caseload of patients requiring DaTscans increased, thus incurring other financial losses. To add further detriment, patient travel time and inflating costs of hospital transport also come into play.

Thankfully, the DaTscans issues were addressed by the work undertaken by the Diagnostic Imaging and Nuclear Medicine EWG alongside the National Casemix Office in collaborating to develop HRG4+ that provided a more robust cost base for the national tariff. This enabled better engagement with NHS England and NHS Improvement in allowing the clinical EWG to propose manually calculated tariffs using bottom-up costing. This is an exemplar of how effective clinician influence into tariff can positively serve the patient pathway and should be looked upon as an opportunity.

Another reported example can be found in cancer diagnostics. A clinically streamlined pathway for many cancers would be to perform a contrast-enhanced positron emission tomography-computed tomography (PET-CT), rather than a 'standard' PET-CT, followed by a contrast-enhanced CT. However, under the current tariff system, the latter model is more financially rewarding as the trust will receive a tariff for the

contrast enhanced CT, in addition to the PET-CT (which is paid for by specialised commissioning).

Where there are several different imaging options but widely differing tariffs, this can influence clinical decisions and promote variation in care. For example, the imaging options for angina include angiography, CT angiography and methoxy iso butyl isonitrile (MIBI) scan. The tariff for CT angiography has historically been much lower than that for the other modalities but is the non-invasive test of choice.⁹ This generates a perverse incentive to offer patients alternative methods of imaging based on a cost advantage rather than clinical appropriateness as recommended by NICE guidance.

These perverse incentives are clearly detrimental to patients in terms of delayed diagnoses and poorly utilised patient time. However, financial metrics are not assessed in the context of patient reported outcome measures (PROMs); there is no tariff for the collection or analysis of PROMs beyond the measure of survival, which is collected by cancer registries. NHS England often includes the need to collect patient outcomes in service specifications, but there is no tariff to cover the costs. This means little data is captured on the longer term value and/or benefit – to either the patient or the healthcare system – of clinical decisions, and there is no financial incentive to gather patient feedback.

3. A barrier to integration of care

'In its current form, the payment system does not support joint working between organisations within the health service, let alone more widely. Both providers and commissioners of healthcare are fragmented, with separate budgets and payment systems for different services, which act as a barrier to joint working and integration of treatment pathways'.¹⁰

Fragmentation and incited tribalism can be seen at hospital level. For example, if a patient requires a joint radiology and neurosurgical procedure, the HRG generated will be based on the dominant, that is, most complex procedure, although the additional

procedures may well influence the actual HRG derived. However, depending on how hospital income is allocated, the radiology department may not be directly reimbursed for providing a radiographer. This money may only be seen by the trust as being generated by neurosurgery, causing a low value perception of radiology and a competitive culture. This can cause issues with radiology workforce planning as it does not capture their contribution to a patient pathway. This is not an isolated example.

Some clinical oncology consultees also felt that the lack of an adequate tariff for adaptive radiotherapy planning can hamper integration of care, as it takes more time and effort to change the course of treatment in accordance with an individual patient's changing needs. This means that, should a patient's disease progress or develop side effects that require intervention from another speciality, there is a disincentive to change their radiotherapy schedule to fit.

To illustrate, the bundled radiotherapy planning tariff is based on one episode of planning (CT scan + plan). There is no tariff for any additional planning required during treatment, despite the experiences of our members suggesting that this is becoming more common in practice, particularly with the increase in complex cases.

Further to this, radiotherapy treatments for bladder cancer using the 'best fit' plan of the day require increased resource in clinician and dosimetrist time to generate multiple initial plans and radiographer time to image, verify and choose the most appropriate plan for that day's treatment.¹¹ This can have serious consequences in radiotherapy, for example when using magnetic resonance (MR) LINAC, where daily adaptive planning is a core feature of its efficacy.¹²

While it is acknowledged that the system is not comparable, the United States have taken account of this issue and clinicians can bill for up to three episodes of planning, allowing adequate remuneration for the inherent flexibility needed for the complexity of the work.¹³

4. A perpetrator of variation

A key issue highlighted by participants is how procedures are commissioned. Not all imaging commissioning sits within the CCG's remit. Significantly, PET-CT sits within specialised commissioning, without a tariff.¹⁴ This means that any proposals made by the oncology imaging clinical reference group (CRG) that result in a saving elsewhere within the system struggle as the specialised commissioning team is rightly concerned with its own budget. This leads to local groups offering different standards of care.



