Ensuring PbR supports delivery of effective cancer services

PbR Cancer Assessment – Recommendations and findings

Final Report

29th May 2008

Version 2d

The assessment of whether PbR supports effective cancer services has identified 16 issues that require further attention

PA has been commissioned to assess whether amendments are needed to PbR so that it fully supports future cancer services

HRG4 will establish new national currencies for radiotherapy, chemotherapy, and specialist palliative care. PbR will continue to be developed in 2010/11 and there are opportunities to enhance PbR to support the development of cancer and other services.

The Cancer Reform Strategy is due to be released at the end of 2007. To inform this, PA was commissioned in August 2007 to undertake an assessment of PbR in relation to cancer services.

The aim of this piece of work was to identify: current issues that were occurring with HRG3.5 under PbR; which of these are adequately addressed by the introduction of HRG4; and what further action is needed to ensure PbR effectively supports effective cancer services.

PA has combined analysis with targeted stakeholder consultation to identify the key PbR cancer issues and recommend solutions

A two stage process has been used for the review. An interim report was produced, based on the consultations, this has now been further validated through two regional workshops with NHS cancer stakeholders.

A series of structured interviews were held with stakeholders. This included: six Trusts, including both cancer specialists and DGHs, five PCTs the PbR team, the Information Centre. In addition we have analysed the available data.

There are 16 issues where action is needed to ensure that cancer services are effectively supported by PbR

We have identified 16 issues where action is needed, if PbR is to effectively support cancer services. Overall there has been a very high level of consensus about these issues with all the people we have interviewed.

Whilst it is desirable to take forward action on all 16 issues, six issues have a higher level of priority

Six issues are seen as particular priorities:

- Improving coding quality and consistency
- Ensuring fair payment for MDTs
- Ensuring structure for chemo drugs works in practice
- Separation from tariff of investment cost of RT bunkers
- A separate cancer OP tariff in key specialties
- Fair payment for the highly complex cancer procedures.

There are four main priorities for action: better guidance, establishment of expert panels, development of normative tariffs, and development of a separate cancer OP tariff

A set of actions is recommended for each issue; however the key actions can be grouped under four headings:

- Better high level guidance to raise understanding
- The establishment of expert panels for key cancer services to get HRG4 fit for purpose
- The introduction of normative tariffs in cancer to address specific issues, eg radiotherapy investment costs
- the introduction of separate OP tariffs for cancer in key specialties

We recommend that actions are coordinated in line with these four priorities.

Contents

1. PA has been commissioned to assess whether amendments are needed to PbR so that it fully supports future cancer services

The NHS Cancer Plan was published in September 2000 and outlined the Department's strategy to improve prevention, detection and treatment of cancer. This was backed up by increased investment for cancer services in terms of staffing, equipment, drugs, treatments and information systems. Since the plan began, notable progress has been achieved. In particular, access to cancer services has improved and cancer networks have been established across England.

The cancer reform strategy is now being developed to account for changes in the health sector since the plan was published. The NHS is changing and there are different initiatives in which cancer services need to operate, such as moving care closer to home, better patient choice and stronger commissioning.

One of the main changes in the way the NHS operates has been the introduction of PbR in April 2003. Since its introduction, PbR has been revised and an updated tariff has been introduced each financial year. HRG4 will establish new national currencies for radiotherapy, chemotherapy, and specialist palliative care. PbR will continue to be developed in 2010/11 and there are opportunities to enhance PbR to support the development of cancer and other services

The DH Cancer Policy Team needs to understand what changes should be made to PbR to promote further improvements in cancer services. It needs to understand where PbR currently acts as a barrier to change or does not cover cancer services. In particular, it needs to consider how PbR could be developed to drive up quality of care by ensuring that more aspects of cancer services are covered, multi-disciplinary team working is encouraged and quality of care is rewarded, as well as efficiency of service delivery.

PA was commissioned in August 2007 to undertake an assessment of PbR in relation to cancer services. The aim of this piece of work was to identify:

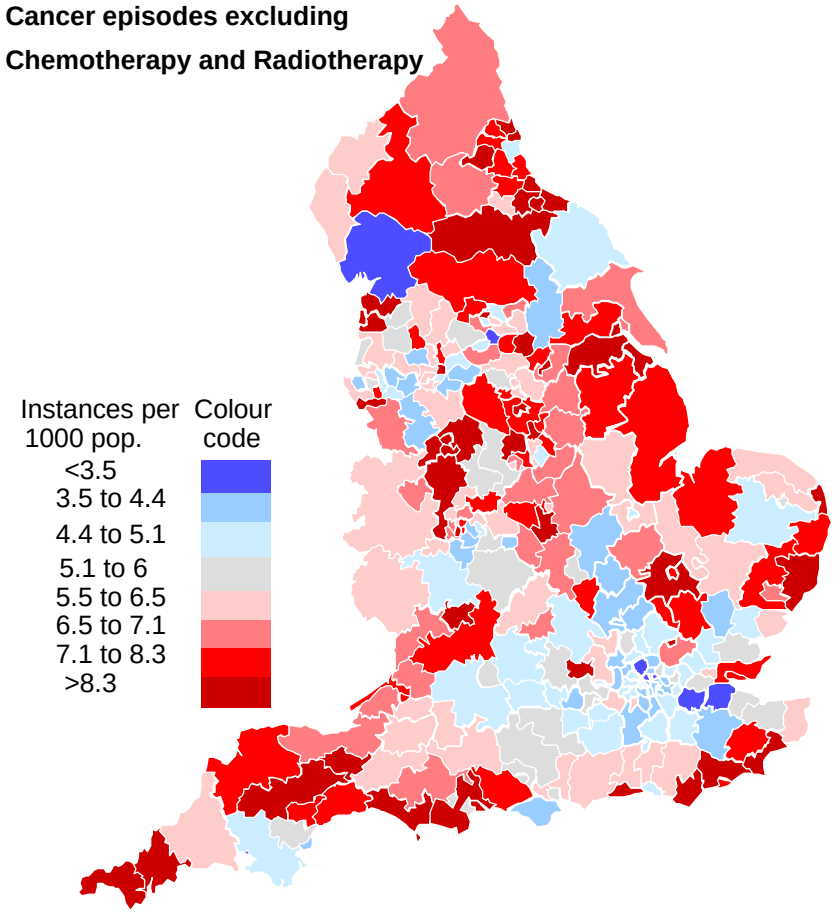
- Current issues that were occurring with HRG3.5 under PbR
- Which of these issues might be addressed by the introduction of HRG4
- Which issues fall outside the scope of HRG4, and the viable solutions to address them.

This report is the outcome of this piece of work. The key findings and recommendations of this work will inform the 2007 Cancer Reform Strategy.

In addition to this report, PA have also developed a 'Cancer Chapter' guidance document. The purpose of this document is to:

- Identify all HRGs related to cancer
- Show how these HRGs map to common cancer pathways
- Show how the coding of HRG3.5 will change with the implementation of HRG4.

2. Cancer forms a major part of acute activity in England and improving cancer services is a top priority for Government



This map shows the number of cancer episodes per 1,000 population for patients with a cancer diagnosis as one of the first three diagnosis. (Excluding chemotherapy and radiotherapy treatments). It shows there is unwarranted variation in the intervention levels between PCTs (old PCT boundaries).

Data source: HES 2005/06 and National Radiotherapy Advisory Group *Radiotherapy: developing a world class service for England,* 2007

Introducing national tariffs for a wider range of cancer treatments is important to the health system because cancer is a major part of acute activity.

In 2005/06 1.3 million or 22% out of 6 million elective spells were for patients with a cancer and tumour diagnosis (in one of the first three diagnosis fields).

In addition there were about 300,000 non-elective spells for patients with a similar cancer and tumour diagnosis.

Out of elective patients with a cancer and tumour diagnosis, 41% of recorded episodes in 2005/06 were for chemotherapy.

The actual number of chemotherapy treatments is likely to be higher as trusts were not required to record this information before.

In addition, the NHS provides about 1.5 million fractions of radiotherapy annually.

The intention is that chemotherapy and radiotherapy treatments will be covered by national tariff arrangements from 2009/10.

3. PA has combined analysis with targeted stakeholder consultation to identify the key PbR cancer issues and recommend solutions

PA has used a two stage approach to assess PbR in relation to cancer services.

In the first stage we have used a draft issue tree as the basis for a set of structured consultations with a representative sample of PCTs, Acute Trusts, Cancer Networks and other relevant individuals. PA worked with the DH Cancer Policy Team, the PbR team and the Cancer Action team to achieve a representative sample.

Wherever practical, analysis has been carried out to validate potential issues – though often the result of the analysis is that the data is not available.

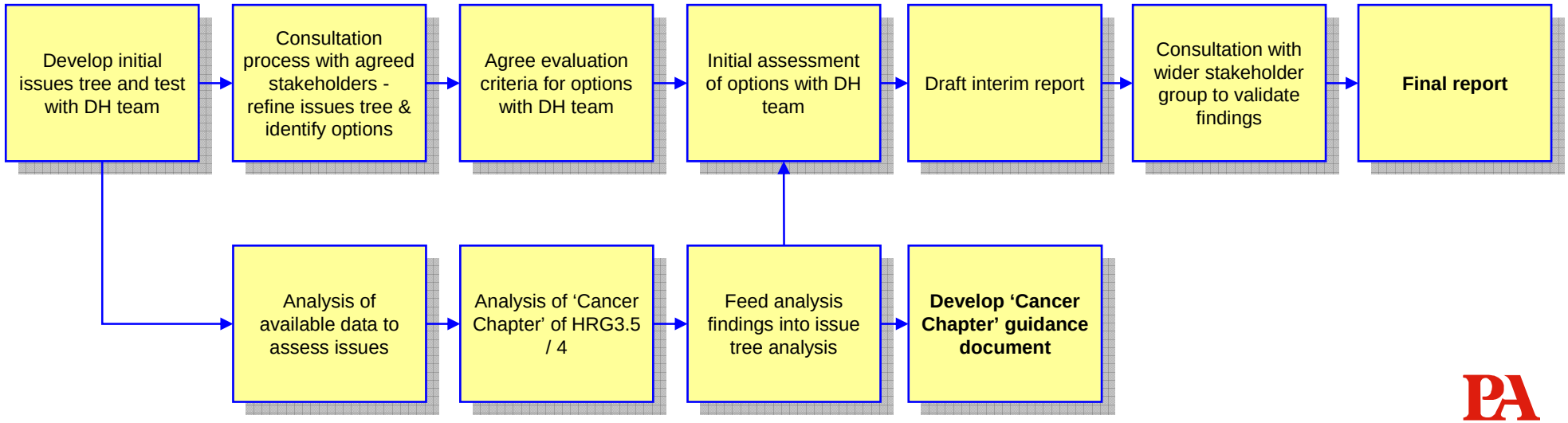
In addition to analysis to support the issue development, further analysis has also been carried out to provide the basis of a "Cancer Chapter" guidance document to provide high level guidance to the NHS on making PbR work for cancer.

The diagrams below show the key steps that have been undertaken in order to produce this interim report.

In the second stage of the process, the draft findings have been further validated in two regional workshops to test out the completeness of the issues identified and the assessment of the options. A list of participants in each workshop is given in Appendix B.

The validation workshops shaped solutions, but did not add significant issues.

Key steps – process overview



4. We have used a standard format to define and evaluate potential solutions for each of the options we have identified

We have used a standard format to define and evaluate potential solutions to each of the key issues we have identified.

The report contains a three page evaluation of each option:

- The first page defines the issue – containing:
  - A definition of the issue
  - A synopsis of the views of the stakeholders we have consulted
  - Our analytical findings to support these views - although in many cases our conclusion is that data we really want is not available
  - Our conclusion in respect to the issue and the need for further action.
- The second page identifies potential solutions:
  - Potential actions to resolve the issue are identified
  - Where appropriate options exist, these are defined
  - Each action/option are assessed using a set of evaluation criteria that has been agreed with the Client Team.
- The third pages sets out our recommendation for action to address the issue.

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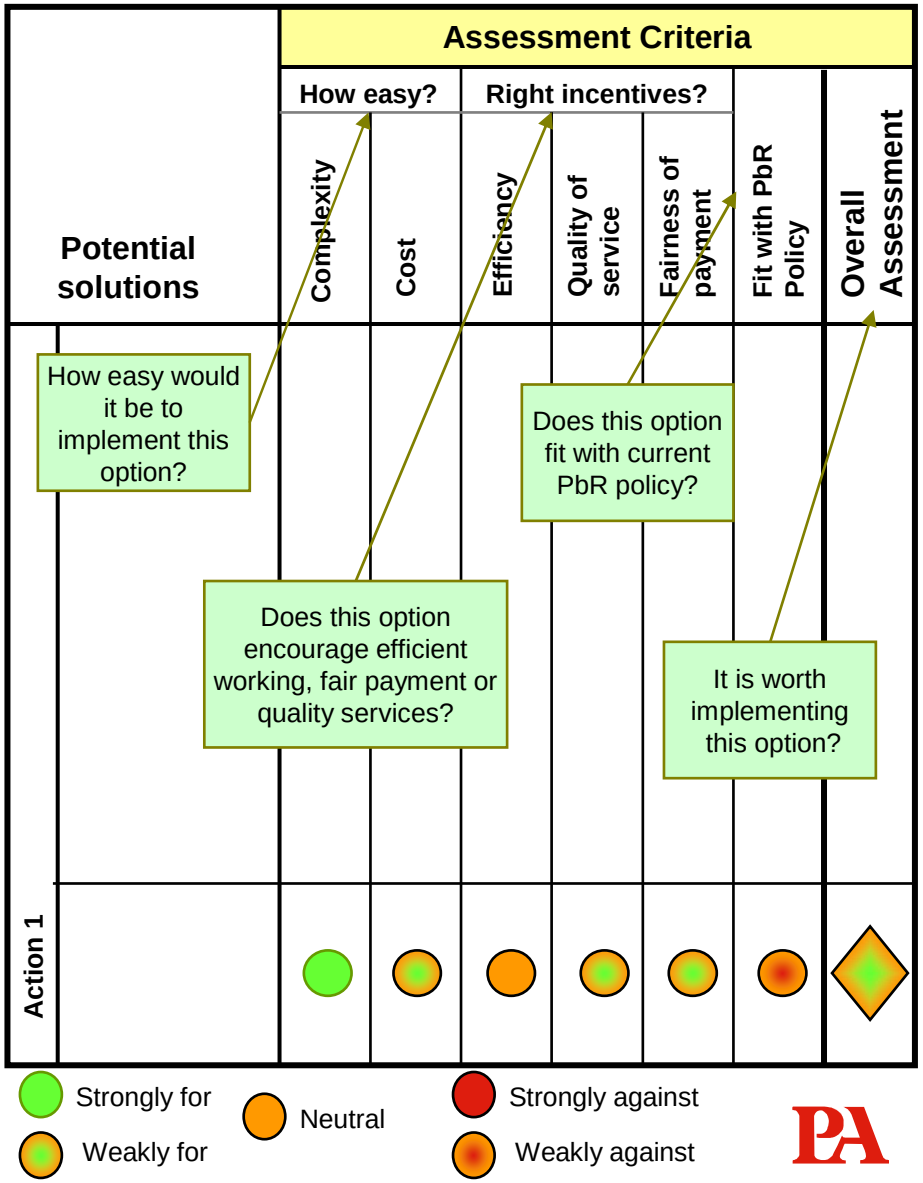


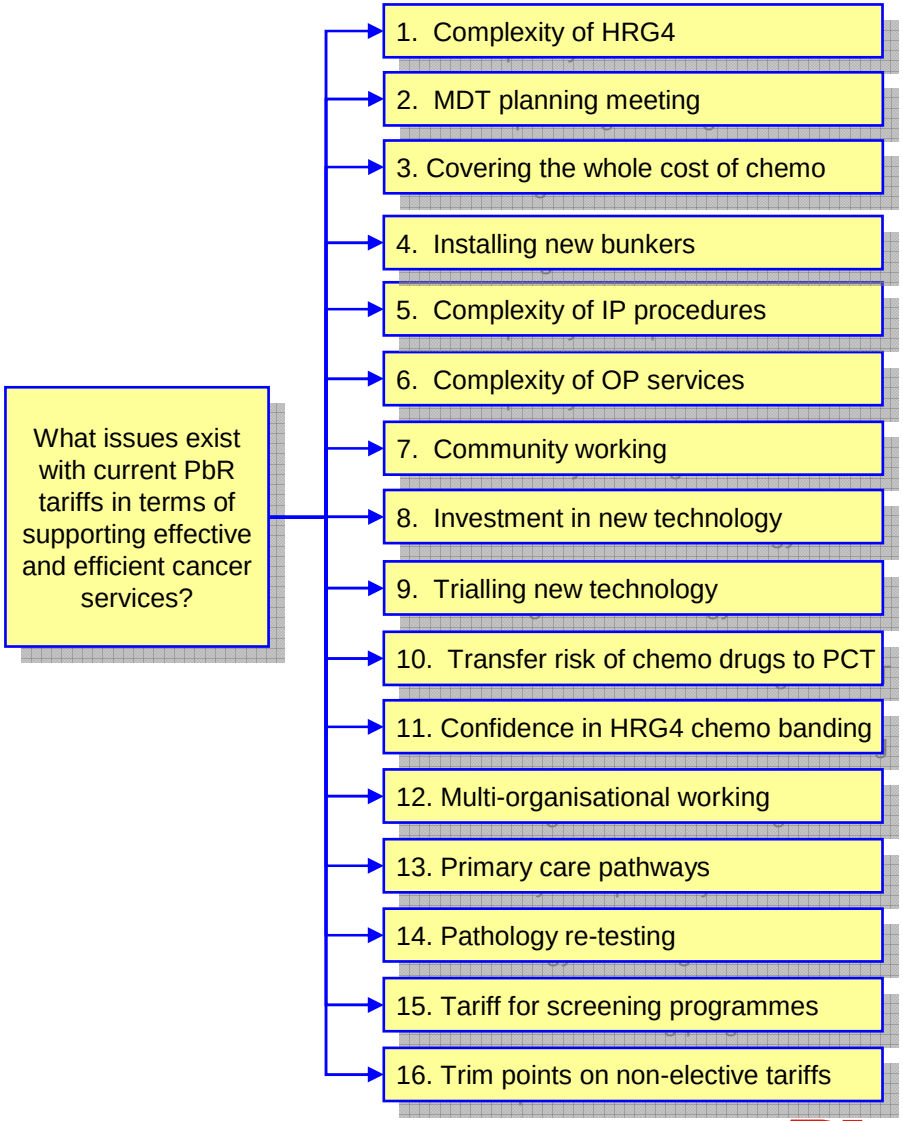
5. We have identified 16 issues where we recommend action is taken to ensure that PbR effectively supports future cancer services

Our starting point for our assessment was to develop a draft issue tree that identified four key questions:

- What issues currently exist with PbR in respect to effectively supporting cancer services
- Which can be addressed now by providing additional guidance
- Which will be addressed by the introduction of HRG4
- Which will need additional action over and above the introduction of HRG4.

As we have carried out the consultation, the issue tree has been revised and refined. Through the interview process, we identified fourteen issues where action is needed. A further two issues were identified at the London Validation workshop and these have been added. Overall there has been a very high level of consensus about these issues with all the people we have interviewed; however not all issues have the same level of importance and this has been addressed in our recommendations.

In general we have found that no issue is completely resolved by the publication of guidance or HRG4 alone – though often both will help. Thus we have not grouped our recommendations around the four key questions, as originally anticipated. Some issue we do not consider to The issue tree identifying the 16 issues is shown opposite. Analysis of each follows.



5.1. The new OPCS v4.4 codes are difficult for coders, resulting in poor quality coding that will undermine HRG4 – *definition of the issue*

Issue description: New OPCS v4.4 codes have recently been introduced (in use since April 2007). The level of awareness of clinicians of the new codes is low in the Trusts we consulted and their coders are struggling to apply them correctly. Since these were expected to be top quartile Trusts in terms of cancer, our expectation is that this issue is widespread across in the NHS.

Consultation indicates that Trusts are struggling with the complexity of the new codes

Most Trusts are aware of OPCS version 4.4, though familiarity diminishes sharply beyond the coding managers and finance department, with notable exceptions.

Some of those consulted felt there are simply too many new codes and questioned whether so many codes are needed.

Most Trusts we consulted are not clear about how to use the new codes. There is a perception of a lack of guidance and that what exists is often too complex to understand. This leads to confusion, potential miscoding and inconsistencies between Trusts' use of codes, resulting in poor data quality.

There is a perception that no training is available for coders. In fact CfH offers training. One trust has taken full advantage of available training and has a licensed trainer and auditor of coding standards. This was the exception.

