Monitor

Approved Costing Guidance: A draft for stakeholder feedback

Published 20 November 2012

Contents

Introduction

The Health and Social Care Act (2012) gives Monitor and the NHS Commissioning Board joint responsibility for setting prices for NHS-funded services in England. Monitor will lead on developing the methodology for price setting, calculating prices, enforcing the pricing regime (through Monitor's provider licence), approving local modifications to national prices and setting rules for local pricing. The NHS Commissioning Board will lead on developing the scope and design of currencies (the services to be priced), and setting rules around local variations to the National Tariff. Monitor and the NHS Commissioning Board will jointly agree the National Tariff before it is published.

Why we are publishing this costing guidance

Obtaining accurate and comparable cost data is fundamentally important to support our new role in calculating the prices for NHS-funded services in England.

Patient-Level Information and Costing Systems (PLICS) are increasingly used by providers for internal management and benchmarking across the NHS. In the long term, we are seeking to align cost collection with PLICS. However, in the meantime, we will need data on both reference costs (which are already a mandatory requirement on all NHS providers) and patient-level costs. For this reason, providers should:

- Continue to submit reference costs,
- Provide patient-level cost data where possible, and
- Improve the quality of data on both reference costs and patient-level costs.

Monitor will publish final *Approved Costing Guidance* in early 2013 to support this process. This will set out costing principles, costing standards, and guidance for both reference costs and PLICS collections for 2012/13. It will also explain the approach to costing and cost collection, which Monitor is encouraging providers of NHS-funded services to adopt – and gives further details of the requirements that providers will need to comply with to meet the proposed licence conditions. It will help providers prepare data to consistent standards.

Approved Costing Guidance is designed to support the implementation of the policies set out in *Costing Patient Care*, our policy document which we are also publishing today. *Costing Patient Care* sets out our intentions on costing and cost collection for 2013, and the direction of policy for future years to support our future responsibility for price setting. It describes how NHS cost data is currently collected, our proposed objectives for costing, long-term vision and proposed policies and actions for 2013.

The *Approved Costing Guidance* is expected to contain four chapters:

- **Chapter 1: Costing principles**
  Prepared by Monitor – draft included in this document.

- **Chapter 2: Costing standards**
  Prepared by the Healthcare Financial Management Association (HFMA) – to be published in early 2013.

- **Chapter 3: Reference costs guidance**
  Prepared by the Department of Health – to be published in early 2013.

- **Chapter 4: PLICS collection guidance**
  Prepared by Monitor – draft included in this document.

Chapters 2 and 3 are being prepared by the Healthcare Financial Management Association (HFMA) and the Department of Health respectively, who will update last year's Costing Standards and Reference costs guidance.

We are publishing *Approved Costing Guidance* – which includes this introduction and drafts of chapters 1 and 4 of the guidance – today in order to receive comment and feedback before the guidance is finalised, and to give providers and other stakeholders the opportunity to have early sight of our intentions.

The final guidance in early 2013 will give providers the opportunity to prepare for reference costs submissions and to participate in the pilot PLICS collection of 2012/13 data.

Monitor's provider licence

Monitor's provider licence is expected to come into force from April 2013 for NHS foundation trusts and apply to all other providers of NHS-funded services from April 2014. Under the proposed licence conditions, Monitor will be able to collect cost information which is prepared and assured to certain standards. The three proposed licence conditions that relate to costing are:

- **Pricing Condition 1: Recording of information**
  Under this licence condition, Monitor could require licence holders to record information (including cost information) in line with guidance to be published by Monitor.

- **Pricing Condition 2: Provision of information**
  Having recorded the information in line with Pricing Condition 1 above, licence holders could then be required to submit this information to Monitor.

- **Pricing Condition 3: Assurance report on submissions to Monitor**
  When collecting information for price setting, it will be important that the information submitted is accurate. This condition would allow Monitor to oblige licence holders to submit an assurance report confirming that the information they have provided is accurate.

The *Approved Costing Guidance* provides further details of the requirements that providers will need to comply with to meet the proposed licence conditions.

Intended users of each chapter of the guidance

Table 1 provides a guide to the content and intended users of each chapter of the *Approved Costing Guidance*.

Table 1: Structure and intended users of the Approved Costing Guidance

Chapter		Contents	Intended users				
			Acute	Mental Health	Community	Ambulance	Independent
Chapter 1	Costing principles (Monitor)	High-level principles that underpin any NHS costing exercise, and steps to help providers apply these principles[1] developed by Monitor.	✓	✓	✓	✓	✓
Chapter 2	Costing standards (HFMA)	The standards for clinical costing for acute and mental health providers, developed by the HFMA[2]. The 2013/14 standards are expected to be published in early 2013.	✓	✓			
Chapter 3	Reference costs guidance (DH)	The annual update of the reference cost guidance. This document is being prepared by the Department of Health for publication in early 2013. Applies to collection of 2012/13 data.	✓	✓	✓	✓	
Chapter 4	PLICS collection guidance (Monitor)	New guidance for collecting patient-level cost data. The 2012/13 collection will be open to all acute providers[3] on a voluntary basis. Pending the outcome of the pilot collection, we may expand the collection in future years.	✓				

[1] The costing principles apply to all providers with or without PLICS. They can also be used by other organisations that have an interest in NHS costing.
[2] Although the current set of costing standards are designed specifically for acute and mental health service providers, some of the standards can be applied to other types of service provider.
[3] The PLICS collection guidance and template apply to acute providers. If any non-acute provider with PLICS wishes to supply PLICS data to Monitor for 2012/13, please email pricing@monitor-nhsft.gov.uk to discuss this.