The tariff does not recognise the additional work of all staff groups necessary to participate in radiotherapy clinical trials which usually require complex treatment delivery, increasingly adaptive radiotherapy (RT) and the need for plan of the day. There is an inherent disincentive to participate in hypofractionation studies with subsequent loss of income. It is imperative that the tariff recognises innovation and participation in clinical trials if we are to improve outcomes for our RT patients.

For example, in image-guided radiotherapy (IGRT), on-board imaging cone beam CT (CBCT) (during treatment) allows assessment of tumour position in direct relation to the plan. Adaptive planning where multiple plans can be generated and the 'best fit' used on a daily basis does not attract a higher tariff, so many departments struggle in the current financial and workforce climate to implement rapid service development. Paradoxically, those centres who have implemented changes are then not rewarded at higher level, impacting on morale. It is the patient who loses out.

One area which has experienced marked geographic variation is the provision of selective internal radiation therapy (SIRT). The current reimbursement for SIRT is unclear as unbundled brachytherapy tariffs are not available and the cost of the microspheres used to carry the radiation has not been addressed. There is uncertainty as to how any trust will be able to support delivery of SIRT on this basis, thus limiting access to this innovative technology unless a national pricing framework for the microspheres is agreed. The NHS' new Supply Chain Coordination Limited (SCCL) may ameliorate this issue with plans to introduce standardised pricing for providers. The SCCL aims to leverage the collective buying power of the NHS to provide clinically assured products at the best value

to meet the diverse needs of NHS organisations. However, this has not yet been implemented and how it will play out in practice is yet to be seen.

Further, the extant evidence on SIRT suggests several benefits compared to conventional radiotherapy: local and targeted deposition of radioactive dose, less healthy tissue irradiated and some studies suggesting an overall survival benefit.¹⁵ However, the evidence base is still not robust enough for it to be routinely commissioned. Without a national tariff, the evidence base adequate to support the clinical utility of the technique will not be generated. This is true of many scientific processes where there is theoretical benefit – such techniques are often implemented internationally, but not reimbursed in the UK as the level of evidence required for efficient commissioning is not generated. Again, it is the patient who will potentially not get access to the best innovations in care.

Another major issue to consider is inequity derived through private finance initiatives (PFI) constraints. Trusts are limited in radiotherapy delivery due to PFI constraints as the cost per episode is often higher due to mandated lower throughput in the PFI contract.



The current PET-CT commission is somewhat akin to accountable care organisations (ACOs) with NHS England commissioning the independent sector to provide the service. This provides NHS England with a stable cost and delivery model but stifles the development and introduction of new tracers, research and training to a certain degree. Tariffs need to be more dynamic and flexible to enable payments to be generated for new innovations.

5. Prohibitive to innovations and planning

The current concept of tariff working from fixed costs for specified procedures is potentially stifling innovation, as cutting-edge ideas and treatments often come with initial financial disincentives. New imaging techniques and tracers do not have a dedicated procedure code and thus may not generate an appropriate HRG, thereby the tariff may not be reflective of their complexity, which makes their introduction into daily practice difficult from a financial point of view. This means that patients may not receive the best care available. The development of new procedure codes is a lengthy process and is governed by numerous rules. This is further compounded by imaging being poorly represented in the hospital episode statistics dataset (HES). This incentivises trusts to stick with the status quo, which inevitably offers more short-term financial benefit.

A pertinent example for clinical oncology can be found with stereotactic ablative radiotherapy (SABR). SABR is a highly conformal, hypofractionated modality with reduced side-effects for patients that can translate to minimum levels of aftercare being required.

With training, mentorship and appropriate local multidisciplinary team (MDT) input, SABR could be delivered by all radiotherapy centres in the UK presently. However, the tariff and specialised commissioning system actively discourages centres from developing such services, as NHS England have chosen selected centres to deliver what is an internationally recognised standard of care. Undesignated trusts can deliver these services if they choose to, but at financial penalty. The same can be said for other innovative techniques, which will usually take more time in planning/ on set when being developed, therefore bringing a cost pressure. It is the patient who loses out.