The level of capability to code cancer effectively is worrying in the context of ensuring effective incentives. Whilst there is a professional qualification for coders, this has a low profile.

Analytical evidence

There were few responses to the reference cost collection exercise submitted in June 2007 and the responses analysed are somewhat inconsistent. This may indicate a lack of understanding about coding cancer activity to the new v4.4 OPCS codes, or alternatively that it is seen as tomorrow's problem.

What is clear from the evidence available is that an annual cycle of review of coding by the nationally is unlikely to be sufficient to drive up the quality of coding to a level where PbR will work in the way intended – in terms of perceived incentives.

The issue is particularly acute for radiotherapy and chemotherapy, where the codes are new and complex. E-prescribing systems are key to chemo coding.

Conclusion

This is a crucial issue for many stakeholders. Evidence from the analysis work confirms that most stakeholders are not yet proficient in coding using the new codes. There is a significant risk that this proficiency will not be developed in time for effective introduction of HRG4 and it will not work as intended.

Unless action is taken to drive up quality of coding, it is likely that adverse perceptions will persist, even after issues have in theory been resolved through HRG4.

5.1. The new OPCS v4.4 codes are difficult for coders, resulting in poor quality coding that will undermine HRG4 – *solution appraisal*

There is a package of actions that could be taken to improve coding:

Action 1 – Develop communication strategy

- Current guidance is very complex. Higher level guidance, using a mix of media like web ad posters, would help increase understanding. Include 'top tips on common mistakes

Action 2 – e-prescribing for Chemotherapy

- Raise profile of importance of investing in e-prescribing systems now – to make coding doable. Also promote the use of radiotherapy recording and verification systems to code automatically

Action 3 – Promote CFH training

- Currently, there is low awareness of available training. Promote this training to Trusts.

Action 4 – Monthly review and feedback on coding

- Current annual review of coding is too slow to grow capability. Introduction of a monthly assessment of coding centrally and feedback on errors would provide a mechanism to reduce errors and build review capability. A key part of this would be to get interaction between coders and clinicians and to involve the cancer networks in resolving problems.

Action 5 – Raise profile of coders and their status

- Look at mechanisms that would raise the profile and perceived value of coders and raise the visibility of the need to highly qualified coders with Trust Boards. Raising the profile of current professional qualifications and recognising the value in these in grading may be a starting point for this.

Potential solutions		Assessment Criteria						
		How easy?		Right incentives?				
		Complexity	Cost	Efficiency	Quality of service	Fairness of payment	Fit with PbR Policy	Overall Assessment
Action 1	Develop communication strategy							
Action 2	Raise profile of need to invest in e-prescribing systems now							
Action 3	Promote CFH training							
Action 4	Monthly review and feedback on coding							
Action 5	Raise profile and status of coders							

Strongly for · Weakly for · Neutral · Strongly against · Weakly against

5.1. Recommendation – Improve the quality of coding of cancer work

Five actions are identified to help improve coding. All are desirable:

- **Develop communication strategy for higher level simple guidance to increase understanding**
  Action Lead: Information Centre
  Action Input: PbR, CAT, CfH
- **Raise profile of need to invest in e-prescribing now**
  Action Lead: CAT
  Action Input: PbR, CfH, Information Centre
- **Promote CfH training**
  Action Lead: CfH
  Action Input: PbR, CAT, Information Centre
- **Monthly review and feedback on coding**
  Action Lead: Information Centre
  Action Input: PbR
- **Raise profile and status of coders**
  Action Lead: DH Workforce
  Action Input: PbR, CAT

This issue was given very high priority by the stakeholders consulted.

5.2. PbR does not incentivise the use of MDT planning meetings – *definition of the issue*

Issue description: MDT meetings for planning and monitoring of care are required as part of standard cancer pathways. These sessions may take part in either the OP or IP part of the cancer pathway. The cost of these sessions is currently wrapped into either OP or IP tariffs and is not separately identified. The perception is that the costs are not covered by tariff.

There is a strong perception amongst stakeholders that the cost of MDTs are not cover by tariff.

There is a lack of clarity about where MDT costs are allocated within reference costs and also inconsistency over whether MDTs are recognised as part of programmed activity. There is a significant administration cost for MDPs and it is not clear where this is collected in reference costs. Overall this leads to perception that MDTs are not paid for and this does not incentivise attendance.

All of the Trusts we consulted say they are using MDTs to comply with Improving Outcomes Guidance (IOG) and Peer Review assessment, but feel aggrieved that PbR is not visibly recompensing the effort involved.

For the MDT meetings that happen in the OP part of the pathway, the cost of MDTs is just another dimension of complexity of cancer OP that is covered by issue 4.3. Whilst a separate MDT tariff could be introduced, there is less benefit than from a specialty cancer OP tariff. There was significant support for a separate MDT tariff, but also recognition that a cancer OP tariff would help most cases. Specialist MDTs in tertiary centres may be a special case, as they provide services for patients they do not treat.

Analysis indicates extremely wide spread of MDT cost per patient

Review of cost analysis returned to the Cancer Action Team by a sample of Trusts indicate a cost per patient of MDTs ranging from £13 to £490 – albeit with some inconsistencies in costing methods. These costs were not collected on a common methodology and it may be, if repeated under such, that the variation would be much less. On current evidence, a separate tariff for MDTs based on average reference costs is unlikely to be equitable to all cancer providers; however this needs to be proved through proper benchmarking.

Clarity of where costs are allocated within reference costs would be helpful. Guidance to allocate all MDT costs to outpatients would simplify the issue and help address perception issues.

Conclusion

There is a perception in the NHS that tariff does not fairly recompense the cost of MDT meetings, but there is little evidence to support this for IP activity – if reference costs were to be done properly.

The very big variance of MDT costs across patients and specialties indicates that separate MDT tariff is unlikely to be fair to all in any event – but further benchmarking needed.

However, it is important to address the perception of unfairness.

5.2. PbR does not incentivise the use of MDT planning meetings – *solution appraisal*

MDTs occur in both OP setting and as part of an IP spell. These are considered as separate issues:

Action 1 – Incentivise OP MDTs through fair payment

- **Option A – Separate cancer OP tariff – as issue 4.2**
  Introduction of a separate cancer tariff, as per 4.2, allows OP tariff to fairly represent MDT costs. High variation in MDT costs on casemix would be spread across full OP cost and thus sensitivity of tariff to cancer casemix is unlikely to be significant. May not address IP MDT issue.
- **Option B – Introduce separate MDT tariff - all MDTs**
  This would involve separating out MDT costs and charging them to a separate tariff, regardless where in the pathway the MDT occurs. The disadvantage is that the very large spread in MDT costs raises concern whether tariff could ever be representative. Majority view from those consulted is against the option.

Action 2 – Guidance to allocate all MDT costs to OP

- **Option C – Do nothing**
  Leave providers to allocate costs between OP and IP activity as they see fit
- **Option D – Guidance to allocate all MDT costs to OP**
  Allocating all MDT costs to OP would create clarity and simplicity and address perception issues

Action 3 – Use contract to drive up MDT attendance

Once adverse incentives have been removed, commissioners should be encouraged to drive up attendance at MDTs above current 50% towards the full attendance intended by the guidance. This could be incentivised through use of a 'quality top up'.

	Potential solutions	Assessment Criteria						
		How easy?		Right incentives?				
		Complexity	Cost	Efficiency	Quality of service	Fairness of payment	Fit with PbR Policy	Overall Assessment
Action 1	**OP MDTs tariff Option A** Separate OP tariff as Issue 4.2							
Action 1	**Options B** Separate MDT tariff – all MDTs							
Action 2	**Allocation of all MDT costs to OP Option C** Do nothing							
Action 2	**Option D** Guidance							
Action 3	**Use contract to drive MDT attendance higher than 50%**							

Strongly for · Weakly for · Neutral · Strongly against · Weakly against

5.2. Recommendation – PbR does not incentivise MDT planning

We recommend Action 1 (Option A), Action 2 (Option C) and Action 3 are taken forward.

- **Separate cancer OP tariff – as issue 4.2**
  Action Lead: PbR
  Action Input: Information Centre
- **Guidance to allocate all MDT costs to OP**
  Action Lead: PbR
  Action Input: Information Centre, Cancer Networks
- **Use contract to drive up MDT attendance**
  Action Lead: CAT
  Action Input: Cancer Networks

On the available evidence, the spread of MDT costs make a separate MDT tariff of questionable value; however we would suggest that the benchmarking exercise be repeated with a clearer set of rules. This may change this view. In consultation, the majority were against a separate MDT tariff, but there were some advocates.

The introduction of a separate OP tariff for cancer would address the fairness issue, but not necessarily create a specific incentive. We think the balance of what we have heard is that, if payment is addressed through a cancer OP tariff, the incentive is best addressed through local commissioning levers. But we would suggest the issue is further reviewed once robust benchmarking is available.

5.3. Reference costs for HRG4 may not cover costs of associated drugs in a course of chemo treatment – *definition of the issue*

Issue description: There is a perception that under HRG4, the costs of non-chemo drugs that form part of a chemo patient's treatment are not reimbursed. This is because the OP event is replaced by payment for administering the chemo drug and the cost of the chemo drug.

Consultation indicates concern about coverage

The perception is held that HRG4 will only cover the cost of the chemotherapy drug, and will not pay for the cost of associated drugs.

Typically a patient may be prescribed other drugs to work with the cancer drugs – eg hormonal treatment, or anti-emetics. Providers are not clear how they get reimbursed for such drugs under the new scheme.

There is a perception that the money that will be reimbursed to a Trust under HRG4 will be less than that received for the same course of treatment for HRG3.5.

Providers are therefore concerned that HRG4 will not properly reimburse the cost of more complex drug regimes.

There is also a perception that HRG4 will not reimburse the costs of planning and configuring the drug treatment. However, since HRG4 introduces a tariff for this, this does not appear to be the case.

It was also clear that significant uncertainty exists across providers of what can be charged for – in particular whether an OP charge is made in addition to the charge for the cost of the drug and the charge for its administration. Clear guidance is needed on how it is intended to work.

As we understand the guidance, HRG4 introduces three payments for:

1. The cost of the drug
2. The first administration of the drug
3. Each subsequent administration

The first payment is expected to be higher and should include the cost of configuring the drug by pharmacists and planning the course of treatment.

We understand work is ongoing on the banding for drugs and the regimes within each band. Logically this problem should be addressed by including these associated drugs within the defined drug regimes.

It is also worth noting a concerning degree of variation in reference costs, indicating a lack of understanding as to how the HRG4 codes should be used. Cancer Networks pharmacists are a resource that could be used to help here.

Conclusion

HRG4 will cover the cost of chemo drugs themselves. However there is concern that other drugs that form part of the treatment plan will not be covered e.g. hormonal treatment given in parallel with chemo.

It is not clear whether there is intended still to be an OP event, or just an events to administer the chemo drug. It may be that the drug programmes included in the banding with cover this, but this is not clear at present.

Clarity on this issue will build confidence in the NHS that the system will be fair and fit for purpose.

5.3. Reference costs for HRG4 may not cover costs of associated drugs in a course of chemo treatment – *solution appraisal*

There are three potential options to address this issue:

Action 1 – Clarify how payment for associated drugs will be made

- **Option A – Do nothing**
  Do nothing and see how HRG4 banding works in practice.
- **Option B – Provide simple high level guidance**
  Clarify current intentions on this issue to the NHS through simple guidance, as soon as structure is available. It may just be a lack of understanding and that high level guidance will address the issue. There is significant inconsistency of practice at present and this needs to be addressed.
- **Option C – Expert working panel to validate**
  Use an expert working panel of front line practitioners to validate the HRG4 proposals. Use of such a group would allow proposals to be validated and help boost confidence. Inclusion of network pharmacists in the group is recommended.

	Potential solutions	Assessment Criteria						
		How easy?		Right incentives?				
		Complexity	Cost	Efficiency	Quality of service	Fairness of payment	Fit with PbR Policy	Overall Assessment
Action 1	Option A Do nothing							
Action 1	Option B Provide simple high level guidance							
Action 1	Option C Use expert working panel to validate							

Strongly for
Weakly for
Neutral
Strongly against
Weakly against

5.3. Recommendation - Reference costs for HRG4 may not cover costs associated in a course of chemo treatment

This issue reflects current lack of clarity about how Trusts get paid for associated drugs when no OP event occurs, as is the case with the proposed HRGs for chemo. There was a strong sense from stakeholders that current guidance was not adequate in this area.

We found broad consensus that HRG4 can resolve this issue, but it will not do so unless further clarity is achieved and consistency of practice achieved through stronger guidance.

Thus we recommend that Options B and C are taken forward:

- **Provide simple high level guidance**
  Action Lead: PbR Team
  Action Input: CAT, Cancer Networks
- **Expert working panel to validate**
  Action Lead: Information Centre
  Action Input: CAT, Cancer Networks

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5.4. Tariff does not address the wide variation in cost of installing new bunkers for radiotherapy – *definition of the issue*

Issue description: Tariff funds the average cost of installing radiotherapy bunkers, but this cost varies significantly depending on situation.

Tariff currently fails to incentivise good investment decisions. Understanding of clinicians and managers of how PbR funds investment is low.

Consultation indicates consensus that current arrangements are not satisfactory

Before PbR, bunkers were funded through local agreements with PCTs, charity donations, and subsidies from manufacturers. Although Trusts should included total costs in reference cost returns, indications are that costs are not robust.

The cost of a new bunker can range from £0.8m to £6m (cost of latest bunkers at Marsden = total £26m for 4). Where access is required in difficult locations, the cost of bunkers can totally dominate costs and make access uneconomic.

Some think that, as the cost of a bunker is so large, it should be considered as a business investment outside of tariff, and continue to be funded separately by the PCT. Their perception is that tariff could not possibly cover the total cost of a new bunker.

Whilst this indicates a lack of understanding how capital investment is funded by tariff, current arrangement do not incentivise Trusts to increase access.

Analytical evidence supports the view that a change to tariff is needed.

Studies suggest annualised infrastructure costs (Bunkers and LinAcs) make up between 1/3 to 2/3 of total RT costs (depending on utilisation), even for average cost bunkers. So cost of bunkers is highly significant even for average cost bunkers.

Reference costs show enormous variation of costs – ranging from £14 to 2,200. This results in a tariff of about £450. This indicates a lack of robustness of costing, as well as problems from investment costs.

Clearly at this level of cost, tariff is never going to recompense the variation in bunkers that we see.

The implication of this is that current arrangements do not create an fair tariff for the majority and do not address the problem of high cost bunkers.

Conclusion

Firstly, it would be sensible to increase understanding in the NHS frontline of how tariff funds investment – otherwise bad decisions are likely on future plans.

Secondly, if PbR is to effectively incentivise good investment decisions and support growth of capacity (which is urgently needed), tariff needs to be adjusted. Either bunkers need to be removed from tariff, or they need to be treated differently in tariff to create an economic tariff (that is not inflated by high cost bunkers), but does not prevent necessary investment on difficult sites.

5.4. Tariff does not address the wide variation in cost of installing new bunkers for radiotherapy – *solution appraisal*

There are two potential actions to address this issue:

Action 1 – Improve understanding

Issue simple guidance to help clinicians and managers understand how large investments are funded through PbR

Action 2 – Address the tariff issue

- **Option A – Do nothing**
  Do nothing – keep with average tariff including cost of bunkers. This option has two disadvantages:
  - Tariff will be set unnecessarily high, as it will be influenced by high cost bunkers
  - It will not solve the problem for Trusts where high cost bunkers are needed to provide access for patients.
- **Option B – Remove bunkers from tariff**
  Remove the cost of bunkers from tariff and fund them through local arrangements with commissioners. This has the disadvantage that it removes the principles of PbR driving investment decisions from all Trusts – instead of just a few with special needs.
- **Option C – Make bunker costs normative**
  Remove bunker cost from average tariff, but add back normative cost of bunkers (ie depreciation and PSD on normative costs of typical bunkers ~ £1m).
  This way tariff is fair for majority and will drive sensible investment decisions. Where special needs exist, providers will have to make special arrangements with commissioners to fund additional cost of access. Cancer Networks should provide the forum for this debate on an area basis to reach consensus on the best way to invest to provide access.

	Potential solutions	Assessment Criteria: How easy? Complexity	Cost	Right incentives? Efficiency	Quality of service	Fairness of payment	Fit with PbR Policy	Overall Assessment
Action 1	Provide guidance to clinicians & managers							
Action 2	**Options to address tariff**							
	Option A Do nothing							
	Option B Remove bunkers from tariff							
	Option C Make bunker component of tariff normative							

Strongly for · Weakly for · Neutral · Strongly against · Weakly against

5.4. Recommendation – Tariff does not address the wide variation in the cost of installing new bunkers for radiotherapy

We recommend Action 1 and Action 2 (Option C) are taken forward.

- **Improve understanding through guidance**
  Action Lead: Information Centre
  Action Input: PbR
- **Make bunker costs normative**
  Action Lead: PbR
  Action Input: Information Centre, CAT

In a situation where we need to nearly double capacity for radiotherapy, adverse incentives to invest are unhelpful. In our view, it would not be beneficial to remove the cost of bunkers from tariff completely, as some have advocated.

Maintaining investment cost in tariff is key to driving providers to make good investment decisions and should be retained. Tariff does not however need to address situations where the cost substantially exceeds the norm.

Costs of bunkers could be removed from reference costs used to calculate average tariff. A normative cost of bunkers would be added to this average in order to create the hybrid tariff. This means that tariff would fairly recompense the majority of providers and drive good investment decisions.

Where providers proposed more expensive bunkers, they would need to find a source of funding to cover the different – either from commissioners (as access was agreed to be necessary in the particular location) or alternative sources.

The PbR Team already have ongoing work on this issue. Our understanding is that these recommendations are consist with current thinking, so this recommendation serves to reinforce the importance of this work.

5.5. Tariff does not adequately recognise cancer service complexity for procedures – *definition of the issue*

Issue description: There is a perception from specialist cancer providers that specific high complexity procedures are not recognised in current tariff and these providers are losing significant revenue – that is not adequately addressed by the 'top-up' process.

Stakeholders believe that they are financially disadvantaged for undertaking more complex work

There is a consensus that, under HRG3.5, the additional complexity of cancer pathways and co-morbidity is not recognised in tariff, and hence Trusts are being penalised financially for undertaking complex procedures.

There are examples where complex surgery can only be coded to a simple procedure code, and the Trust loses money accordingly

For example, a complex renal cancer procedure, estimated to cost approx £25k, can only be coded as a kidney removal, valued at £4k. Therefore the Trust makes a loss of £21k for every operation they undertake.

There are also over 200 forms of cancer. Current HRGs do not adequately cover the complexity of care that is needed. There is a strong view that there are key OPCS codes missing for some of the complex procedures.

Whilst volumes are low, costs are high for the more specialised providers.

Analytical evidence shows that complexity will be recognised in HRG4

HRG4 will add additional cancer specific IP tariffs. Taken together with the new complexity ranking HRG4 can potentially address the separation of the complex cases identified by those interviewed.

In theory HRG4 should recognise levels of co-morbidity and complications identified and therefore address the problem.

However this does not appear to be the case with the current version of the HRG4 grouper. We understand that further development work is ongoing on the grouper and the intention is that HRG4 should identify these high cost cases effectively.

Conclusion

In HRG3.5 the complexity of cancer care is not effectively recognised, thus there is a current problem.

HRG4 complexity rating should address this issue, although there is currently uncertainty about whether it will do so.

Providers need to be better informed how HRG4 will address this issue and the PbR team need to ensure that front line expertise is used to review the grouper.

5.5. Tariff does not adequately recognise cancer service complexity for procedures – *solution appraisal*

There are three potential actions to address this issue:

Action 1 – Further work to scope issue under HRG4

Currently it is difficult to assess if the new HRG4 grouper will address these issues. Further work is being done on the grouper.

- **Option A – Wait until HRG is implemented to test** Once current development work on the grouper is completed, communicate to cancer networks what it is intended to do, but take no other action.
- **Option B – Expert clinical panel to test coding** Clinical panel to review completeness of codes and to provide a help point for the service on complex coding issues for cancer
- **Option C – Expert panels to test HRG4 grouper** Information Centre led group, combining clinicians and coders with front line experience to test the HRG$ grouper and identify further changes needed to it.

Action 2 – Encourage SHAs to recognise issues in short term

- Collect and publish on PbR Team's public issues log a list of known procedures where HRG3.5 delivers significant under recovery of costs - making SHAs aware that these are genuine provider problems to consider in managing their local health economies.