Compliance with the guidance

We strongly encourage all providers to follow the *Approved Costing Guidance*. The clinical costing standards are expected to be updated and published by the HFMA in early 2013 and will be included as chapter 2 of the *Approved Costing Guidance*. Where possible, we recommend providers follow these standards for the 2012/13 reference costs collection and pilot PLICS collection. However, we acknowledge that in some cases it may not be possible to cost in ways that meet the updated costing standards. As a result, adherence to the standards will be on a "comply or explain" basis only – where providers can explain any non-compliance with the standards without the risk of enforcement action.

Table 2 sets out our proposals for the compliance status of the guidance. These may be reviewed in the future.

Table 2: Compliance status of guidance documents

Chapter		Compliance status
Chapter 1	Costing principles	Recommended practice for all providers of NHS services.
Chapter 2	Costing standards	Recommended costing standards for both acute and mental health service providers. Although the costing standards are designed for PLICS users, some of the standards (e.g. Standard 8 Data Integrity) can be followed by providers without PLICS. For the 2012/13 PLICS collection, participating providers will be asked to explain where they have not complied with the acute clinical costing standards.
Chapter 3	Reference costs guidance	Mandatory cost collection guidance for all NHS Trusts and Foundation Trusts.
Chapter 4	PLICS collection guidance	Cost collection guidance for acute providers that choose to participate in the collection of PLICS data.

Development of the guidance

Guidance for costing and cost collection has been developed and updated over a number of years by the Department of Health, the HFMA and Monitor, as shown in Table 3.

Table 3: Previous NHS costing guidance

Document	Purpose	Publisher
2011/12 Reference costs guidance	Guide to reference costs collection process	Department of Health
PLICS and reference costs best practice guidance	Guidance which supports the use of PLICS to inform reference costs	Department of Health
The NHS costing manual	Mandatory guidance to top-down costing methodology	Department of Health
Acute clinical costing standards	Guide to patient-level costing for acute providers	HFMA
Mental health clinical costing standards	Guide to patient-level costing for mental health service providers	HFMA
Service line reporting[4]	Guide to implementation of Service Line Reporting and Management	Monitor

We have reviewed existing guidance documents and international best practice[5] and, in partnership with the Department of Health and the HFMA, have revised the suite of costing and cost collection guidance documents.

The first five of these six documents will be incorporated into the *Approved Costing Guidance* (which will include the HFMA's Costing Standards and the Department of Health's Reference costs guidance). The Department of Health has decommissioned the NHS Costing Manual. It will no longer be published; its content has been reviewed by the Department of Health, HFMA and Monitor and will be incorporated into the appropriate chapters of the *Approved Costing Guidance*. For example, the full absorption costing approach described in the Costing Manual will continue to underpin reference costs and the PLICS data collection. Maximising direct charging has been included as part of the recommended costing steps in chapter 1. The guidance on Service Line Reporting (SLR) continues to be applicable in its current form, and is available on Monitor's website.

[4] Service Line Report Toolkit, Monitor
[5] A report by Imperial College on international health costing, commissioned by Monitor and the HFMA (to be published in 2013).

Questions for stakeholders

We welcome comments on all aspects of Monitor's new draft *Approved Costing Guidance*.

In particular, we appreciate your views and comments on the following questions:

- Chapter 1: Costing Principles

    a. Do you agree with the costing principles outlined in chapter 1?
    b. Are the costing steps outlined in chapter 1 helpful for providers?
    c. Are there any aspects of costing which require further guidance?

- Chapter 4: PLICS collection guidance

    d. Is the collection guidance sufficiently clear and easy to follow?
    e. Can the proposed fields of data be fairly readily provided by your organisation? If not, what changes would make that more feasible?
    f. Would your organisation be interested in participating in the pilot data collection?

A PLICS data collection template is under development. The draft version is currently available on request. Any providers interested in assisting Monitor with the development of the template should contact us by email at pricing@monitor-nhsft.gov.uk.There is an additional question for providers that have requested and reviewed the draft PLICS collection template:

    g. Is the template compatible with your costing system? Is it straightforward to use?

To respond, please download and complete the response form on our website and return it by **5pm on Tuesday 11 December 2012**. We will consider your comments as we finalise the guidance for publication in early 2013.

This document was published on Tuesday 20 November 2012.

Please send your answers and/or general comments to pricing@monitor-nhsft.gov.uk. If you do not have internet or email access please write to:

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Monitor
3rd Floor
Wellington House
133-155 Waterloo Road
London SE1 8UG

Please note: we may use your details to contact you about your response or send you information about our future work.