The current HRG and tariff systems also lack reactivity. Any changes take so long to implement, in particular due to OPCS (interventional) codes, that the system is not practical for remunerating appropriately in the rapidly evolving area of imaging.

For diagnostic radiology, a more streamlined system directly mapping the national Diagnostic Imaging Dataset (using SNOMED-CT codes) to HRGs would provide a simpler system, and allow data about new imaging techniques to be captured.^{16,17} An appropriate supplementary HRG could then be implemented when predetermined thresholds have been met. At the time of writing, the EWG, working with the National Casemix Office, have already mapped the DID to the HRGs and are awaiting approval from NHS England/ NHS Improvement to continue to develop this further with a view to implementation.

Tariff also makes forward planning difficult. For example, reference costs for radiotherapy planning are bundled and based on historical data using CT only. Increased use of MR or PET-CT is more expensive, and there is no additional tariff for the extra imaging. For patients with a suspected transient ischemic attack (TIA), the investigative gold standard is MR imaging of the brain.¹⁸ However, the tariff for this pathway has not been updated in line with new evidence, and the payment remains aligned to a CT scan. Despite centres trying to move to best practice, the payment system lags behind, meaning centres offering best practice, that is, MRI in this pathway, are doing so at a financial loss.



Participation in clinical trials not only provides intra-departmental peer review, but the extra governance of trial management peer review, working towards unifying treatment delivery nationally. NHS England needs to recognise this and provide a tariff for trial active sites

For clinical oncology, there is currently a disincentive for certain pathways to be streamlined. An example of this is an integrated cancer pathway for oesophageal cancer. As was previously noted, PET-CT currently sits in specialised commissioning and does not have a tariff. The oncology imaging CRG has proposed an integrated pathway be developed for oesophageal cancer PET-CT staging with contrast-enhanced radiotherapy planning and PET-CT in the treatment position performed at one attendance, rather than the patient attending for three different appointments. The current tariff would make this financially disadvantageous, despite it being a more efficient and patient-focused pathway.

Member experiences: myth versus reality

A wide range of opinions came to light through the member engagement process. While compiling this paper, it became clear that views were sometimes conflicting, and that some experiences were a result of a variation in how tariff protocols are applied in certain settings, not necessarily how they are intended to function. This only illustrates that the complexity of tariff, coupled with frequent refinements, has meant it is often difficult to establish what the fact actually is and indeed the best way for practitioners to navigate the system.

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While compiling this paper, it became clear that views were sometimes conflicting, and that some experiences were as a result of a variation in how tariff protocols are applied in certain settings, not necessarily how they are intended to function.

Some core misunderstandings which arose during our consultation exercise:

- ‘Diagnostic imaging is all unbundled’. There is lack of clarity about what imaging is or is not bundled.

For clarification:

- National prices for admitted patient care cover the care received by a patient during their spell in hospital, including the costs of services such as diagnostic imaging.
- Unbundled tariffs include only attendances for direct access and outpatient access to diagnostic imaging and nuclear medicine services, and external-beam radiotherapy.

- ‘Deliberate strategic coding – the same procedure generates different income if it is done on an outpatient or inpatient basis, leading practitioners to code as outpatient to generate a higher tariff’.

For clarification:

- Inpatient scanning should be paid for under the bundled tariff for that hospital admission (which does generally generate a lower tariff than the same procedure as an outpatient), but failure to code inpatient procedures correctly means radiology departments are often not paid correctly.

- ‘No codes exist for radiotherapy planning’.

For clarification:

- There are codes for radiotherapy planning. However, planning codes do not include the consultation at which the patient consents to radiotherapy, nor do they cover any outpatient attendance for medical review required by any change in status of the patient.

Conclusions

There seems to be variation in the practicalities of how patient attendances are classified between trusts, with many different internal procedures for how and when to code. There is a lack of clarity as to how the tariff system works, and this review of experiences across both our disciplines highlights the need not only to raise awareness of this issue, but also to offer targeted guidance.