Action 3 – Simple guidance on how HRG4 helps

- Provide simple guidance on how HRG4 is intended to overcome this issue. The Cancer Chapter is first stage of this.

	Potential solutions	Assessment Criteria						
		How easy?		Right incentives?				
		Complexity	Cost	Efficiency	Quality of service	Fairness of payment	Fit with PbR Policy	Overall Assessment
Action 1	**Scope issue under HRG4** **Option A** Wait for HRG4							
Action 1	**Option B** Expert Coding Panel to test HRG4							
Action 1	**Option C** Expert Panel for HRG4 grouper							
Action 2	**Encourage SHAs to recognise issues**							
Action 3	**Simple guidance on how HRG4 helps**							

Strongly for · Weakly for · Neutral · Strongly against · Weakly against

5.5 Recommendation – Tariff does not adequately recognise cancer service complexity for procedures

We recommend Action 1 (Options B & C) and Actions 2 and 3 are taken forward.

- **Expert clinical panel to test coding**
  Action Lead: CAT
  Action Input: PbR
- **Expert panels to test HRG4 grouper**
  Action Lead: Information Centre
  Action Input: PbR, CfH
- **Encourage SHAs to recognise issues in short term**
  Action Lead: CAT
  Action Input: Information Centre, Cancer Networks
- **Simple guidance on how HRG4 helps**
  Action Lead: Information Centre
  Action *Input:* PbR, CAT, Cancer Networks

Undoubtedly there are currently examples under HRG3.5 where Trusts are losing significant sums on particular spells. In the short term, problems may well exist and commissioners are required to use tariff. However SHAs should be encouraged to recognise these special cases in actions taken to manage their local health economy. HRG4's complexity rating provides the potential solution, but work is still ongoing on the grouper and it doesn't yet solve all these issues. Practical expert panels are really needed to test the structure and the grouper.

5.6. Tariff does not adequately cover complexity of cancer outpatient services – *definition of the issue*

Issue description: OP appointments for cancer patients are more complex than for non-cancer patients – they require more multi-disciplinary staff and diagnostics, including peer review of tests. Since OP tariff is currently by specialty, cancer work is effectively 'averaged down' by the balance of simpler work. Thus the perception is that current OP tariff does not adequately cover the additional costs for cancer patients.

Consultation indicates consensus that current tariff does not cover the cost of cancer OPs.

We found consensus that cancer activity is inherently more complex than average OP activity, for example:

- The requirement for Multi Disciplinary Assessment (MDA) for 1st OP appointments
- Multiple and expensive diagnostic tests are often required.
- Higher level of specialist nursing and support services are typical
- Support to patients is a major issue for complex follow on care – coping with the condition long term.

We found consensus that current tariff does not adequately cover OP services for cancer patients. One Trust estimates £40k loss on OP tariffs in the first three months of the financial year on this basis.

However we also found that there is still little understanding of the real costs of a cancer OP, nor of how HRG4 may address this issue.

Analytical evidence shows that HRG4 will help address this issue, but that we cannot be clear to what extent.

The current rules under HRG3.5 allow an additional 50% of outpatient tariff to be charged where a second consultant is involved in an OP. Most stakeholders consulted were not aware of this.

Under HRG4 there is potential for a tariff for MDAs – though this is expected to be at specialty level. HRG4 also un-bundles a number of OP procedures and diagnostics, which should help to address the complexity issue. There is also potential for a tariff for telephone consultations with patients.

Thus the situation under HRG4 should be better than under current tariff. However it has been difficult to identify and cost cancer outpatient activity because coders are not required to enter diagnosis information. The view we have heard is that whilst HRG4 improves things, it will not solve the problem for cancer OP services. It is also questionable whether it will prove practical to get good reference costs for all these unbundled bits of OP activity.

Conclusion

The perception is that current tariffs do not adequately cover the cost of cancer OP services. Further work is needed to demonstrate if fair and adequate payment will result from HRG4. It will be better, but indications are that HRG4, as currently envisaged, will not solve the problem.

We found significant support for the concept of a separate cancer OP tariff, as a longer term solution.

5.6. Tariff does not adequately cover complexity of cancer outpatient services– *solution appraisal*

There are two potential actions to address this issue:

Action 1 – Benchmark to test reality of current issue

- Under HRG3.5 Trusts can charge 1.5 times tariff for MDAs. Perception is that this does not cover costs, but this is not evidence based. Benchmarking is likely to reduce perceived injustice. It would also identify whether a separate tariff was really needed in every specialty – it is likely that be only a few are relevant

Action 2 – Introduce cancer specific tariff for OP

HRG4 will potentially help this issue, but there is a view that it will not cover the cost of specialist nurses etc. This argues for a separate cancer tariff for each speciality.

- **Option A – Do nothing, assume HRG4 will resolve.** Situation under HRG4 will be improved if MDA, telephone consultation, and OP procedure tariffs are introduced, but this may not fully address the issue.
- **Option B – Average OP tariff for cancer/specialty** Longer term, separate OP tariff using average reference costs for cancer in each specialty. Would require OP diagnostic coding to separate cancer from benign activity. OP Clinics are often mixed (cancer and benign), so treatment function is not sufficient. Disadvantage is use of diagnostic codes is contrary to PbR policy. Longer term, this would be fuller solution.
- **Option C – Normative OP tariff for cancer/specialty** As for option B, but based on normative costing. This is a lower risk option as it doesn't require all Trusts to be robust in diagnostic coding. However it is still beyond current PbR policy in respect to diagnostic codes. Has added advantage over B to align tariff to good, rather than average practice. Only in key specialties though.

	Potential solutions	Assessment Criteria						
		How easy?		Right incentives?				
		Complexity	Cost	Efficiency	Quality of service	Fairness of payment	Fit with PbR Policy	Overall Assessment
Action 1	**Benchmark to test realist of current issues**							
Action 2	**Cancer specific OP tariff** **Option A** Assume HRG4 will resolve							
Action 2	**Option B** Average OP tariff in each specialty							
Action 2	**Option C** Normative OP tariff in each specialty							

Strongly for · Weakly for · Neutral · Strongly against · Weakly against

5.6. Recommendation – Tariff does not adequately cover complexity of cancer outpatient services

Action 1 and Action 2 (option B or C) are recommended:

- **Benchmarking to scale issue and identify key specialties where action is needed**
  Action Lead: PbR
  Action Input: CAT
- **OP tariff for cancer in appropriate specialties (either based on average or normalised reference costs)**
  Action Lead: PbR
  Action Input: CAT, Information Centre, CfH

HRG4 should sort payment issues for procedures carried out for non-admitted patients – through unbundling; however it doesn't solve the costs arising from the multi-disciplinary nature of cancer outpatient activity.

Whilst there are currently options for this to be negotiated locally; we have heard a broad consensus in favour of a separate outpatient tariff for cancer in each speciality, but a recognition that it may not be needed in every specialty – depending on the outcome of benchmarking work. We have heard strong support for such a tariff to be set normatively.

We have also heard strong support for a normative costing approach to tariff setting in this area.

The key problem is in separating cancer activity. Use of diagnostic codes is the only apparent solution, but their use is contrary to current PbR policy.

5.7. PbR does not incentivise transfer of simple OP work into the community – *definition of the issue*

Issue description: Cancer strategy is for PCTs to move simple follow-up activity into the community. However, as we remove simple activity from outpatient activity in Trusts, the differential between the average specialty tariff and cost of the cancer services remaining in acute care increases.

There is a significant adverse incentive for Trusts to let go of simple work.

Consultation indicates transfer of work into the community is an issue to be addressed

Cancer strategy is encouraging PCTs to move simple follow-up interactions with patients into the community. This is better for patients as it provides care closer to home and will be cheaper than in attending acute care.

PCTs consulted were keen to do this, but struggle to gain the cooperation of acute care to make it work.

There are incentives for GPs though practice based commissioning to develop these pathways. Savings in budget are reinvested to enhance patient care in the practices and community, or returned to the PCT.

However there are disincentives for Trusts to co-operate with those pathways, because it will mean the loss of simple money making activity from their casemix. Since tariff is based on average casemix across the whole specialty, until every Trust has had simple work removed and a 3 year time lag, tariff does not reflect the change.

Current situation acts as a blocker to change.

Analytical evidence

The arguments presented by Trusts are logically compelling, due to the structure of the OP tariff. Without the use of OP diagnostic codes to enable segmentation of OP activity, it is not possible to demonstrate the impact quantitatively through currently available data.

It would be relatively straightforward to work with a control group of Trusts – who were prepared to use OP diagnostic coding – to analyse the actual impact of the removal of simple activity on their overall cost base.

This issue occurs in other areas apart from cancer; though our perception is that it is a bigger issue in cancer as transfer makes a more significant difference to casemix than in other areas.

Conclusion

There are currently adverse incentives on Trusts to cooperate with best practice initiatives to move simple activity from acute care into the community.

Trusts have a genuine grievance; however in the longer term – once simple work has been removed from all Trusts, tariff will eventually adjust to the new casemix. However there is a transitional period when the Trusts are out of pocket.

5.7. PbR does not incentivise transfer of simple work into the community – *solution appraisal*

There are three potential actions to address this issue:

Action 1 – Benchmarking data analysis

- This is currently a 'data free zone', so perception is that removal of simple work (e.g. breast follow-up care, psa, and bladder monitoring), will increase the financial loss from cancer OP services. Benchmarking analysis with a control group of Trusts would scope financial issues with more confidence.

Action 2 – Locally negotiate transitional arrangements, supported by an indicative tariff

- Since it takes at least 3 years for tariff to adjust to a change in complexity of the activity in OP tariff, Trusts have an incentive not to co-operate with local initiatives to move work to the community. Commissioners should be encouraged to recognise this by making local transitional 'top-up' payments to Trusts who co-operate in programmes that result in increased complexity of casemix. A centrally defined indicative tariff reflecting the expected casemix change would be helpful.

Action 3 – Use the NHS contract effectively to reinforce new pathways

- In combination with Action 2, commissioners should be encouraged to contract on the basis of agreed pathways, as envisaged by the NHS contract, and to use prior approval mechanisms to ensure providers only divert from pathways where there is a genuine clinical need.

	Potential solutions	Assessment Criteria						
		How easy?		Right incentives?				
		Complexity	Cost	Efficiency	Quality of service	Fairness of payment	Fit with PbR Policy	Overall Assessment
Action 1	Benchmarking data analysis							
Action 2	Locally negotiate transitional arrangements – for medium term, provide an indicative tariff							
Action 3	Use the NHS contract effectively to reinforce new pathways							

Strongly for · Weakly for · Neutral · Strongly against · Weakly against

5.7. Recommendation – PbR does not incentivise transfer of simple work into the community

We do not see this as a predominately a PbR results issue. The problem arises from the time it takes tariff to adjust to new practices, creating an adverse incentive for Trusts to release simple work into the community.

However, we recommend that all three actions identified should be taken forward:

- **Benchmarking data analysis**
  Action Lead: CAT
  Action Input: PbR, Information Centre, CfH
  Work with a control group of Trusts to identify real impact in financial terms of such a transfer, to benchmark the actual position.
- **Locally negotiate transitional arrangements, supported by an indicative tariff**
  Action Lead: CAT
  Action Input: PbR, Cancer Networks
  Promote PCT making local transitional payments to Trusts, to compensate them for losses. Guidance could be given nationally on indicative tariff
- **Use the NHS contract effectively to reinforce new pathways**
  Action Lead: CAT
  Action Input: Cancer Networks
  This is an issue for strengthening commissioning and the Cancer Networks can play a significant role in this.

5.8. Tariff does not incentivise investment in new technology or treatment that enhances patient outcomes – *definition of the issue*

Issue description: Tariff does not currently incentivise providers to invest as early adopters in new technology or treatment that improves patient outcomes. Since tariff is based on average reference costs, it is heavily weighted to those using legacy systems and a provider will not recover the increased costs from the investment until a significant period (~ 3 years) after the majority of Trusts are using the new technology.

Consultation indicates that there is little incentive to invest in new technology or treatments, despite improved patient outcomes

The initial investment costs, and the running costs of new radiotherapy technology is higher than the average. As tariff represents the average retrospective cost, this enhanced investment is not recognised until the majority of Trusts take it up, which can be several years after the technology is adopted.

Thus higher cost technology, despite delivering improved patient care, is not adequately rewarded by an average tariff. Trusts that do choose to invest lose money on their investment for a significant period.

This does not incentivise Trusts to adopt new technology.

Analytical evidence

HRG4 will do little to help this issue. New tariffs in radiology make some recognition of the means of delivery of treatment, but in general this reflects current technology and not new technology.

However this issue was discussed at some length at the Leeds validation workshop and a different perspective emerged. It was felt that the existing pass-through arrangements already offered a way through this, particularly if the role of the cancer networks were strengthened, such that pathways were agreed for the network.

Whilst some commissioners may currently make seemingly perverse decisions because of financial constraint, this is not necessarily a reason for changing the system itself.

Conclusion

PbR does not adequately cover the cost of investing in new higher cost technology that delivers a benefit to patient outcomes. Hence Trusts are discouraged from investing in equipment where they will lose money.

PbR needs to act as a lever to encourage investment in new technology which will improve patient care and deliver savings in the long term.

5.8. Tariff does not incentivise investment in new technology or treatment that enhances patient outcomes – *solution appraisal*

We have identified three options to address this issue:

Action 1 – Remove the current adverse incentive to invest in new technology that enhances patient care

- **Option A – Introduce new tariffs for new technology**
  Set separate tariffs for procedures dependant on the equipment used. Effectively recognise higher quality through a separate tariff. This would be complex to achieve.
- **Option B – Quality enhancement on top of tariff**
  Use the 'premier model' of quality payments to enhance recovery under tariff to cover extra cost of new technology. This would be locally negotiated but promoted through a national model and suggested uplift. Similar to approach used for new NICE guidance, but targeted to providers actually delivering enhancement. This payment could be based on an indicative normalised tariff for new process
- **Option C – Set standard tariff normatively to cover new technology**
  This route would revise tariff based on early adopter costs. It creates incentive for Trusts to invest, as they will get the income to cover increased costs. However it also creates an incentive not to invest, as the provider could make a greater margin by not doing so. It will represent poor value for commissioners, as they effectively pay in advance of delivery.
- **Option D – Status quo – relying on pass through**
  Continue to rely on pass through, but seek to have a common policy within a Cancer Network area and thus strengthen commissioning

	Potential solutions	Assessment Criteria: How easy? Complexity	Cost	Right incentives? Efficiency	Quality of service	Fairness of payment	Fit with PbR Policy	Overall Assessment
Action 1	Remove current disincentive Option A Introduce new tariffs for new technology							
	Option B Quality enhancement							
	Option C Set standard tariff normatively							
	Option D Continue to rely on pass through, but increase network input							

Strongly for · Weakly for · Neutral · Strongly against · Weakly against

5.8. Recommendation - Tariff does not incentivise investment in new technology or treatment that enhances patient care

In the short term we recommend Option D, but longer term a national framework for a quality enhancement of tariff could be helpful in drawing commissioners into realistic decisions.

- **Status quo – relying on pass through**
  Action Lead: CAT
  Action Input: Cancer Networks
- **Quality enhancement on top of tariff**
  Action Lead: PbR
  Action Input: CAT, Information Centre

Where new, more expensive technology, that enhances patient care, becomes available, PbR does not incentivise take-up. Tariff will not represent new cost base until the majority have adopted the new technology.

There was a strong view at the validation workshops that this was an area where the Cancer Network Area could take a leading role. Consensus is needed between providers and commissioners on pathways and this forum should be a basis for agreeing how the issue of pass through costs should be dealt with. Strengthening the role of the Cancer Networks in this area would be a first step.

In the longer term, a national framework for quality enhanced payments could provide a means of getting more consistent approach across networks.

It is also noted that Lord Darzi's 'Our NHS, Our Future' review aims to set new policy in funding for innovation and is expected to publish in Summer 2008.

5.9. PbR does not incentivise Trusts to invest in technology where the benefits are as yet unproven – *definition of the issue*

Issue description: Investment in new technology, where the benefits are not yet proven, is perceived to be discouraged. An individual provider has to take the risk that new technology will deliver the efficiency benefits claimed and will be value for money in terms of investment to income. Typically this is where a manufacturer claims new technology will deliver enhanced efficiency, but no-one wants to take the risk to be an early adopter.

Consultation indicates that there is little incentive for Trusts to risk being an early adopter of technology.

As new technology becomes available, which claims to enhance productivity, there is a benefit to the wider NHS of individual Trusts proving the effectiveness of the technology and publicising the results.

However, under current arrangements there is no financial incentive on a Trust to take the risk, nor to cover them if the technology proves unsuccessful.

Therefore Trusts are not encouraged to experiment with new technology.

Whilst this is perceived by many in the services as a PbR issue, it is highly questionable whether this should be directed towards PbR to resolve.

Risk pooling is needed to address this issue

One of the benefits of Foundation Trust status is that Trusts are able to accumulate surplus from tariff to invest in areas such as this. Within a relatively short period the majority of NHS providers will be Foundation Trusts and consequently this issue should be considered in that context.

It seems to us that it is a matter for the provider market to work together to address the risk sharing that is necessary to overcome the problem with testing expensive new technology.

Good negotiation should enable risk to be shared with manufacturers – it is in their interests to prove the performance of their technology.

Where this is not sufficient, then providers need to be encouraged to look at risk pooling partnerships.

Conclusion

A mechanism needs to be found to encourage risk sharing across providers, as the benefit to the system will be a reduction in tariff over time, as more efficient technology is taken up. However this is not an issue for PbR to solve.

5.9. PbR does not incentivise Trusts to invest in technology where the benefits are as yet unproven – *solution appraisal*

This not really PbR issue, but is a genuine issue for the overall financial NHS system.

There are two potential actions to address this issue:

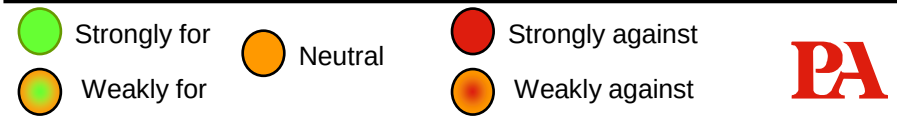
Action 1 – Create financial incentives for Trusts to be early adopters

- **Option A – Encourage commissioners to commission research**
  Underwriting of risk by PCT commissioners. Where the potential is for improved outcomes, this should be an issue that effective commissioners address. This requires commissioners to increase their capability to play a leading part in research – working with the Networks. This is possibly a longer term option, as it requires increased capabilities of commissioners to participate actively in research decisions. Where innovation is around efficiency, then providers already have an incentive to invest – they will benefit from a margin over tariff. In the longer term, this option appears most aligned to commissioning policy.
- **Option B – Central Funding tied to evaluation**
  Strong view that without central funding of evaluation of new technology, the incentives are not present to encourage rapid evaluation of innovation. Central funding of an early adopter would be tied to obligation to provide evaluation evidence for rest of NHS. This may well be needed in the short term

Action 2 – Promote innovation investment by FTs

- In a genuine market, providers would be expected to invest in innovation and FT surpluses are intended to fund investment.

	Potential solutions	Assessment Criteria: How easy? Complexity	Cost	Right incentives? Efficiency	Quality of service	Fairness of payment	Fit with PbR Policy	Overall Assessment
Action 1	**Create financial incentives for Trusts to be early adopters**							
	Option A – encourage commissioners to commission research							
	Option B Central funding tied to evaluation							
Action 2	**Promote innovation investment by FTs**							



5.9. Recommendation – PbR does not incentivise Trusts to invest in technology where the benefits are as yet unproven

This is not a PbR issue, but there is an issue about funding of innovation.

In the short term, it is likely that Department funding of initial evaluations will continue to be required. Thus Option B is required in the short term.

In the longer term the view from commissioners was that this should be a commissioning issue. Cancer network areas should get closer to the research agenda and be prepared to participate. This requires commissioners to be skilled up to commission trials –working closer with all parties including manufacturers.

Thus we recommend Option A as a longer term action.

- **Encourage commissioners to commission research**
  Action Lead: CAT
  Action Input: Cancer Networks

It is also noted that Lord Darzi's 'Our NHS, Our Future' review aims to set new policy in funding for innovation and is expected to publish in Summer 2008. It is hoped that this report will address the longer term issue on a national basis.

5.10. HRG4 moves the risk of cost of chemo drugs onto the PCTs - creating risk of financial instability – *definition of the issue*

Issue description: With introduction of the new chemo tariff in HRG4, PCTs will have to pay for the drugs used by their providers.

Whilst some PCTs already do this, many currently transfer the risk to providers through lump sum arrangements.

Consultation indicates the risk is shifting to PCTs

Chemotherapy drugs are currently excluded from tariff, and are paid for through local service agreements with PCTs. Some PCTs have been paying for drugs on a usage basis and some have been passing on the volume risk to their providers through a lump sum arrangement.

Trusts have found that rising drug costs are a major issue in cancer treatment. For example, the cost of high cost drugs has risen by 400% in three years in one Trust.

With the introduction of an individual tariff for chemo drugs in HRG4, PCTs will now have to pay for the actual usage of drugs. For those PCTs who had lump sum arrangements, this represents a major shift in demand management risk. Some still advocate that Trusts should share some of the risk, but this runs counter to the whole policy of PbR to pay providers for what is genuinely provided.

Analytical evidence

Where PCTs have not taken the volume risk on chemo drugs, they face a real challenge is effectively forecasting future demand and ensuring they budget robustly for the consequences. This is a particular issue in the context of the rapidly increasing drugs bill.

Visibility of this risk to those PCTs to ensure that they put resource into such forecasting early enough – and not just assume it is next year's problem – is a key issue for avoiding financial instability caused by the introduction of HRG4.

It will also be critical for PCTs to ensure that there demand management and contract management processes are effective in respect to chemo.

Conclusion

This is really a commissioning issue, not a PbR issue. The introduction of separate tariff for chemo drugs represents a major change in the balance of risk. For those PCTs who currently pass this risk onto providers, this will represent a real risk of financial instability for the PCT.

It is critical to ensure commissioners understand the risk, and put in place the appropriate forecasting and planning to manage the risk. Some national forecasting work by DH may be helpful.

5.10. HRG4 moves the risk of cost of chemo drugs onto the PCTs: risk of financial instability – *solution appraisal*

There is one potential action to address this issue:

Action 1 – Communicate issue to review profile

Ensure PCTs are aware of this issue and provide advice on the forecasting and planning they need to be doing to understand the risk prior to introduction of HRG4.

Potential solutions		Assessment Criteria						
		How easy?		Right incentives?				
		Complexity	Cost	Efficiency	Quality of service	Fairness of payment	Fit with PbR Policy	Overall Assessment
Action 1	Communicate issue to review profile							

Strongly for
Weakly for
Neutral
Strongly against
Weakly against

5.10. Recommendation – HRG4 moves the risk of cost of chemo drugs onto the PCTs, unless PCTs plan and budget effectively there is a risk of financial instability

This is not a PbR issue, but a consequence of PbR.
Many PCTs already fund chemo drugs on an incurred basis, but many are still passing the volume risk onto Trusts.

Under HRG4, all PCTs will carry this risk, which is an issue for commissioners who do not plan for this risk effectively.

This risk is worth highlighting to all PCTs to promote effective forecasting and planning.

We recommend that this issue is highlighted to all PCTs and that those, who still transfer the risk to providers, should dummy run the new system over the next year to ensure they understand their liabilities – Action 1.

- **Communicate issue to review profile**
  Action Lead: Information Centre
  Action Input: CAT, Cancer Networks

5.11. There is concern whether the banding structure for chemo drugs in HRG4 is fit for purpose – *definition of the issue*

Issue description: HRG4 introduces a large number of bands for chemo drugs.

There is an issue in striking the right balance between keeping the coding simple enough for coders to accurately code and the ability of bands to meet the needs of the wide range of available chemo drugs. There is concern that current banding does not achieve this balance.

There is also concern that the structure won't be flexible enough to cope with new drugs and experimental drug launches in real time as they happen.

Consultation indicates a range of views on banding

We have heard a range of views from 'too complicated to code' to 'we can't fit the range of drugs we use into this banding structure'.

Under HRG4, bands are grouped under about ten major blocks. Some Trusts have said there are too many regimes overall, and they are struggling to cope with the detail.

PCTs have problems in interpreting the guidance on chemo drugs, saying its complexity can render it meaningless. They would prefer simplification to three bands with an average tariff for each band.

Specialist cancer centres are at the opposite extreme, handling so many drugs that the banding is considered insufficient.

One Trust said the banding works well. New drugs would simply be 'slotted in'. However, this trust and others called for more frequent updates to the banding document.

Analytical evidence

Analysis has shown that there is a concerning variation in the allocation of chemotherapy activity to codes.

There is also a concerning variation in the assessment of drug costs for the different bands (ranging from £8 to £12,000 for some bands). This would indicate a need for better guidance for coding chemotherapy drugs.

It is recognised that the system is new and still being developed. However input from an expert panel of front line practitioners might be helpful in ensuring that the tariff will be useable by both DGHs and specialist cancer centres. At present there is not sign up at clinical level that the structure works in practice.

Reducing need for interpretation should be a key issue.

Conclusion

There are widely divergent views on the proposed HRG banding structure for chemo drugs. Some think it too complex, others do not think it sufficient for all chemo drugs. More frequent updates would seem to help capture new drugs.

Our conclusion is that this indicates a lack of understanding and confidence in how the new bands will work, and that this will undermine the introduction of HRG4, unless addressed.

5.11. There is concern whether the banding structure for chemo drugs in HRG4 is fit for purpose – *solution appraisal*

There are three potential options to address this issue:

Action 1 – Take action to improve front line confidence that banding structure is fit for purpose

- **Option A – Do nothing**
  Do nothing and wait to see if it works in practice once HRG4 is introduced.
- **Option B – Work with Trusts**
  Undertake focused work with cancer Trusts to prove viability of banding structure. Work with a control group combining both DGH and specialist cancer Trusts to test how it would work in practice.
- **Option C – Establish an expert working panel**
  Establish an expert working panel to test viability of banding structure and the frequency of updates to banding (ie whether quarterly instead of annual is needed). This is perhaps a simpler means of achieving the aims of Option B. However the panel needs to be made up of real expert front line coding and pharmacy practitioners dealing with the drugs day to day – rather than just clinical input.

	Potential solutions	Assessment Criteria						
		How easy?		Right incentives?				
		Complexity	Cost	Efficiency	Quality of service	Fairness of payment	Fit with PbR Policy	Overall Assessment
Action 1	**Option A** Do nothing							
Action 1	**Option B** Work with Trusts							
Action 1	**Option C** Establish an expert working panel							

Strongly for · Weakly for · Neutral · Strongly against · Weakly against

5.11. Recommendation – There is concern whether the banding structure in HRG4 is fit for purpose for chemo drugs

There is a lack of confidence that the HRG4 banding structure for chemo drugs is fit for purpose. However development work is still on going in this are. Measures that address confidence issues would be sensible.

We heard strong support for an Expert Working Panel that had the capability to validate the proposed scheme. This panel needs to comprise working level practitioners, both clinicians and pharmacists.

We therefore recommend Option C:

- **Establish an expert working panel**
  Action Lead: Information Centre
  Action Input: CAT, Cancer Networks, PbR

We understand that Chemotherapy Regimens Group is potentially doing work similar to this already, reporting to the Expert Working Panel for Cancer, which is due to report early in 2008. It is not clear whether this group's terms of reference cover all the issues raised here; however, if not, it may be practical to extend the remit of this group.

5.12. Trusts are losing money through tariff for multi-organisational working – *definition of the issue*

Issue description: There is a perception that Trusts cannot recoup their costs through multi-organisational working through tariff.

Stakeholders believe that they are failing to recoup their costs through multi-pathway working

The Cancer Action Team expressed concern that Trusts may not be accurately re-charging other organisations where outreach services were being provided.

However, on balance, the views we heard indicate that most Trusts have effective re-charging mechanisms and that these could be improved by better understanding the costs of the services they provide.

Separately, there does appear to be an issue when a patient is transferred within the pathway, e.g. a patient is referred to a tertiary provider for treatment and is then transferred back to the secondary provider for aftercare.

In this case, tariff is not sufficiently unbundled to reimburse the cost of after care for the secondary provider, as tariff is only paid to the provider where the procedure is recorded.

The main issues are thought to be in oncology.

Analytical evidence indicates that HRG4 may not resolve this issue.

HRG4 will provide unbundled codes that may better facilitate multi-organisational working. However this is only for chemotherapy, radiotherapy treatment and palliative care.

HRG4 will not resolve the issue where the patient IP 'spell' is divided between them.

Conclusion

The key issue is where the spell is carried out in a specialist centre and the patient is transferred back to secondary provider for recovery. The spell is recorded in the tertiary provider and payment follows the spell. The secondary provider has no mechanism to recover costs.

5.12. Trusts are losing money through tariff for multi-organisational working – *solution appraisal*

There are two options to address this issue:

Action 1 – Address perceived injustice for secondary providers where spell payment goes to tertiary provider.

- **Option A – Unbundle spells**
  Investigate unbundling of spells to all recovery payments to be claimed by the appropriate provider. This would address the current situation in respect to such spells, but is a complex solution. In the longer term unbundling is needed to give flexibility to support commissioned pathways.
- **Option B – Have a prime contractor per pathway**
  Promote tertiary providers to treat secondary care providers as sub-contractors for such recovery and pay them directly. This is a simpler overall, but more work for providers. It would incentivise tertiary providers to make best use of resources. It is also preferred from a commissioning point of view, as once a pathway is agreed, there would only be a single payment line.

  This option appears more aligned to a policy of commissioned pathways. The more payment is salami sliced, the more difficult clinical accountability and governance becomes across the pathway. Aligning the two makes it easier to create a pathway culture.

	Potential solutions	Assessment Criteria						
		How easy?		Right incentives?				
		Complexity	Cost	Efficiency	Quality of service	Fairness of payment	Fit with PbR Policy	Overall Assessment
Action 1	**Option A** Unbundle spells							
Action 1	**Option B** Have a prime contractor per pathway, but focused on an agreed commissioned pathway							

Strongly for
Weakly for
Neutral
Strongly against
Weakly against

5.12. Recommendation – Tariff, either 3.5 or 4, does not support multi-organisational pathways

The issue is one of making sure that there are not constraints to achieving effective multi-organisational pathways. Whilst this could be dealt with by unbundling tariff, this is a complex solution to a limited problem.

Three points were made in the validation workshops:

- Commissioning the pathway and getting buy-in from all providers is key to this
- Unbundled tariffs – at least indicative ones would be helpful to facilitate fair apportionment of cost
- Commissioners would prefer to receive one bill for a pathway – and get providers to work together

Thus we recommend Option B, but with Option A to be kept under review:

- **Have a prime provider per pathway**
  Action Lead: PbR Team
  Action Input: CAT, Cancer Networks

We understand that the PbR team already have a group, led by Ian Rutter, who are looking into the issues from multi-organisational pathways. This recommendation should feed into the work being done by that group.

5.13. Reimbursement for consultant services where part of the pathway has been moved into the community – *definition of the issue*

Issue description: Practice Based Commissioners need to be able to effectively retain consultant services to support parts of pathway moved into the community. Acute providers are concerned that they are not being paid for continued access to consultant's time once services have been moved into the community.

Consultation indicates patient ownership is an issue

There is a concern that by encouraging community working, there is a risk that patients will be 'lost in the system' unless a clinician takes ownership of the patient throughout their pathway.

Two types of pathways are developing:

- Where treatment (eg Herceptin) is delivered in the community, but the consultant retains ownership of the patient
- Where the pathway is owned and delivered in the community.

Whilst it appears that any consultant input is procured by primary care for the latter, PCTs are seeking to avoid paying for consultant input on the former. This is creating adverse incentives to the implementation of this type of pathway – which is beneficial to the patient and the system.

Analytical evidence

This is not primarily a PbR issue in our view.

Conclusion

This is not a PbR issue, but a consequence of multi-organisation pathways and the need to ensure clear accountability for clinical governance and patient safety.

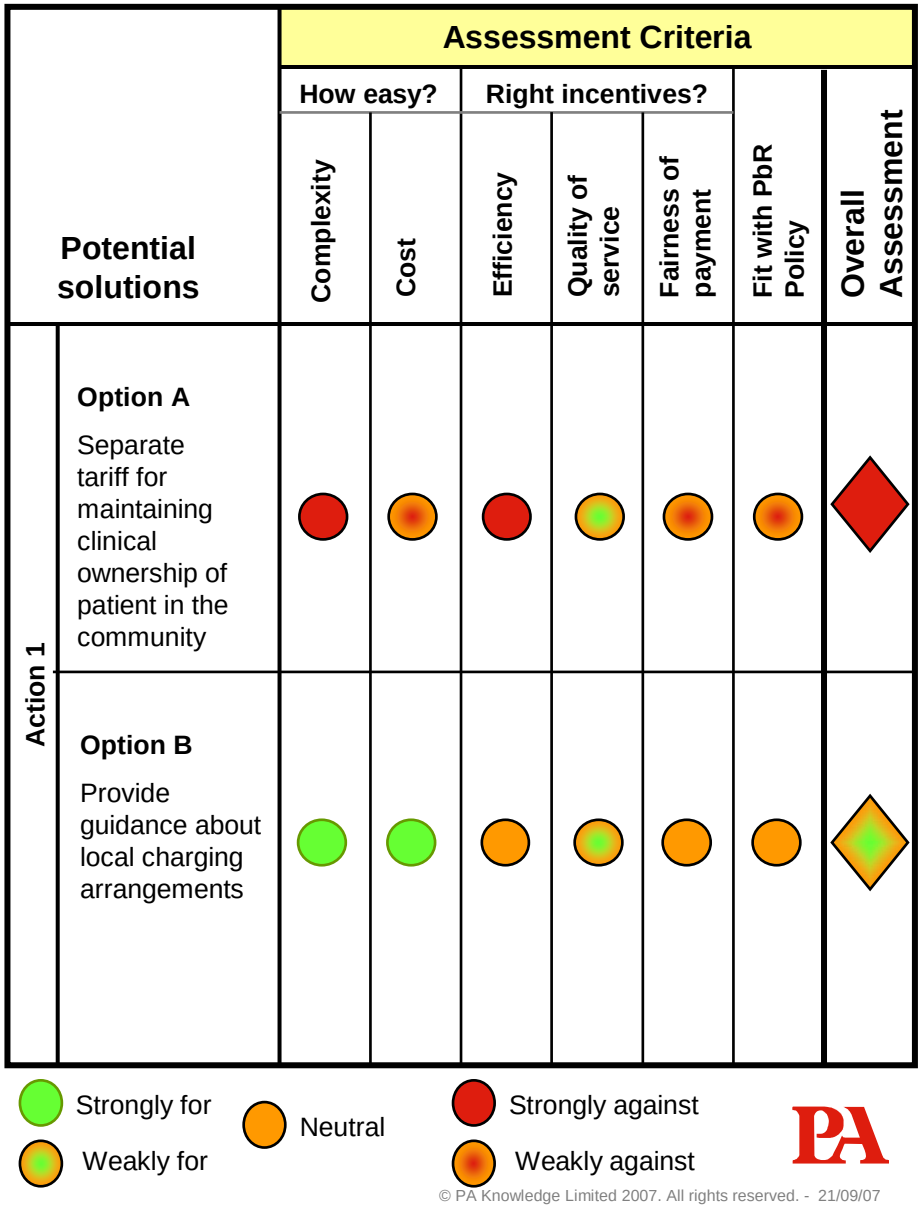
There is an issue about how consultants should be paid for providing services to the community. This could be via a tariff, but it is really a PBC issue for commissioners to effectively resource their pathways. Adverse incentives for a Trust to cooperate with PBC pathways need to be avoided.

5.13. Reimbursement for consultant services where part of the pathway has been moved into the community – *solution appraisal*

There are two possible options to address this issue:

Action 1 – Ensure no adverse incentives on Trusts who cooperate with PBC community working

- **Option A – Separate tariff for maintaining clinical ownership of patient in the community**
  This seems a very complex option and is counter to the principles envisages in PBC.
- **Option B - Provide guidance about local changing arrangements**
  This issue is really one for primary care to ensure it employs the specialist resources needed to support its pathways. Further action should not be necessary, although guidance may be helpful to make commissioners realise there is still a cost carried for providing consultant support where treatment is moved into the community.



5.13. Recommendation – Patient ownership becomes an issue if the pathway is fragmented

Practice based commissioners need to be able to effectively retain consultant services to support parts of the pathway moved into the community.

Our view is that this is not an issue for PbR, but one for commissioners. Commissioners need to make equitable arrangements to contract for the resources needed to support their pathways. Further action from the centre should not be necessary, though clear guidance would help local understanding of how the system is expected to work.

We recommend Option B is taken forward:

- **Provide guidance about local charging arrangements**
  Action Lead: DH/CAT guidance to commissioners
  Action Input: CAT, Cancer Networks

5.14. Tariff does not cover the cost of pathology re-tests and peer reviews – *definition of the issue*

Issue description: Re-testing and peer review is significantly higher in cancer services than the average activity in a specialty and consequently current OP tariffs do not compensate provider for carrying out this work.

Consultation indicates that this is an issue for providers of cancer care

Current Improving Outcomes Guidance dictates that some pathology results for cancer patients need to re-confirmed by a second provider.

The volume of pathology testing is high, and currently this cost is not covered by tariff – as the OP tariff is based on average activity in the whole specialty.

Therefore Trusts believe that they are being financially disadvantaged by paying for a service for which they are not adequately rewarded. This is particularly the case for highly specialised tests done by the cancer centres

However, this has not been consistently raised as an issue for Trusts. Therefore the financial loss being made may not be substantial.

One pathologist we consulted indicated that in his trust peer review was dealt with through the MDT meetings, hence even if there is an issue it is dealt with through proper costing of MDTs.

One issue of concern was that Trusts were not referring tests to other providers as they perceived they would not be paid – this is worrying if true.

Current tariff does not take into account the cost of re-testing and peer review

The current OP tariff, where the majority of the pathology tests occur, will not reimburse the Trust for the cost of secondary testing. What is not clear, and is not possible to analyse from currently available data, is whether this issue is significant.

It has not been raised by any of the Trusts we interviewed as a significant issue, but this may reflect lack of understanding of the scale of the issue – they are as 'data poor, as we are in this context.

Discussion at the Leeds validation workshop indicated that the real issue may arise about recharges for specialist testing done by the cancer centres. Whilst recharging is becoming established practice, disputes have arisen over the tests carried out – the specialist clinicians often wanting to do more extensive tests than required by the guidance. This does not seem to be a PbR issue.

Conclusion

Whilst this appears a genuine issue, it has not been one consistently raised by the Trusts we have consulted. It is a data poor area, thus it is difficult to ascertain the scale of this issue.

The introduction of a separate OP cancer tariff would address the payment issue, provided Trusts are consistent in their allocation in reference costs – which does not appear to be the case at present.

5.14. Tariff does not cover the cost of pathology re-tests and peer reviews – *solution appraisal*

There are three potential options to address this issue:

Action 1 – Benchmark what is happening in the Cancer Centres
The scale of the problem is unclear. Benchmarking with a set of the cancer centres would expose the scale of the issue and determine whether further action was really needed

Action 2 – Address the under-recovery of costs in pathology for cancer

- **Option A – Do nothing**
  It is not clear how big an issue this is and it does not appear to have a high priority with Trusts consulted.
- **Option B – Introduction of a separate cancer OP tariff – as proposed in issue 2**
  If a separate cancer tariff is introduced for OP, as per 4.2, the peer review and level of testing would be common to all providers under this tariff. This should thus effectively address this issue, even if significant. T

Action 3 – Provide guidance for allocation of tests in reference costs

Consistency of costing of pathology within tariff would lead to more confidence that these costs are being fairly reimbursed. Provision of guidance would be helpful in making practice more consistent across the NHS. This is particularly an issue where tests are carried out by a separate provider – ensuring reference costs represent net costs appears to be an issue

Potential solutions		Assessment Criteria						
		How easy?		Right incentives?				
		Complexity	Cost	Efficiency	Quality of service	Fairness of payment	Fit with PbR Policy	Overall Assessment
Action 2	Action 1 – Benchmark in the Cancer Centres							
Action 1	Action 2 – Address under recovery Option A Do nothing							
	Option B Introduction of a separate cancer OP specialty tariff							
Action 2	Action 2 Guidance to achieve consistency of costing							

Strongly for · Weakly for · Neutral · Strongly against · Weakly against

5.14. Recommendation – Tariff does not cover the cost of pathology re-tests

We have not identified any separate action that would be appropriate on this issue.

Our view is that this issue is that the introduction of a separate cancer OP tariff would significantly address this issue – as recommended in Issue 6.

The scale of the issue does not appear to be such that further action is necessary.

5.15. Tariff does not support effective screening programmes for cancer – *definition of the issue*

Issue description: Cancer screening programmes, eg breast and bowel, are currently funded through local lump sum arrangements. This does not incentive full coverage of the population and incentivises the provider to only provide what they can afford.