Imaging is a rapidly expanding area and opinions garnered show the PbR system is not reflective of the increasing complexity of imaging, the clinical expertise of consultant radiologists nor the time expended to translate these images. The difference between inpatient and outpatient tariffs is particularly detrimental to radiology departments as payment is based on the procedure booked rather than the procedure actually carried out.

Within clinical oncology, tariffs have not been updated in line with the rate of advances in practice in radiotherapy, leading to regional differences in the rate of service development and slow roll out of new techniques. Tariffs to support the generation of an evidence base for innovative therapies and a rethink of what evidence would be acceptable should be urgently considered as a path to promote innovation in the UK.

As trusts often use tariff balance sheets for workforce planning, poor recording of work done on these balance sheets represents a clear issue for the workforce within radiology and radiography. The work of radiologists and radiographers needs to be accurately represented in coding practices and in tariffs to allow effective workforce management to continue providing vital services in the future.

The RCR also feels more emphasis needs to be put on regional patient demographics and trust overheads such as private finance initiative dependencies. On a macro level, specialised commissioning and the MFF can cause issues with fairness of payment based on arbitrary boundaries.

Fundamentally, the national tariff system in England is derived from the delivery of clinical procedures

and not the achievement of health outcomes. This harbours an inherently problematic system where money does not truly follow the patient. The system has too many variables and a lack of organisational integration has perpetuated a divide between primary and secondary care and stifled innovative practice.

The development of currencies that span across entire pathways, or capitation models that have performance enhanced payments and shared loss agreements would be less onerous for trusts and clinicians and more beneficial to continuity of patient care.

It is imperative that the RCR together with the appropriate clinical radiologists and oncologists form effective EWGs to engage with the National Casemix Office and NHS England/NHS Improvement to modify and improve the current payment scheme, building on recent change success, as highlighted in the nuclear medicine chapter (see below).

“
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Making it work

Examples of success through clinician collaboration with National Casemix Office (NCO):

- The best practice tariff for interventional aortic stents over open surgery was successful in shifting clinical practice.
- The HRG4+ nuclear medicine chapter has been redesigned by the clinical EWG, consisting of representatives from the RCR, the Royal College of Physicians (RCP), the British Nuclear Medicine Society and National Casemix Office to provide an additional tariff for more complex nuclear medicine imaging, which allows departments to use more hybrid imaging, shortening the patient pathway while sustaining departmental funding for the service overall.

Next steps

The RCR recognises the importance of the work that the casemix EWGs have undertaken in the past and will continue with in the future.

The RCR will support the adoption of more integrated models of care and use of tariff which optimise patient care by:

1. Encouraging wider engagement among our members and stakeholder groups with the National Casemix Office to influence the codes, currencies, costs and tariff at a national level
2. Actively seeking and supporting appropriate RCR representation on the relevant EWGs
3. Remaining engaged with the implementation process of the NHS *Long Term Plan*, in relation to tariff reviews – collaborating wherever necessary
4. Facilitating bottom-up budgeting activity by developing frameworks to calculate the costs of:
 - a. Running, maintaining and replacing equipment, including scanners and other technologies
 - b. Given procedures, including staff, medicines, and other resources
5. Producing guidance and raising awareness within our membership to enable more effective coding where appropriate
6. Facilitating dialogue between coders, clinical radiologists and clinical oncologists to improve understanding of the system as a whole
7. Gathering and publishing case studies to highlight variation in how the tariff system is applied in different settings
8. Recommending to trusts that tariff balance sheets should **not** be used for workforce planning when tariff inaccurately represents the workload.

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Appendix

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We consulted members of:

British Medical Ultrasound Society

British Society of Breast Radiology

British Society of Dental and Maxillofacial Radiology

British Society for Gastrointestinal and Abdominal Radiology

British Society for the History of Radiology

British Society of Interventional Radiology

British Society of Neuroradiologists

British Society of Paediatric Radiology

British Society of Skeletal Radiologists

British Society of Thoracic Imaging

British Society of Urogenital Radiology

RCR Clinical Oncology Online Forum members

RCR Faculty Boards

RCR Heads of Service group

RCR Professional Standards and Services Boards

Radiotherapy Board

RCR Regional Chairs Committee

UK Imaging Informatics Group

UK Neurointerventional Group

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