Consensus from the Leeds Validation workshop was that this should be a local commissioning decision

There was a mix of commissioners and providers at the Leeds workshop and there was a split of views on this issue, indicating that a single solution will not necessarily provide the best solution for all areas.

Some local communities were already moving to a local cost per patient basis, but others felt that a population based payment, with stronger key performance indicators, was a better approach. There was a strong view that the key issue was how to persuade patients to present for testing – an avoiding unplanned fluctuations in volumes.

There was consensus that this was better left as a local commissioning issue, than trying to impose a national solution through PbR.

This is clearly more in line with policy for commissioners to take accountability for priorities and indications are that stronger commissioners are already taking appropriate action.

This beings the issue down to a choice of working to strengthen commissioning, or impose a national solution through PbR.

Conclusion

On the presumption that screening programmes should have the widest coverage to achieve their objectives, it would be better to have a tariff for screening that would pay providers for what they actually deliver. This would create incentives on providers to increase the reach of the programmes.

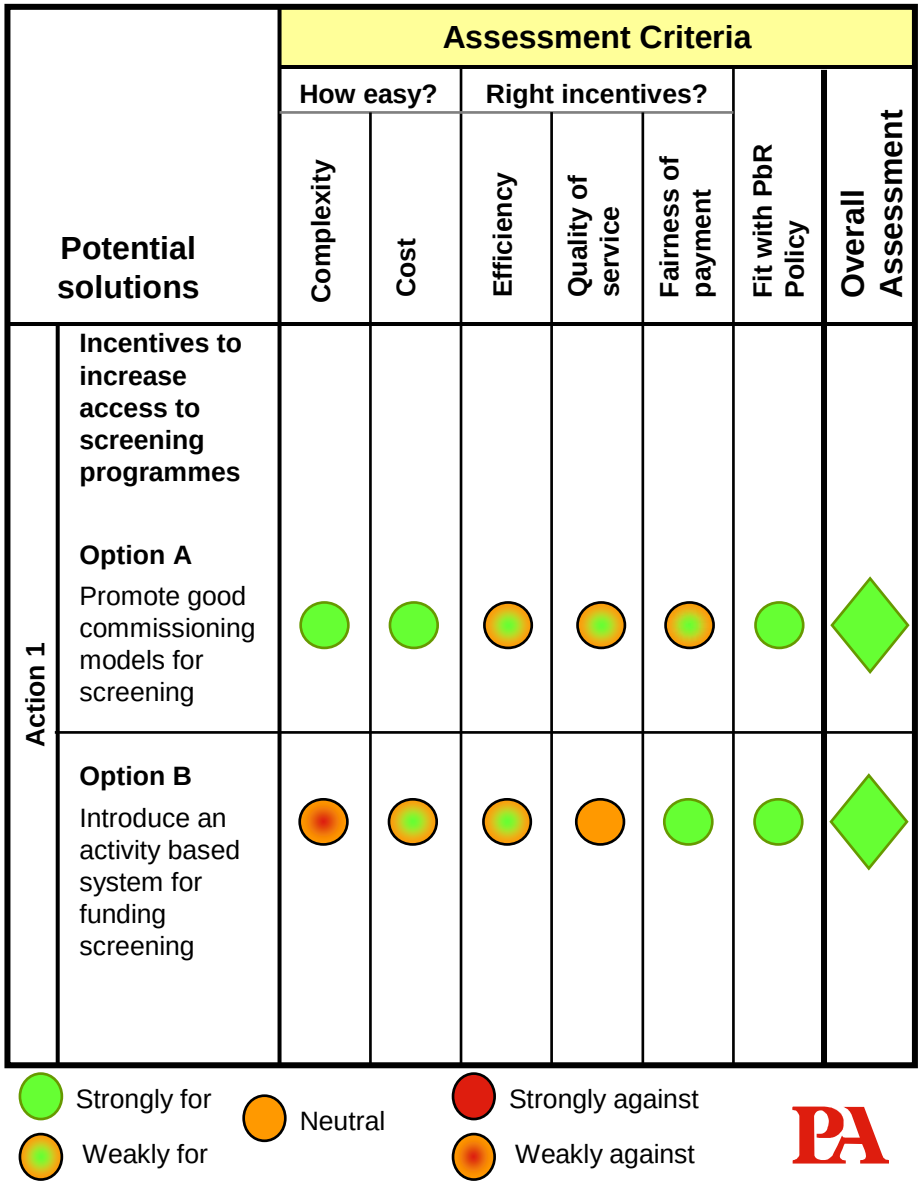
The key issue is whether this should be a national PbR issue or a local commissioning issue – reinforced through good practice guidance.

5.15. Tariff does not support effective screening programmes for cancer – *solution appraisal*

There is a choice between action to encourage commissioners to address this issue and a tariff that incentivises providers to drive up attendance at screening programmes

Action 1 – Incentives to increase access to screening programmes

- **Option A – Promote good commissioning models**
  Promote commissioners to address this issue creatively with their providers – promoting good practice examples of local practice, using both payment by volume and by population with appropriate KPIs
- **Option B – Introduce an activity based system for funding screening**
  Introduce an activity based system that incentivises providers to drive up activity levels in line with coverage required to match relevant population growth



5.15. Recommendation – Tariff does not support effective screening programmes for cancer

This was an issue raises at the London Validation Workshop, so limited consultation has been possible. The issue was discussed at length at the Leeds Validation Workshop, where there was strong commissioner representation.

There was a strong view in the room that a national tariff may be counter productive; however commissioners agreed that an activity based funding systems was needed.

Thus we recommend both Options are taken forward.

- **Promote good commissioning models**
  Action Lead: CAT
  Action Input: Cancer Networks
- **Introduce activity based funding system for screening**
  Action Lead: PbR team
  Action Input: CAT

5.16. Concern whether the trim point for non-elective cancer spells is set at the right level – *definition of the issue*

Issue description: Analysis of HES data indicates that some 25% of non-elective spells in cancer exceed the trim point for bed days, compared to 2% for elective. This may indicate that the trim point is not set at the optimal position. On the other hand, it may just be a reflection of co-morbidities of non-elective patients.

This issue was raised at the London workshop, but no evidence is currently available to indicate whether is represents a problem.

This was not an issue that had been identified by any of those consulted. The view at the Leeds Validation Workshop was that maybe this is what would be expected, given the casemix of patients presenting in non-elective pathways.

Excess over the trim point was not a concern for the providers or commissioners present at the workshop – if the trim point was set too high, this was felt to be more of a problem, as excess length of stay would be hidden

It was felt that the result may be more of an indicator of a pathway problem, rather than a PbR problem. Only more detailed analysis would take this forward, by identifying the casemix where the excess occurs.

The non-elective patients may well be those at the end of life and that this is the explanation for the extended stays.

Commissioners need to keep an eye on this situation to ensure that excess bed days are not being created by poor pathway management of complex cases.

Conclusion

Further analysis is needed to identify what is driving this high level of excess bed-days to determine whether the trim point is set at the right level for non-elective spells for cancer.

It also raises the question whether the trim point for elective care is correct – 2% may indicate a trim point that is too high for elective care, encouraging excess stay.

5.16. Concern whether the trim point for non-elective cancer spells is set at the right level – *solution appraisal*

There is one action to take this issue forward:

Action 1 – Analysis of non-elective cancer activity

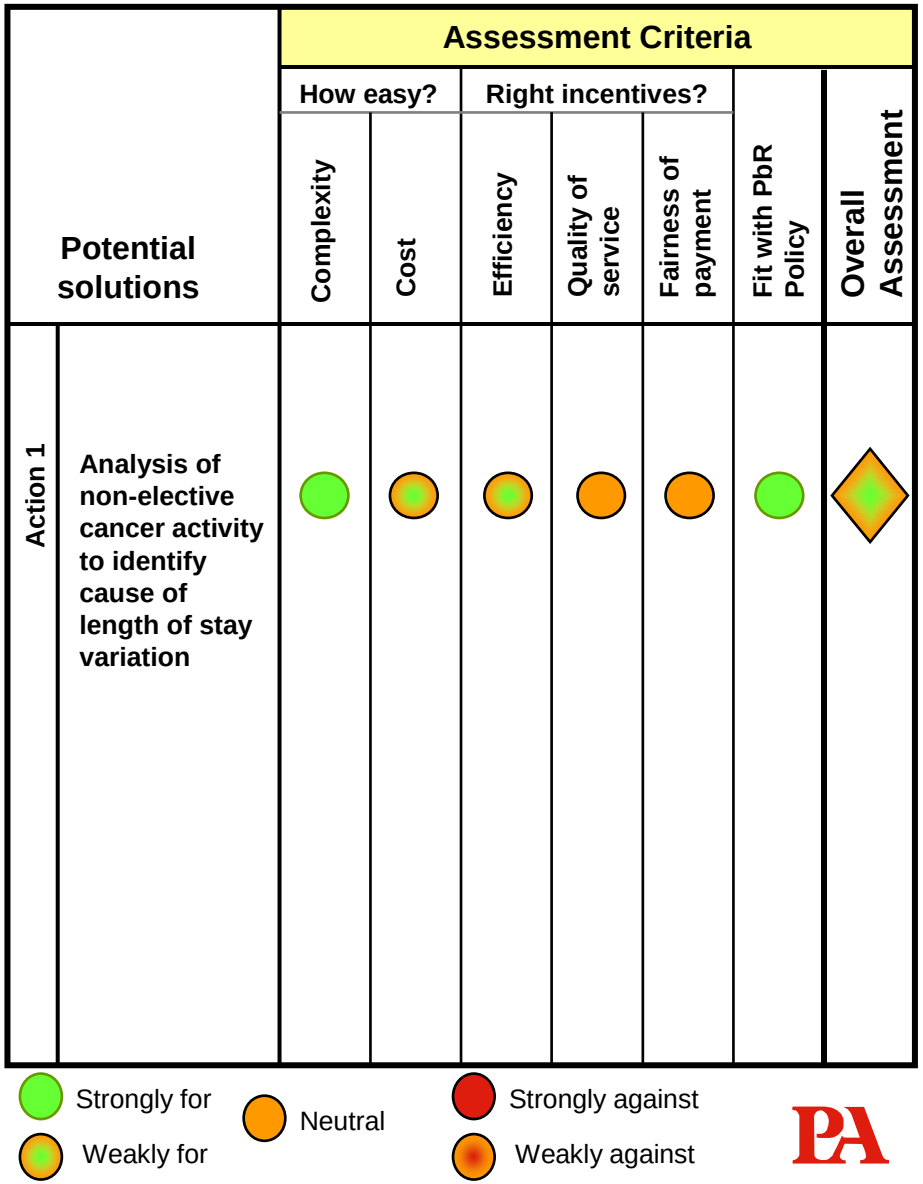
Without understanding of the casemix that is causing this variation, it is not possible to know whether this is a trim point issue, is a clinical pathway issue, or is merely the variation that is inevitable from non-elective cancer patients.

There does not appear to be a big driver to investigate this from a PbR point of view – neither commissioners or provider appear to be significantly prejudiced by this.

A stronger driver to carry out this analysis is to see whether there are pathway problems that are being identified, which potentially could deliver significant benefits if addressed.

This should not be restricted to non-elective care, as the low excess for elective may indicate the trim point being set too high.

This should be explored through the Inpatient Management Programme under the Cancer Reform Strategy.



5.16. Recommendation – Concern whether the trim point for non-elective cancer spells is set at the right level

Again this issue was only raised at the end of the London Validation Workshop and no discussion on it occurred. At the Leeds Validation Workshop there was a feeling that this might well be what was expected. The commissioners commented that they were more worried about the trim point being set too high.

However there was agreement that it would be helpful to understand what was driving this high level of excess bed days.

We recommend that further analysis is done:

- **Analysis of non-elective cancer activity to identify cause of length of stay variation**
  Action Lead: CAT
  Action Input: Information Centre, Cancer Networks

6. Whilst it is desirable to take forward action on all 16 issues, five issues in particular have a higher level of priority

All 16 issues warrant action

Through the process of consultation and analysis we have identified 16 issue of significance. There is a strong argument for action on all these issues, as they all have a potentially significant impact on the effectiveness of cancer services.

However the scale of impact of these issues vary

It is clear from the consultation and particularly from the validation workshops that not all issues have the same level of significance. We have considered the relative priorities using the following criteria:

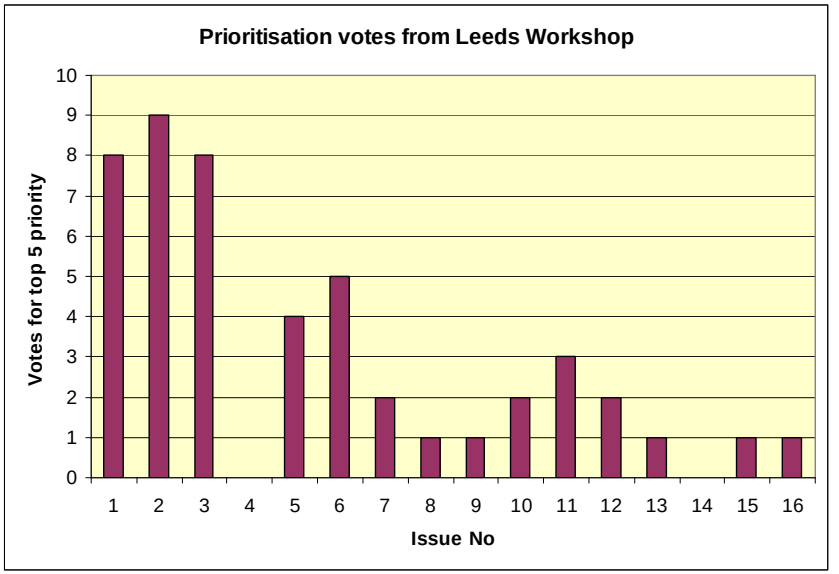
- View of participants at the Leeds workshop
- The proportion of cancer providers impacted
- The scale of the impact involved

The chart opposite shows the view of the Leeds participants.

Five issues should have top priority for action

Using this set of criteria, the following are five issues are identified as top priorities:

- ***Issue 1***: Improve the quality of coding of cancer work
- ***Issue 2***: PbR does not incentivise MDT planning
- ***Issue 3***: Reference costs for HRG4 may not cover costs associated in a course of chemo treatment
- ***Issue 5***: Tariff does not adequately recognise cancer service complexity for procedures
- ***Issue 6:*** Tariff does not adequately cover complexity of cancer outpatient services



However special consideration is needed for Issue 4

Under this set of criteria, ***Issue 4*** (RT bunkers) is not identified as a priority issue. Our recommendation is that it should be for the following reasons:

- There is a need for major expansion of RT capacity
- Whilst number of Trusts impacted by out of the ordinary investment costs for bunkers, the individual impact on these Trusts is potentially large
- The high bunker costs of some providers distorts the average tariff to the detriment of all commissioners

We consider that this prioritisation is representative of the views we heard across the consultation

Whilst it is desirable for action on all issues, priority should be given to the six priority issues identified above, as they will have the largest overall impact on cancer services

6. There are four main priorities for action: better guidance, expert panels, development of normative tariffs, and a separate OP tariff

Our recommendations can be grouped into four main priorities

It may be helpful to consider taking forward action under four main headings – rather than under individual issues. These would be:

- Better guidance to raise understanding
- Establishment of expert panels and benchmarking
- Development of normative tariffs
- Development of separate OP tariffs for cancer

Better high level guidance is in demand to raise understanding

Improving guidance is a key theme that comes out from the review. This highlights the conclusion that the key issue on people's minds is in making what we have got work effectively – rather than further strategic change.

Until the use of the system is robust, management tools, like service line reporting and incentives, will be of limited value. So it is really critical to get this right.

The provision of better guidance features as a recommendation in 12 of the 16 issues, which further reinforces the point.

These are issues: 1, 2, 4, 5, 7, 8, 9, 10, 12, 13, 15.

In many cases benchmarking analysis is required to underpin the development of guidance.

Whilst the lead for action on the different issues will vary, we would recommend that there is coordination of the provision of guidance under all these issues. This might be best done by the Information Centre.

The establishment of expert panels for in key cancer services is critical to get HRG4 fit for purpose

The establishment of expert working panels, using front line practitioners, is seen as key to ensuring that HRG4 effectively works for services cancer. Whilst this applies particularly for chemotherapy and radiotherapy, there is also a more general issue on complex cancer procedures in other specialties.

This is key to addressing issues 3, 5, and 11.

This is also an action where the Information Centre appears best placed to lead.

There is strong support for the introduction of normative tariffs in cancer

We have heard strong support for the use of normative tariff for cancers services. Particularly in terms of incentivising quality issues and addressing investment issues of radiotherapy infrastructure.

This is seen as a key part of addressing issues 4, and 8.

This is a longer term issue, but one that should be taken forward by the PbR team

There is also strong support for the introduction of separate OP tariffs for cancer

There was strong support for the development of a separate OP tariff for cancer to provide a more equitable payment for the complexity of cancer OP services.

This is key to addressing issues 2 and 6.

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Appendices

Appendix A. We have consulted with a wide and representative sample of cancer stakeholders

Stakeholders consulted:

DH

- Teresa Moss - Director of National Cancer Action Team
- Tracy Parker - Cancer Policy Team
- Marianne Green - Operational Research Analyst

Clatterbridge centre for Oncology

- Dr Brian Cottier - Data Analysis Team
- Adrian Morris - Data Analysis Team
- Forbes Ashgrove - Data Analysis Team
- Dr Helen Forbes - Data Analysis Team
- Sue Mitchall - Data Analysis Team
- Tracey Ellison - Data Analysis Team

DH PbR Team

- Sebastian Habibi - Future of PbR Project Manager
- Richard Kelly - PbR Strategy
- Julie Speller - Tariff Scope Development Manager

The Information Centre

- Ginny Jordan - Head of Standards and Classifications
- Peter Broughton - Senior Info. Design Consultant
- Leilei Zhu - Clinical Classification Consultant

NHS Connecting for Health

- Nicholas Oughtibridge

PCTs

Coventry PCT

- Mike Attwood - CEO Coventry PCT
- Richard Hancox - Arden Cancer Network Director

Birmingham N&E PCT

- Andrew Donald - Director of Commissioning

Doncaster PCT

- Jayne Brown - Chief Executive

Bassetlaw PCT

- Jason Coombes - Commissioning Accountant
- Lisa Bromley - Head of Acute Commissioning

Yorkshire and the Humber SCG

- Cathy Edwards - Director

Cancer Networks

North East London Cancer Network

- Bob Park - Network Director

North Trent Cancer Network

- Kim Fell - Network Director

Appendix A. We have consulted with a wide and representative sample of cancer stakeholders (cont.)

Stakeholders consulted:

NHS Trusts

Cambridge NHS Trust

- Ms Linda Clarke - Operations Manager
- Mr Craig Black - Director of Commissioning
- Dr Robert Winter - Medical Director
- Dr Robert Marcus - Lead Clinician for Cancer
- Professor David Neal - SDU Director for Urology

Luton and Dunstable NHS Trust

- Mike Pittam - Clinical Director
- Andrew Brown - General Manager for Cancer Services
- Marion Purcell - Manager of Clinical Coding
- Tim Hughes - Finance Department
- David Pilkington - Finance Department
- Jan Chalkley - Cancer Services Lead Nurses

Royal Marsden NHS Trust

- Natalie Doyle - Nurse Consultant, Cancer Rehabilitation
- Peter Ridley - Finance
- Lucy Gladman - Service Manager, Rare Cancers
- Dr Peter Blake - Head of Radiology
- Prof. Martin Gore - Medical Director
- Cynthia Cardozo - Assistant Finance Director
- Fran Davies - General Manager (Common Cancers)
- Dr. Chris Nutting (Head of Head & Neck unit
- Dr Sanjay Popat - Haematology Registrar

Doncaster and Bassetlaw NHS Trust

- Dr T Rogers - Lung MDT Lead
- Dr R Bolton - Upper G.I. MDT Lead
- Dr J Robinson - Colorectal MDT Lead
- Dr S Rogers - Pathology MDT Lead
- Mr M Watson - Head & Neck MDT Lead
- Dr B Bittiner - Dermatology MDT Lead
- Mr N Kazzazi - Breast MDT Lead
- Dr J Joseph - Chemotherapy MDT Lead
- Mr I Greenwood – Executive Lead for Cancer
- Dr E W Jones - Medical Director (Cancer Management)
- Dr S Ramakrishnan - Cancer Unit Lead Clinician
- Gillian Horne - Macmillan Lead Cancer Nurse
- Mr R Kolli - Consultant Ophthalmologist
- Damian Hughes - General Manager (Medicine)
- Peter Watson - General Manager (Surgery)
- Jackie Simpkin - Cancer Services Manager
- Helen Burroughs - General Manager, Women & Childrens Services

Appendix A. We have consulted with a wide and representative sample of cancer stakeholders (cont.)

Stakeholders consulted:

NHS Trusts cont.

Doncaster and Bassetlaw NHS Trust (cont.)

- Janet Crouch - Director of Finance and Information
- David Goodall - Director of Finance & Commissioning
- Sandra Taylor - Deputy Director of Finance
- Neil Lester - Management Accountant
- Catherine Bennett - Commissioning Manager
- Julie England - Clinical Coding Manager
- Sheila Power - Finance and Procurement

Gateshead NHS Trust

- Janet Crouch - Director of Finance and Information

Bristol NHS Trust

- Paul Mapson - Finance Director
- Richard Smith - Assistant Finance Director
- Helen Morgan - Head of Nursing Specialised Services
- Kate Love - Radiotherapy Services Manager
- Teresa Levy - Cancer Services Manager
- Ian Barrington - General Manager Specialised Services
- Jenny Bird - Consultant Haematologist
- Pat Osborne - Coding Manager

Sheffield NHS Foundation Trust

- Dr Stephen Tozer-Loft - Deputy Head Radiotherapy Physics

Other cancer specialists

- Dr Orest Mulka
- Ashley Fraser - Pathologist

Radiology Meeting - 17th September 2007

National Cancer Action Team

- Susan Gibbin - National Cancer Action Team
- Di Rile - National Cancer Action Team

National Cancer Services Analysis Team

- Helen Forbes - Lead for Radiotherapy

Royal Marsden NHS Trust

- Sarah Milan - Assistant Director of Information

Sheffield NHS Foundation Trust

- Gillian Marsden - Group Business Manager, Specialist Cancer Services
- Roland Panek - Senior Group Accountant

Appendix A. We have consulted with a wide and representative sample of cancer stakeholders (cont.)

Stakeholders consulted:

Radiology Meeting - 17th September 2007 (cont.)

Maidstone and Tunbridge Wells NHS Trust

- Christine Richards - Radiotherapy Services Manager

Essex Rivers Healthcare Trust

- Sonia Tankard - Radiotherapy Manager

Southampton Oncology Centre

- David Driver - Superintendent Radiographer - IT lead

Brighton

- Peter Lane - Cancer Manager

Maidstone & T Wells NHS Trust

- Collette Donnelly - Cancer Manager

Appendix B. Participants at the London and Leeds Validation Workshops

London Feedback and Validation Workshop 26/09/07

- Teresa Moss - Director of National Cancer Action Team
- Tracy Parker - Cancer Policy Team Team, DH
- Peter Howitt- PbR Development Manager, DH
- Richard Hancox - Arden Cancer Network Director
- Victoria Marshall - Royal College of Radiotherapists

Cambridge NHS Trust

- Ms Linda Clarke - Operations Manager

Royal Marsden NHS Trust

- Cynthia Cardozo - Assistant Finance Director
- Sarah Milan - Assistant Director - Info. Mgmt

Leeds Feedback and Validation Workshop 01/10/07

Doncaster & Bassetlaw NHS Trust

- Jackie Simpkin - Cancer Services Manager
- Neil Lester - Cost and PbR Accountant

North Trent Cancer Network

- Kim Fell- Cancer Network Director

Yorkshire and the Humber SCG

- Cathy Edwards - Director

North West Cancer Network

- Pat Higgens - Project Lead - Cancer plan

Greater Midlands Cancer network

- Joan Jackson - Acting Director

Yorkshire Cancer Network

- Barry Tinkler - Lead Manager

Cancer Action Team

- Di Riley - Associate Director

Sheffield NHS FT

- Stephen Tozer-Loft - Deputy Head Radiotherapy Physics

Bassetlaw PCT

- Lisa Bromley - Head of Acute Commissioning

Humber & Yorkshire Coast Cancer Network

- Gill Bovill - Business Manager

Lancashire & South Cumbria

- Kath Nuttall- Network Director

Appendix C. We have analysed HRG3.5 and understood the changes for HRG4

This work has consisted of:

- Mapping diagnostic codes to cancer
- Identifying cancer activity under HRG3.5
- Identifying where cancer activity will be coded under HRG4
- Assessing how diagnostic codes will impact coding under HRG4
- Analysing reference cost returns from June 07

Further information on the analysis work can be found in the PA 'Cancer Chapter' guidance.

Findings show that:

- About 20% of elective spells in England are for cancer patients
- 80% of elective cancer spells map to 40 HRGs under HRG3.5
- A large variation in coding and pricing to new HRG4 in reference cost returns

Appendix D includes the more detailed analysis we have done on existing data for reference costs. This was less informative than hoped at the outset, as the data available represented the first period of use of the new codes and the standard of coding is patchy.

Appendix D: Analysis of 2006/7 reference cost returns for cancer

This appendix contains the analysis PA were asked to carry out as part of our review into ensuring PbR supports delivery of effective cancer services.

Whilst the analysis is separate from the main thrust of the report, the outcome of this analysis is highly relevant to Issue 4.1 in the main report – coding issues.

Assessment of initial reference cost returns for chemotherapy and radiotherapy indicate a major challenge to create robust tariffs for HRG4

PA were asked to review 2006/7 reference cost returns for the new chemotherapy and radiotherapy HRG4 tariffs

PA was asked to look at the 2006/7 reference cost returns for the new chemotherapy and radiotherapy HRG4 codes and to analyse the potential fairness of tariff for a sample of high volume HRGs that cover mixed benign/malignant activity. The intention was to see what messages could be inferred from this initial reference cost data for the future development of tariff.

Overall, this analysis has highlighted that the returns are not complete

Less than 10% of trusts returned reference costs for radiotherapy and less than 30% for chemotherapy in this initial period for the new codes. This represents a very low base to draw any conclusions, but it highlights the challenge to get accurate consistent returns in time to set robust tariffs for HRG4 when introduced.

The variation seen in these initial returns indicate significant issues with understanding and consistency

Analysis of the initial returns show very high variation of costs, which are not credible. They indicate that even where trusts have been able to cost these codes, they have not been able to do so with any degree of consistency in costing rules.

Whilst there is some evidence of higher costs for malignant activity, where HRG4 separates benign from malignant, data is of too poor quality to draw robust conclusions

Analysis of an example HRG, where HRG4 has unbundled malignant activity from benign, indicates that the malignant activity is significantly more expensive. Whilst this provides reasonable confidence that there is genuinely a difference between malignant and benign activity bundled in HRG3.5, the data quality is too poor to provide much confidence to the quantitative difference identified.

The analysis highlights the need to address the coding issues identified in our report

The analysis highlights the need to address the known issues with setting reference costs and tariffs for chemotherapy and radiotherapy.

Contents of Appendix D

D1 - We have used 2006/7 raw reference cost return data in combination with 2006/7 HES and IC mapping of patient records to HRG3.5 and HRG4

The following data has been used for this analysis:

- **Raw data for the 2006/07 reference cost returns**
  Analysis has been done using the initial non-validated returns, which were all that was available at the time of our review. This dataset is recognised to have significant issues.

  The data consists of a record for each provider, for each HRG, giving an estimated total cost and last years activity. The activity reflects the number of cases in that HRG for that provider last year.
- **HES 2005/06 data**
- **Information Centre Mapping of patient records to HRG3.5 and HRG4**

D2 - Analysis of 2006/7 reference cost returns for Chemotherapy

The next 4 pages look at the returns for chemotherapy.

These highlight:

- Less than 30% of trusts making returns
- Excessive variation in the returns received, making the data of questionable value
- Even for a comparison between two specialist cancer trusts excessive variation is still seen

D2
On average, less than 50 providers have submitted reference costs for Chemotherapy HRGs and there is a high degree of variation in the costs

The below table show the mean cost, number of returns and variation in reference costs for Chemotherapy HRGs. This represent less than 30% of providers.

Type	HRG4 code	HRG4 description	Mean unit cost	Number of returns	Standard deviation of unit costs
Procure drugs	SB01Z	Procure chemotherapy drugs for regimens in Band 1	364	81	562
	SB02Z	Procure chemotherapy drugs for regimens in Band 2	750	74	1,541
	SB03Z	Procure chemotherapy drugs for regimens in Band 3	799	46	647
	SB04Z	Procure chemotherapy drugs for regimens in Band 4	781	55	645
	SB05Z	Procure chemotherapy drugs for regimens in Band 5	1,344	55	1,424
	SB06Z	Procure chemotherapy drugs for regimens in Band 6	1,006	46	717
	SB07Z	Procure chemotherapy drugs for regimens in Band 7	1,710	62	1,843
	SB08Z	Procure chemotherapy drugs for regimens in Band 8	2,844	33	5,557
	SB09Z	Procure chemotherapy drugs for regimens in Band 9	1,960	28	2,360
	SB10Z	Procure chemotherapy drugs for regimens in Band 10	1,746	47	1,293
Deliver drugs	SB11Z	Deliver exclusively Oral Chemotherapy	686	45	1,820
	SB12Z	Deliver simple Parenteral Chemotherapy at first	426	36	448
	SB13Z	Deliver more complex Parenteral Chemotherapy at first	463	35	583
	SB14Z	Deliver complex Chemotherapy, including prolonged infusional treatment at first attendance	722	39	1,592
	SB15Z	Deliver subsequent elements of a chemotherapy cycle	374	44	331

Data source: 2006/07 Reference cost returns, Chemotherapy (Inpatients)

D2
Standard deviations equal or higher than the mean indicates that trusts have estimated very different costs for chemotherapy treatments

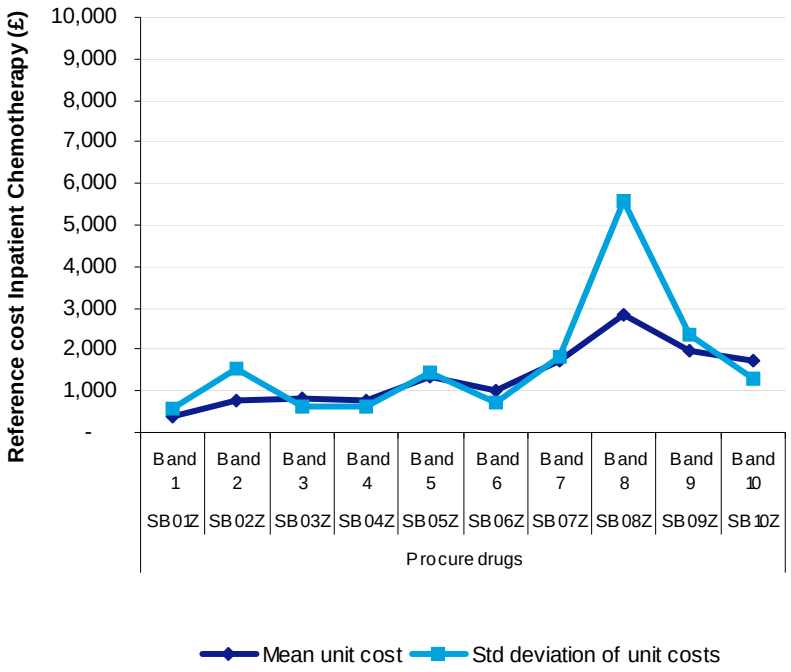
The charts below plot mean and standard deviation for key chemotherapy HRGs for procuring chemo drugs and for their delivery

The key message is that the standard deviation is generally in excess of the mean – a very worrying situation, as it implies a very large variation in costs.

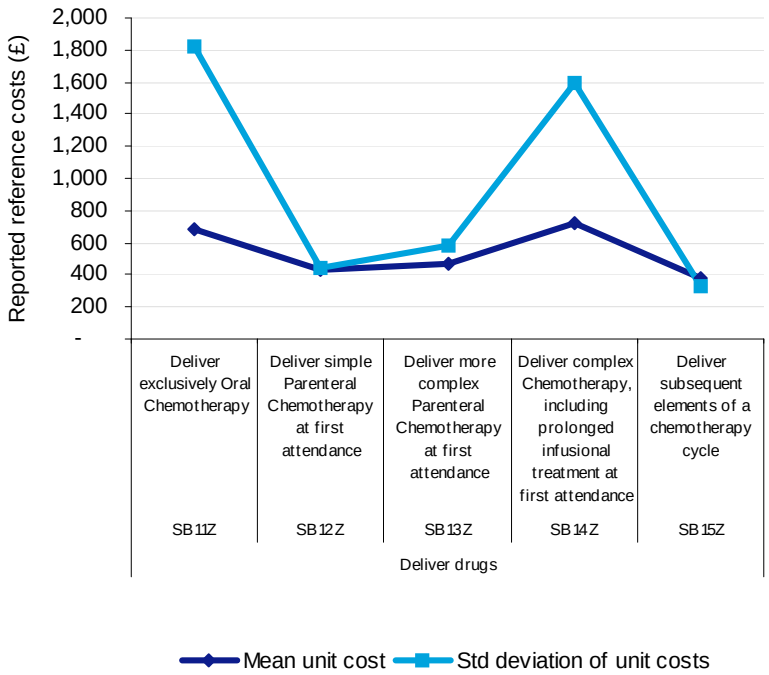
The level of variation indicates a very low level of consistency in costing approach across trusts providing returns

A standard deviation of more than £1000 for most HRGs is not an acceptable basis for setting tariff. In reality it is just an indicator of the degree of challenge to setting tariff.

Reference costs for procuring chemotherapy drugs

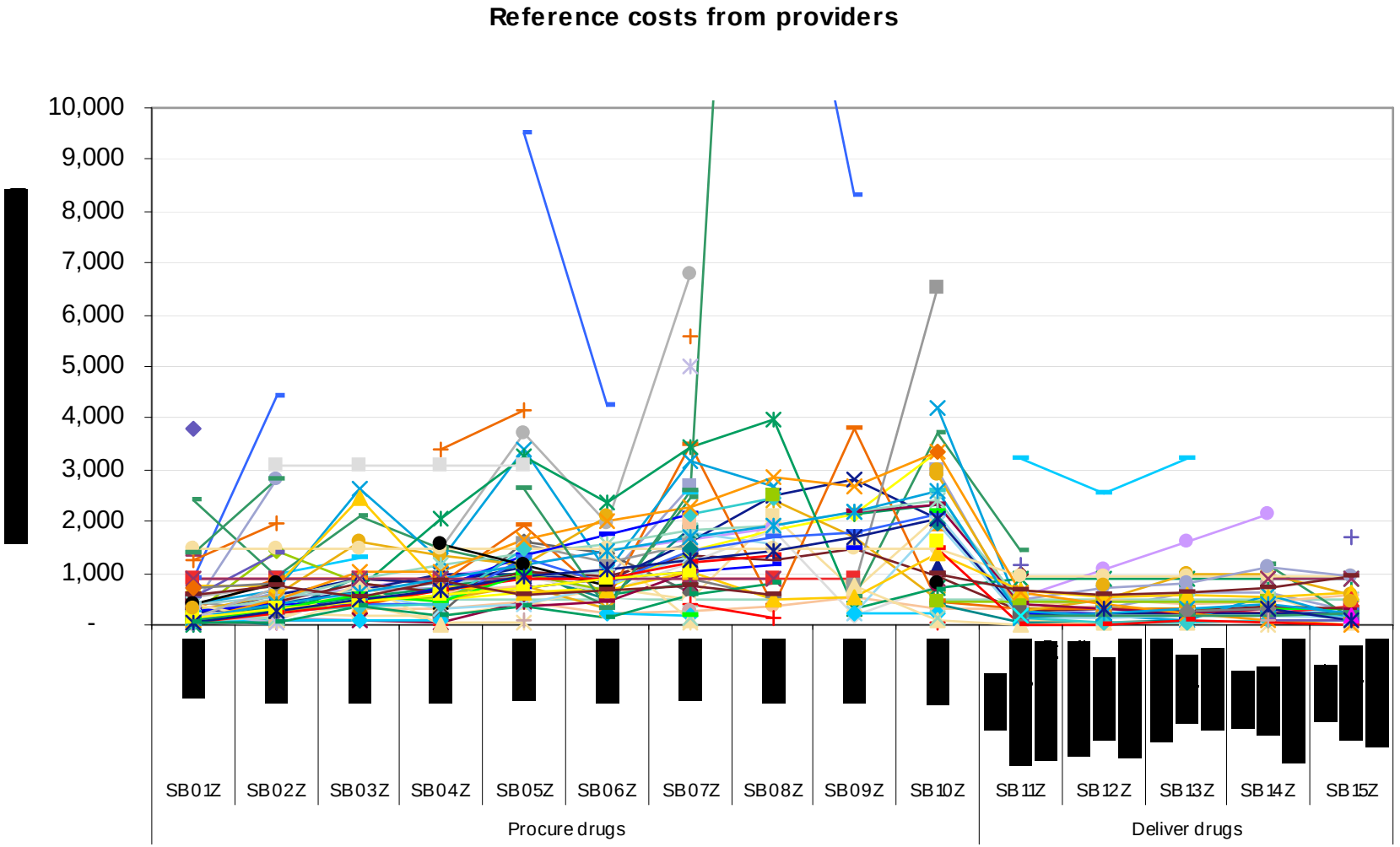


Reference costs for delivering chemotherapy



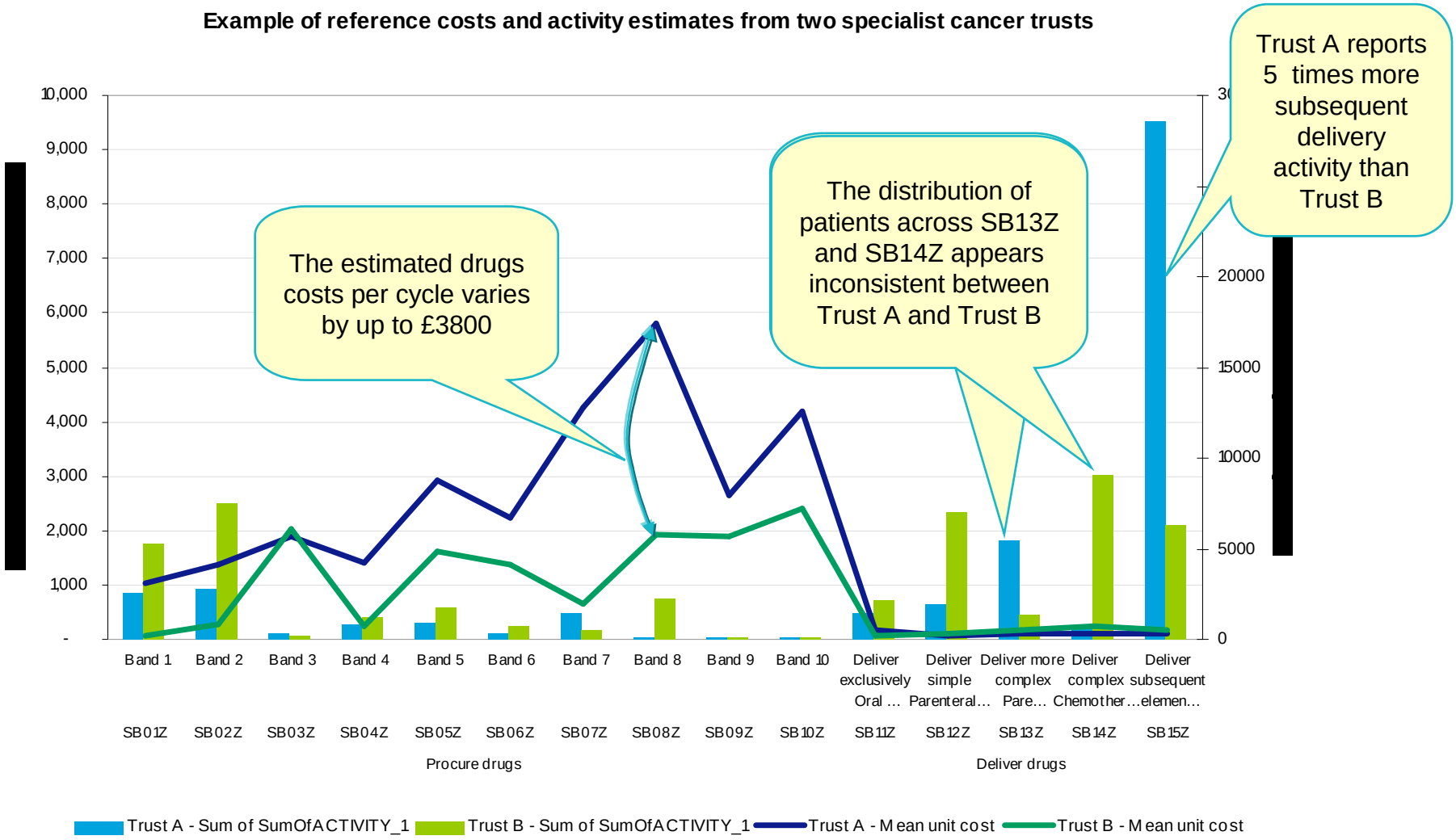
Data source: 2006/07 Reference cost returns, Chemotherapy (Inpatients)

D2
Looking at all providers, even ignoring the obvious outliers, the majority vary from £100 to £3000 – indicating lack of consistent costing rules



Data source: 2006/07 Reference cost returns, Chemotherapy (Inpatients)

D2
The returns from two specialist cancer trusts shows that even here there are issues both with assigning activity to codes and with determining costs



Data source: 2006/07 Reference cost returns, Chemotherapy (Outpatients)

D3 - On average, less than 10% of providers have submitted reference costs for Radiotherapy HRGs and there is a high degree of variation in the costs

The next 2 pages look at the returns for radiotherapy.

These highlight:

- Less than 10% of trusts making returns
- Excessive variation in the returns received, making the data of questionable value

D3
On average, only 9 trusts have submitted reference costs for radiotherapy inpatient HRGs

Type	HRG4 code	HRG4 description	Mean unit cost	Number of returns	Standard deviation of unit costs
Delivery	SC21Z	Deliver a fraction of treatment on a superficial or orthovoltage machine	105	8	94
	SC22Z	Deliver a fraction of treatment on a megavoltage machine	111	16	82
	SC23Z	Deliver a fraction of complex treatment on a megavoltage machine	142	13	101
	SC24Z	Deliver a fraction of radiotherapy on a megavoltage machine using general anaesthetic	160	4	98
	SC25Z	Deliver a fraction of Total Body Irradiation	169	5	92
	SC26Z	Deliver a fraction of intracavitary radiotherapy without general anaesthetic	666	7	802
	SC27Z	Deliver a fraction of intracavitary radiotherapy with general anaesthetic	682	9	1,041
	SC28Z	Deliver a fraction of interstitial radiotherapy	1,257	11	1,827
	SC29Z	Other Radiotherapy Treatment	706	12	1,530
Planning	SC01Z	Define volume for SXR, DXR, electron or megavoltage radiotherapy without imaging and with simple calculation	239	12	399
	SC02Z	Define volume for simple Radiation Therapy with imaging (Simulator, CT scanner etc) but with simple calculation and without Dosimetry	347	19	496
	SC03Z	Define volume for simple Radiation Therapy with imaging and Dosimetry	385	12	498
	SC04Z	Define volume for multiple phases of complex Radiation Therapy with imaging and Dosimetry	360	8	401
	SC05Z	Define volume for Radiation Therapy with imaging, Dosimetry and technical support e.g. mould room	535	8	641
	SC06Z	Define volume for Radiation Therapy with imaging and Intensity-modulated Radiation Therapy Dosimetry or equivalent	546	3	317
	SC07Z	Prepare for Total Body Irradiation	253	1	-
	SC08Z	Prepare for intracavitary radiotherapy	287	8	217
	SC09Z	Prepare for interstitial radiotherapy	292	3	175
	SC10Z	Other Radiotherapy Planning	389	8	444

Data source: 2006/07 Reference cost returns, Radiotherapy (Inpatients)

D3
Standard deviations equal or higher than the mean indicates that trusts have estimated very different costs for radiotherapy prodedures

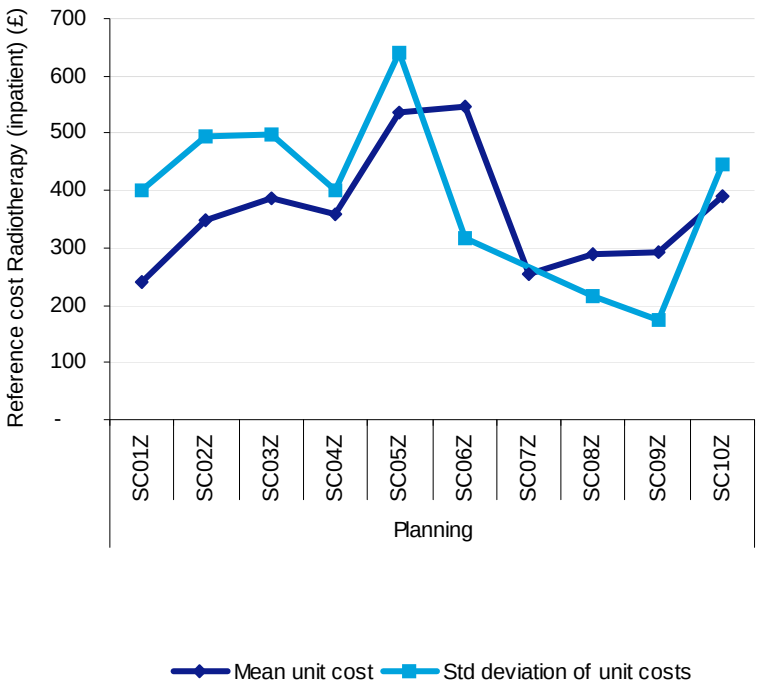
The charts below plot mean and standard deviation for key radiotherapy HRGs for planning and delivering radiotherapy

The key message is the same as for chemo - the standard deviation is generally in excess of the mean – a very worrying situation.

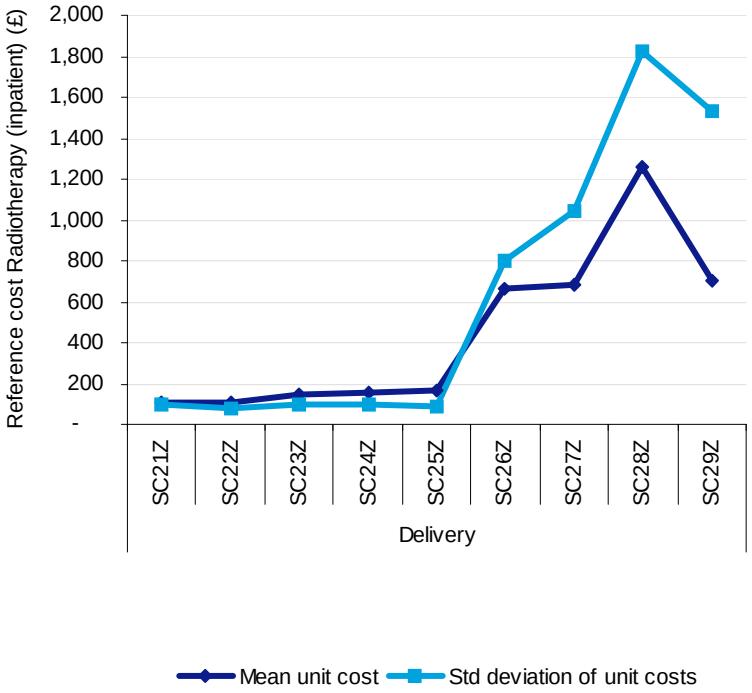
The level of variation indicates a very low level of consistency in costing approach across trusts providing returns

The level of variation and the low number of returns make the mean a poor indicator of a future realistic tariff.

Reference costs for planning radiotherapy



Reference cost for delivering radiotherapy



Data source: 2006/07 Reference cost returns, Radiotherapy (Inpatients)

D4 - Analysis of reference costs for an example HRG that cover a mix of malignant and benign activity

The next 4 pages look at the returns for a high volume HRG that covers a mix of malignant and benign activity in HRG3.5.

We have looked at a particular HRG that is unbundled between HRG3.5 and HRG4 and have analysed this to see whether there is evidence that malignant activity is more expensive than benign.

This example highlights:

- Providers, with higher shares of cancer activities, do not report higher reference costs for the HRG that is shared between benign and malignant cases
- When providers were asked to cost procedures with and without malignancy separately, they assigned higher costs to procedures with malignancy

D4
A top volume HRG with mixed benign and malignant activity have been analysed to see if cancer specialist trusts report higher costs

From the list of top HRGs for patients with a Cancer diagnosis, we have selected to examine the reference cost returns for M07 – Upper Genital Tract Major Procedures (highlighted in yellow). This procedure has been selected because it covers a mix of benign and malignant activity – and because HRG4 will split the code into separate codes for malignant and benign cases.

This HRG have been used to explore the difference in costing between benign and malignant procedures currently bundled within HRG3.5.

HRG Version 35	HRG Version 35 Description	Elective activity (cancer)	Total activity 2005/06	Per cent of episodes related to cancer	Percent of cancer episodes for malignant conditions
S27	Malignant Disorder of the Lymphatic/ HaematologicalSystems with los <2 days	127,873	129,155	99%	78%
F98	Chemotherapy with a Digestive System Primary Diagnosis	118,258	121,935	97%	100%
J37	Minor Skin Procedures - Category 1 w/o cc	88,272	177,406	50%	37%
J98	Chemotherapy with a Skin, Breast or Burn Primary Diagnosis	74,960	75,615	99%	99%
S98	Chemotherapy with a Haematology, Infectious Disease, Poisoning, or Non-specific Primary Diagnosis	68,788	79,543	86%	98%
D98	Chemotherapy with a Respiratory System Primary Diagnosis	42,865	45,191	95%	100%
F35	Large Intestine - Endoscopic or Intermediate Procedures	41,521	287,573	14%	28%
L21	Bladder Minor Endoscopic Procedure w/o cc	30,768	204,663	15%	87%
M98	Chemotherapy with a Female Reproductive System Primary Diagnosis	25,588	27,008	95%	99%
M07	Upper Genital Tract Major Procedures	23,408	50,335	47%	30%
G98	Chemotherapy with a Hepato-Biliary or Pancreatic System Primary Diagnosis	19,886	19,977	100%	100%

Data source: HES 2005/06

D4
We have analysed how the activity for top HRG3.5 codes will be coded under HRG4 - this identifies M07 as suitable for analysis

Information Centre mapping of patient records to both HRG3.5 and HRG4 have been used as the basis for this analysis

There is no direct mapping from HRG3.5 codes to HRG4 codes, but the Information Centre have coded a set of patient records to both HRG3.5 and to HRG4. This allows us to identify the most common HRG4 codes for each HRG3.5 code.

The analysis highlights M07 as suitable for analysis as malignant activity is separated under HRG4

We have used M07 for this analysis, as HRG4 will introduce a separate tariff for malignant cases, so we can analyse trusts costing of the top two new HRG4 codes that map back to M07.

HRG3.5 code	HRG3.5 description	Most common HRG4 code (s)	HRG4 description
M07	Upper Genital Tract Major Procedures	MA07B	Upper Genital Tract Open Major Procedures without malignancy without CC
		MA06Z	Open Major Upper Genital Tract Procedures with malignancy

Data source: Casemix service, mapping of patients to HRG35 and to HRG4 Q1&Q2 2005/6

D4
Providers with higher cancer casemix do not report higher reference costs for M07 that is shared between benign and malignant cases

Analysis shows that there is no apparent correlation between providers with high cancer casemix and high reference cost

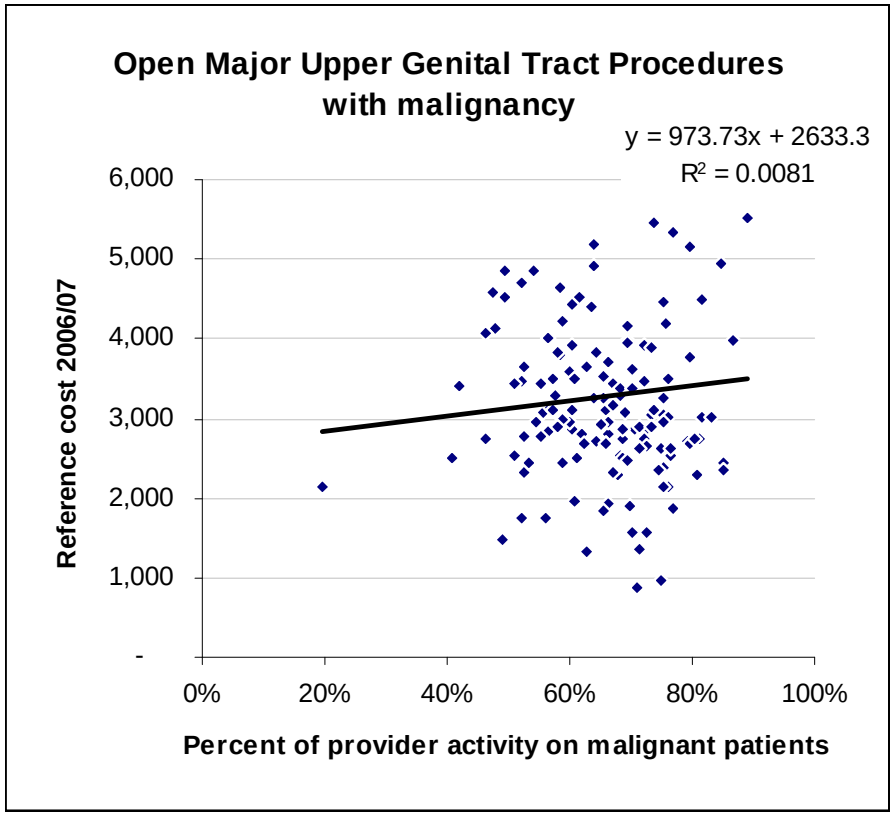
We have analysed trusts reference cost returns to see whether there is any correlation between the cancer casemix for the providers and the level of their reference costs in this procedure.

The chart opposite shows the distribution of costs vs the percentage of activity related to malignant cancers.

Providers reference cost returns for 2006/7, do not indicate that trusts with more malignant activity, report higher reference costs for procedures that contain both benign and malignant activity.

Any real difference in cost is likely to be hidden by the level of variation

It is likely that potential differences in costs may be hidden by the variability in the reference cost returns.



Data sources: Reference cost returns 2006/07 & HES 2005/06 - Trusts are rated according to the percent of Cancer and Tumour activity that is related to malignant cases.

D4
When providers were asked to cost procedures with and without malignancy separately, they assigned higher costs to procedures with malignancy

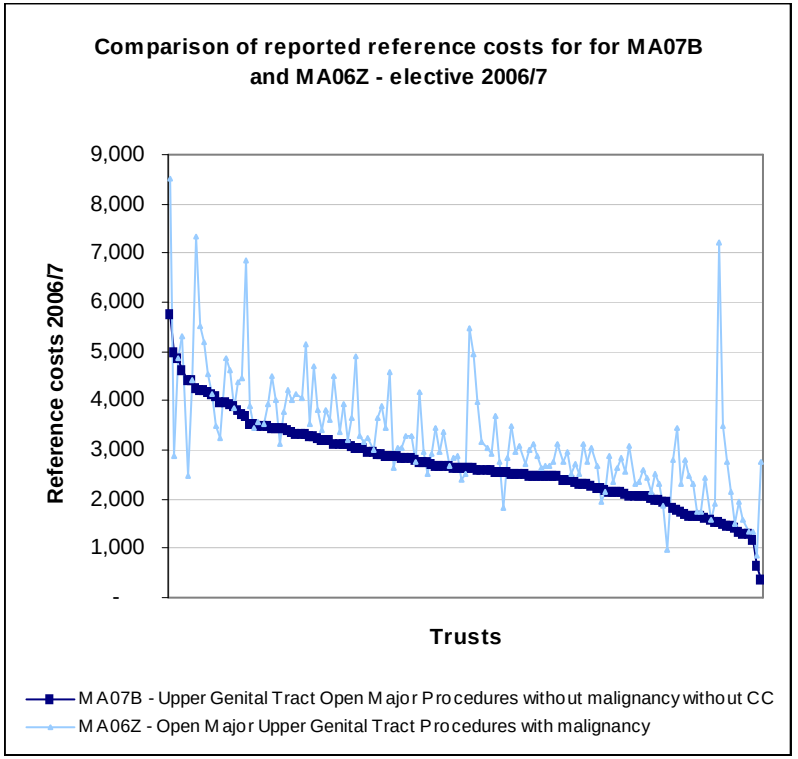
Analysis of M07 activity under HRG3.5 and HRG4 indicate higher costs for malignant cases

HRG 4 introduce separate codes for Upper Genital Tract Open Major Procedures with and without malignancy:

- MA07B = Upper Genital Tract Open Major Procedures without malignancy without CC
- MA06Z = Open Major Upper Genital Tract Procedures with malignancy

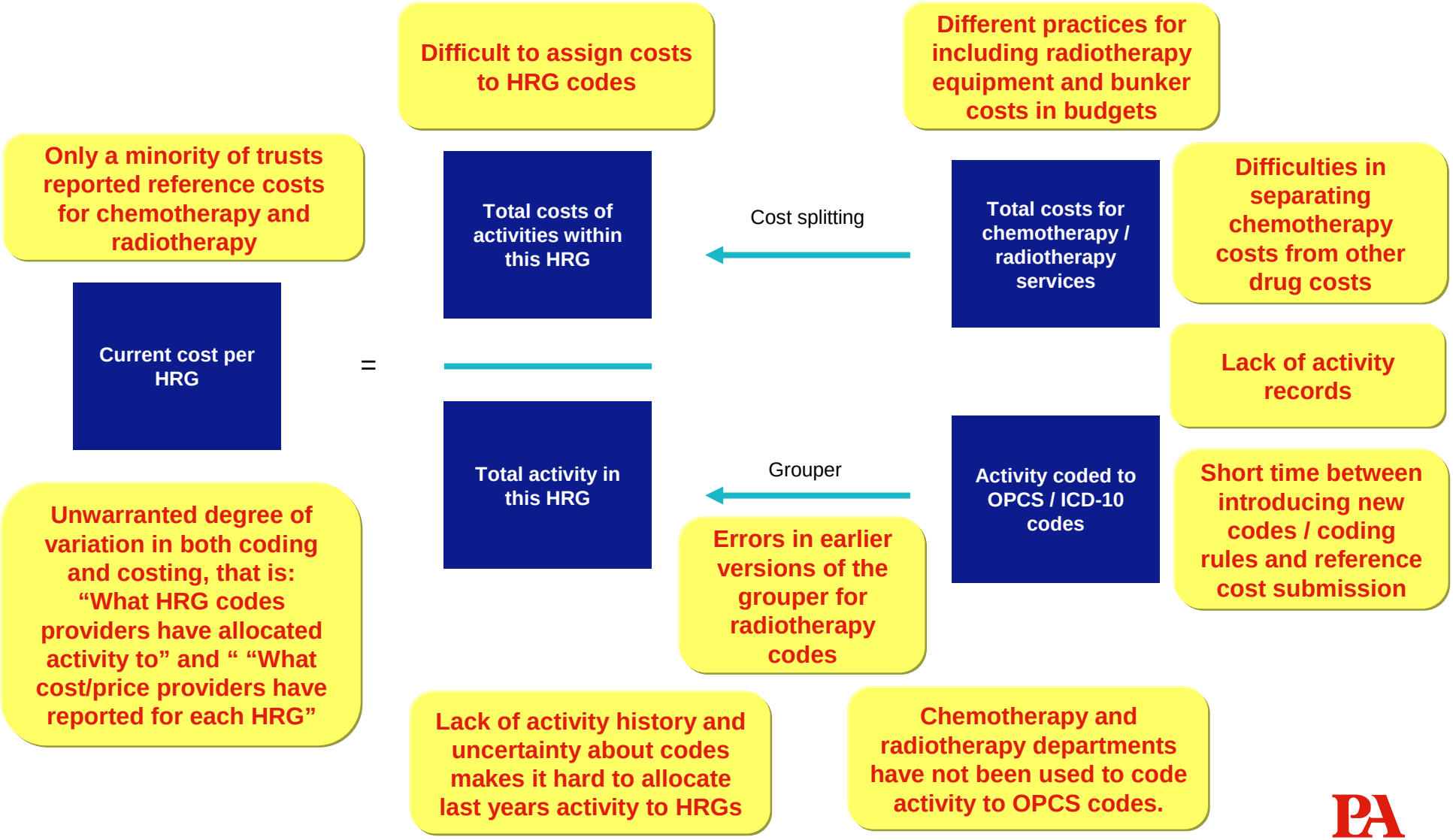
For procedures MA07B and MA06Z, the average reference cost is about 15% higher for MA07B (with malignancy).

- Average cost MA07B = £2730
- Average cost MA06Z = £3270
- Extra cost for malignant = £550



Data source: Reference cost returns 2006/07

D5 – This analysis highlights the need to address the known issues with this years reference cost submission



D6 – Analysis of data available on cost of MDTs per patient show large variations – much of this may be due to flawed costing methodology

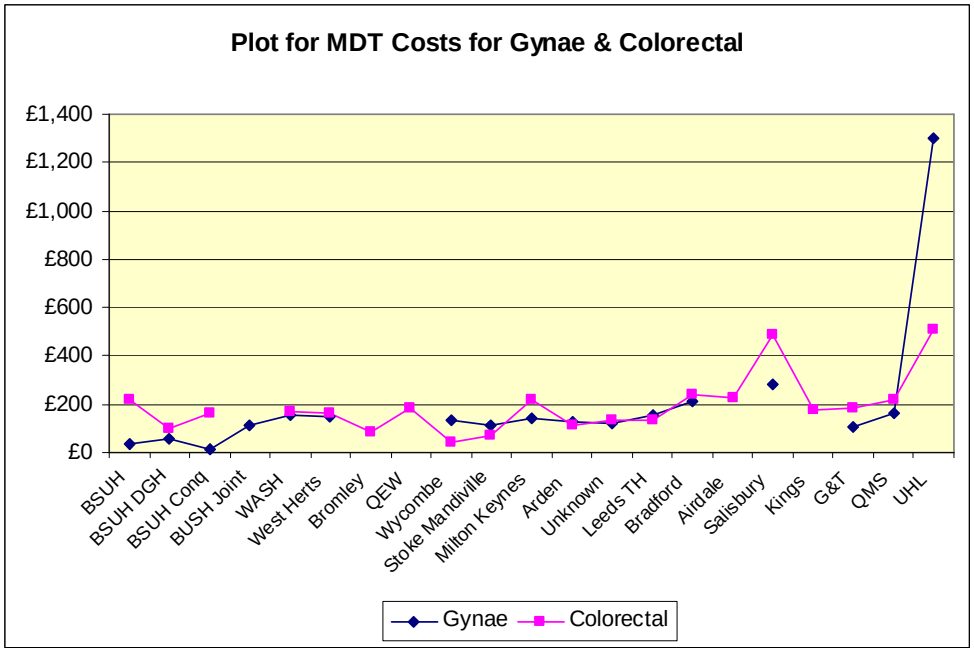
The table opposite pulls together the data submitted to the Cancer Action Team by Cancer Networks to estimate MDT costs.

The variation of costs for MDT assessments is significant across trusts and specialties; however examination of the colorectal and gynae data, where we have the most background data provided, indicate that some of this variation is being caused by inconsistency in costing methodology. For example whether clinician hourly cost is based on 10 sessions a weeks or only on patient facing time.

It may well be that if a consistent methodology is agreed and used, then more consistent unit costs would be seen. There is quite a bit of consistency across a majority of costs in patients per meeting, but there are a lot of outliers with significantly different experience. Any tariff would need to be equitable to these outliers – assuming that the reason for the high cost is casemix related.

It is difficult to assess on current data, if an MDT tariff could be designed that is equitable and not overly complex. Further assessment of current costs on a consistent costing methodology is needed.

	SPECIALTY										
Hospital	Gynae	Colorectal	Palliative	Skin	Urology	Haem/Lymp	Breast	Upper GI	Lung	Colonoscopy	Head & neck
BSUH	£ 36.43	£ 216.64			£ 350.94	£ 113.77	£ 39.52	£ 192.13	£ 351.88		£ 130.36
BSUH DGH	£ 58.50	£ 101.93	£ 13.76				£ 80.02		£ 75.08	£ 161.67	
BSUH Conq	£ 14.62	£ 161.67					£ 80.02		£ 86.26		
BUSH Joint	£ 110.10			£ 169.10	£ 178.21	£ 138.95		£ 70.28			
WASH	£ 152.52	£ 166.21					£ 153.51				
West Herts	£ 145.87	£ 160.52							£ 139.73		
Bromley		£ 84.60					£ 74.03				
QEW		£ 185.92					£ 157.55				
Wycombe	£ 132.60	£ 41.65					£ 42.08				
Stoke Mandiville	£ 110.50	£ 69.42					£ 60.78				
Milton Keynes	£ 138.68	£ 221.18					£ 151.21				
Arden	£ 124.53	£ 111.17									
Unknown	£ 121.66	£ 135.65									
Leeds TH	£ 155.38	£ 137.57									
Bradford	£ 209.78	£ 243.15									
Airdale		£ 226.00									
Salisbury	£ 282.13	£ 486.35									
Kings		£ 179.41									
G&T	£ 103.00	£ 182.00									
QMS	£ 162.42	£ 221.71									
UHL	£ 1,303.00	£ 508.98									



Appendix E: Analysis of Radiotherapy Bunker Costing

This appendix contains the analysis PA were asked to carry out as part of our review looking at the build up of costs for radiotherapy and the implications of bunker investment costs on tariff.

E1. Information about the cost of radiotherapy treatments in England give very different results depending on source

This appendix contains five different views on unit costs

E2 - Reference cost returns June 2007

E5 - DH indicative tariffs for radiotherapy

E6 - Cost estimate from the Royal College of Radiology

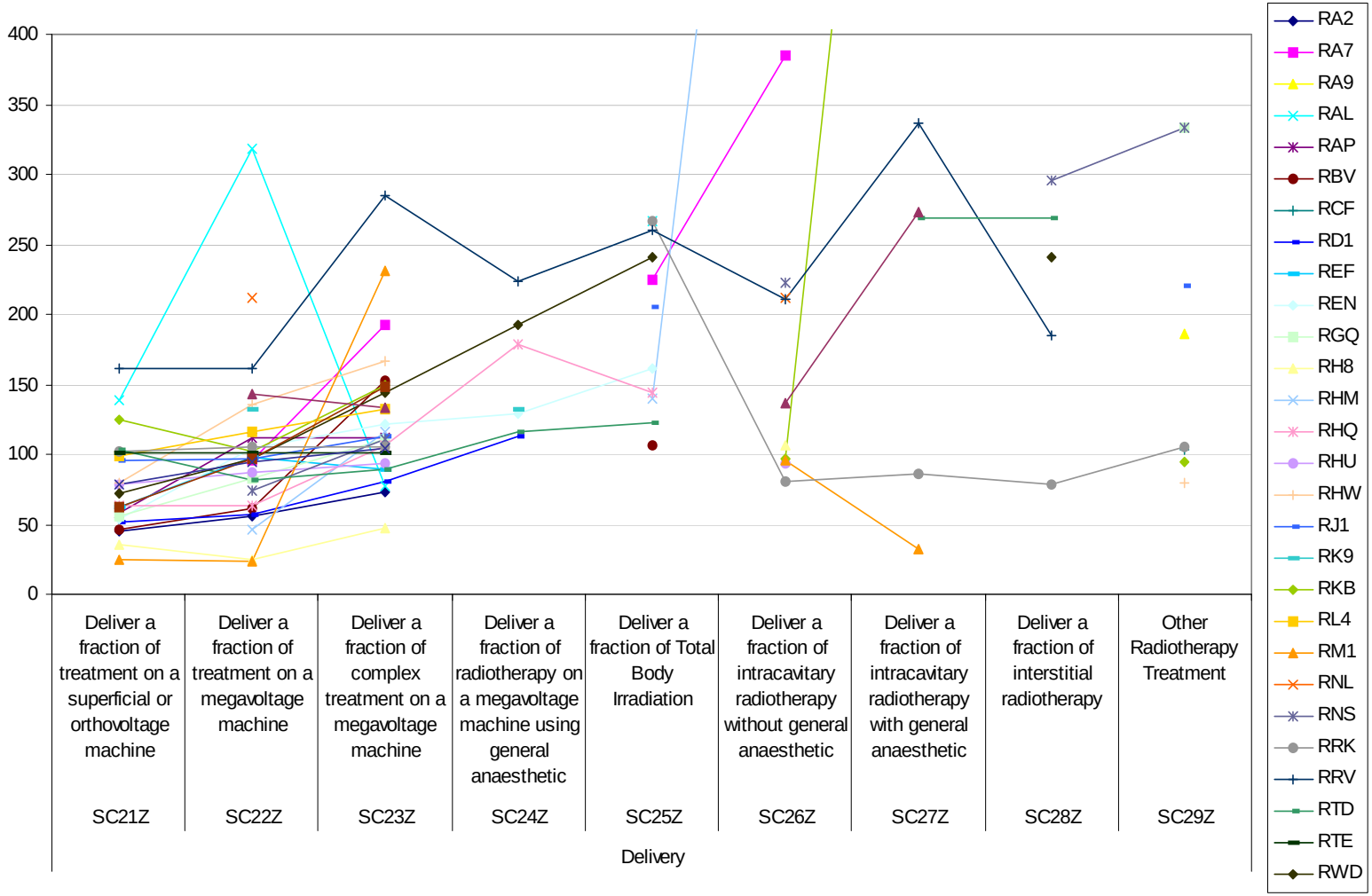
E8 - Bottom-up costing estimate for 2007

E11 - Summary of cost estimates per LinAc per year

E2. Reference cost returns for radiotherapy suggest an average cost per fraction of £80 to £160 for the most common treatments, and in addition a planning cost for each course of treatment of about £250

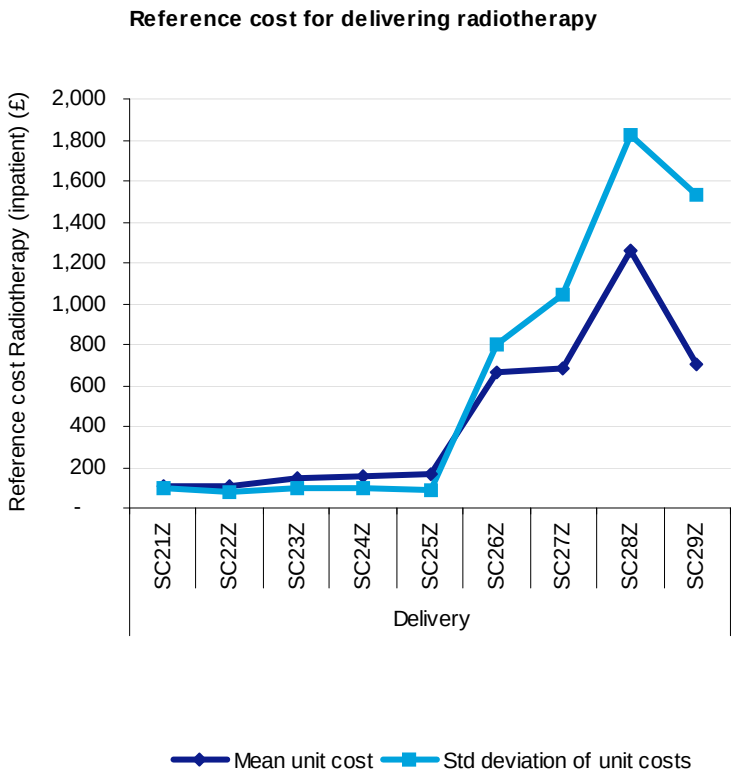
			Radiotherapy Inpatient			Radiotherapy Outpatient		
Type	**HRG4 code**	**HRG4 description**	**Mean unit cost**	**Number of returns**	**Standard deviation of unit costs**	**Mean unit cost**	**Number of returns**	**Standard deviation of unit costs**
Delivery	SC21Z	Deliver a fraction of treatment on a superficial or orthovoltage machine	105	8	94	78	23	34
	SC22Z	Deliver a fraction of treatment on a megavoltage machine	111	16	82	103	29	57
	SC23Z	Deliver a fraction of complex treatment on a megavoltage machine	142	13	101	126	27	50
	SC24Z	Deliver a fraction of radiotherapy on a megavoltage machine using general anaesthetic	160	4	98	155	7	43
	SC25Z	Deliver a fraction of Total Body Irradiation	169	5	92	194	11	61
	SC26Z	Deliver a fraction of intracavitary radiotherapy without general anaesthetic	666	7	802	290	12	306
	SC27Z	Deliver a fraction of intracavitary radiotherapy with general anaesthetic	682	9	1041	857	7	1430
	SC28Z	Deliver a fraction of interstitial radiotherapy	1257	11	1827	1455	8	2108
	SC29Z	Other Radiotherapy Treatment	706	12	1530	245	9	212
Planning	SC01Z	Define volume for SXR, DXR, electron or megavoltage radiotherapy without imaging and with simple calculation	239	12	399	266	24	464
	SC02Z	Define volume for simple Radiation Therapy with imaging (Simulator, CT scanner etc) but with simple calculation and without Dosimetry	347	19	496	235	25	240
	SC03Z	Define volume for simple Radiation Therapy with imaging and Dosimetry	385	12	498	360	26	333
	SC04Z	Define volume for multiple phases of complex Radiation Therapy with imaging and Dosimetry	360	8	401	569	23	562
	SC05Z	Define volume for Radiation Therapy with imaging, Dosimetry and technical support e.g. mould room	535	8	641	651	26	638
	SC06Z	Define volume for Radiation Therapy with imaging and Intensity-modulated Radiation Therapy Dosimetry or equivalent	546	3	317	1402	9	1162
	SC07Z	Prepare for Total Body Irradiation	253	1	-	1521	7	1126
	SC08Z	Prepare for intracavitary radiotherapy	287	8	217	618	12	576
	SC09Z	Prepare for interstitial radiotherapy	292	3	175	1118	7	1220
	SC10Z	Other Radiotherapy Planning	389	8	444	196	4	124

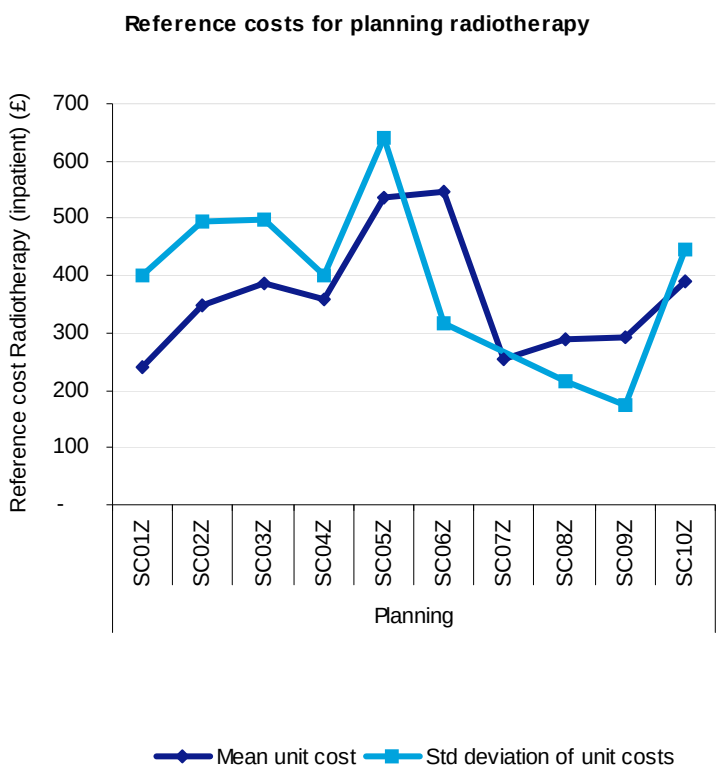
E3. But, the reference costs reported by each trust are highly variable



2007 Reference cost returns for radiotherapy (outpatients)

E4. The standard deviations for the reported reference costs are equal or higher than the mean reference costs





E5. DH's indicative tariffs for 2008/9 suggest a remuneration per course of treatments of about £70 to £120

Code	Description	Tariff (£)
w0012x	Superficial Teletherapy	88
w0035x	Simple Teletherapy	70
w0068x	Simple Teletherapy with Simulator	103
w0912x	Complex Teletherapy	108
w1316x	Complex Teletherapy with Imaging	120
w1700x	Complex Teletherapy with Imaging & Multiple Planning	143
w1800x	Complex Teletherapy with Imaging, Hyperfraction	101
w1900x	Complex Teletherapy with Imaging & Multiple Planning, Hyperfraction	175
w2023x	Teletherapy with Technical Support	126
w2400x	Teletherapy with Technical Support and Multiple Planning, >23 Fractions	141
w2500x	Teletherapy with Technical Support, Hyperfractionation	173
w2600x	Teletherapy with Technical Support and Multiple Planning, Hyperfractionation	179
w4000x	Live Source Brachytherapy without Anaesthetic	803
w4100x	Live Source Brachytherapy with Anaesthetic	4,181
w4200x	Manual Afterload Brachytherapy without Anaesthetic	263
w4300x	Manual Afterload Brachytherapy with Anaesthetic	154
w4400x	Mechanical Afterload, Low Dose Brachytherapy without Anaesthetic	2,907
w4500x	Mechanical Afterload, Low Dose Brachytherapy with Anaesthetic	1,089
w4600x	Mechanical Afterload, High Dose Brachytherapy without Anaesthetic	470
w4700x	Mechanical Afterload, High Dose Brachytherapy with Anaesthetic	721
w6000x	Outpatient Unsealed Source Brachytherapy	188
w6100x	Inpatient Unsealed Source Brachytherapy	593

Note: Tariffs have been adjusted to remove the MFF. If these tariffs are used for commissioning purposes then a suitable adjustment to take account of the MFF will be required.

E6. Examples of costs for radiotherapy departments by the Royal College of Radiology suggest costs per fraction of £51 – based on 1997 costs

Example from the Royal College or Radiologists evaluate the cost and activity impact of operating 3 LinAcs 12 hour days or operating 4 LinAcs 8 hour day.

- The example is based on cost information from Southampton and Birmingham Radiotherapy Centres.
- The approximate cost per fraction (assuming 8000 fractions per LinAc per year) is £51
- This assumes no additional payments for treatment planning
- This example is based on 1997 costs – so needs to be updated to 2007 costs

Example based on data from Southampton and Birmingham RT centres

E7. Adjusting the cost examples provided by the Royal College of Radiology to today's levels gives an average cost per fraction of £76

Assumptions used to adjust 1997 example to today's cost	
Years in the period	10
Salary growth per year	4%
Equipment cost inflation	5%
Salary growth (1997-2007)	48%
Equipment costs (1997-2007)	63%

Environment parameters 2007	
Interest rate on capital (PSD)	3.5%

- Adjusting the costs from the 1997 example to today with assumptions of 4% salary growth and 5% inflation in equipment and other costs per year, gives a cost increase of about 50%
- But capital costs have decreased as the standard government public sector dividend rate has been adjusted down from 6% to 3.5% per year from 1997 to 2007
- This assumes no additional payments for treatment planning

E8. Bottom up cost model building on Royal College model
Estimate of fixed costs per LinAc per year

Environment parameters

Interest rate on capital 3.5%

Fixed costs	Unit cost	Expected life	Cost per year	Total repayment
Capital costs of Buildings	1,628,890	28	89,080	2,494,240
Capital costs of LinAcs	814,450	12	81,430	977,160
Total fixed costs			170,510	3,471,400

E9. Estimate of staffing costs per LinAc per year

		WTE	Unit cost	Cost per year
Radiographers per LinAc per year				
Staffing LinAcs	Senior I	2.00	26,240	52,480
	Senior II	2	22,450	44,900
Simulator	Senior II	0.67	22,450	14,967
Preparation/cover	Senior I	0.67	26,240	17,493
Medical physics per LinAc per year				
Machine support	Electronics technician	0.67	25,650	17,100
	Mechanical technician	0.67	16,020	10,680
Treatment planning	Planning technician	0.67	21,080	14,053
Mould room	Planning technician	0.67	21,080	14,053
Clinical science	Clinical scientists support	2.00	27,020	54,040
Other staff per LinAc per year				
Nurses		0.50	22,500	11,250
Receptionists		0.53	15,360	8,192
Secretaries		0.67	26,940	17,960
Domestic staff		0.25	11,840	2,960
Porters		0.75	11,840	8,880
Total staff costs				289,009
National Insurance (11.5%)				33,236
Total staffing costs per LinAc per year				322,245

E10. Estimate of other variable cost per LinAc per year

Other variable costs per LinAc per year	
Patient transport	74,280
Machine spares	16,290
Drugs	2,350
Blood tests	410
Imaging	7,330
Total non-pay	100,660

E11. Summary of cost estimates per LinAc per year

Summary of annual costs per LinAc	Total costs	Less 25% staff costs
Capital costs of Buildings	89,080	89,080
Capital costs of LinAcs	81,430	81,430
Total staffing costs per LinAc per year	322,245	241,683
Total non-pay	100,660	100,660
Total costs per year	593,415	512,853

Activity	
Operating hours per day	8
Operating days per week	5
Available LinAc hours per week	40
Fractions per year	8,000

Total costs	Total costs	Less 25% staff costs
Estimate of the cost per fraction	£74	£64

Note – this model over-estimated the cost of delivery as it includes all staff costs for running the complete radiotherapy centre – so planning as well as delivery. The table above shows the impact of assuming 25% staff costs are due to planning not delivery.