Approved Costing Guidance

Chapter 1 – Costing Principles

(Draft, November 2012)

Chapter 1 – Costing Principles

Chapter 1 of the *Approved Costing Guidance* contains the costing principles that apply to NHS providers. Using this guidance (in conjunction with other chapters where appropriate) should improve the accuracy, consistency and relevance of costing. After introducing the six principles of costing, the document goes on to describe how to apply these principles in a series of steps.

The costing principles and supporting steps outlined in this chapter are recommended practices.

1.1 The six costing principles

Providers use cost data to manage services and improve operational efficiency. Cost data is also used to support the development of pricing and currency design for reimbursement purposes.

Although different costing purposes may require different costing approaches, we have developed six universal principles which should be applied to all NHS costing exercises. These principles have been developed following a review of costing guidance and engagement with the sector and leading academics and researchers specialising in costing in the health care sector. When combined with the costing standards set out in chapter 2, we expect them to improve costing.

Table 1 - Principles of NHS costing

Principle 1 – Stakeholder Engagement Effective costing requires input from a wide range of stakeholders, including non-finance staff.
Principle 2 – Consistency For some costing purposes, a consistent approach is required across or within organisations.
Principle 3 – Data Accuracy Accurate costing relies on the quality of the underlying input data.
Principle 4 – Materiality Costing effort should be focused on material costs and activities.
Principle 5 – Causality and Objectivity Costing should be based on an understanding of causality to minimise its subjectivity.
Principle 6 – Transparency Costing should be transparent and auditable.

Principle 1 – Stakeholder Engagement
Effective costing requires input from a wide range of stakeholders, including non-finance staff.

Costing is sometimes viewed as a “Finance Department only” exercise in NHS organisations. However, NHS costing is best performed through engagement with other non-finance stakeholders. To ensure costing is accurate and locally relevant, finance staff should work with those performing the activities being costed as well as those likely to use cost information in decision making. This will also help cost accountants focus on collecting the most relevant information to develop costing information that is most suitable for its intended purpose.

In the NHS, typical stakeholders that should be involved in the costing process are:

- Clinical staff (e.g. consultants, other clinicians, nursing staff)[6],
- Non-clinical staff involved in service delivery (e.g. operational managers),
- Staff from the informatics division and clinical coding department, and
- End users (e.g. senior management of providers, regulators).

Historically, NHS costing has not been given due prominence at Board level. More senior management involvement in the costing process and an increased use of costing information to support management decisions will help to improve the quality of costing data.

Principle 2 – Consistency

For some costing purposes, a consistent approach is required across or within organisations.

For costing purposes such as pricing and benchmarking, it is important that a consistent approach is adopted across organisations. For example, a consistent approach is required across organisations for reference cost submissions to enable cost comparison. Consistency is sometimes also required within an organisation. For example internal consistency is important for time series analysis to assess performance over several years. The HFMA Clinical Costing Standards (incorporated as chapter 2 of this document) should help to improve consistency in NHS costing over time. We intend to work with HFMA to develop further these standards in the future.

Principle 3 – Data Accuracy

Accurate costing relies on the quality of the underlying input data.

Accurate costs can only be estimated with accurate input data. Complex costing exercises, such as reference costs, PLICS, or SLR, require data inputs from many different sources such as:

- Accounting data (e.g. General Ledger, Trial Balance),
- Patient-level activity data (e.g. admissions, length of stays, operating theatres usage, number of diagnostic tests undertaken, drugs prescribed),
- Clinical staff activity data (e.g. time spent in different patient care settings, consultant job plans), and
- Clinical coding.

Such information is typically recorded on a range of different systems, e.g. the accounting system, patient administration system, theatre system or pathology system. All this information has to be brought together in the costing process. The quality and coverage of the input data is key to ensuring the quality of the final costing outputs, and PLICS have the best potential capability to bring such information together.

One area known to cause problems with data quality is activity data definitions. A recent Audit Commission report described the problems created by inconsistent classification of routine short-stay

[6] Four Levels of Clinical and financial Engagement, Dr Mahmood Adil – see Annex 2

patients as inpatients or outpatients[7]. To avoid this type of problem, activity data from the NHS minimum datasets must be correctly recorded using the NHS Data Dictionary[8].

Principle 4 – Materiality

Costing effort should be focused on material costs and activities.

It is desirable that providers can trace all resources to activities and cost outputs at a very granular level (e.g. at individual patient level). However, in reality, resources for costing are scarce and providers must focus their efforts on priority areas. The effort applied to costing should be proportionate to the materiality of the costs being estimated. The following three steps should help providers to judge the proportionality of costing effort:

- Focus on high cost resources first, e.g. medical or nursing staff costs[9],
- Determine with stakeholders the level of accuracy required for the costing purpose, e.g. costing for large investment decisions justifies a high level of accuracy, and
- Estimate the expense and time commitment of additional accuracy.

Principle 5 – Causality and Objectivity

Costing should be based on an understanding of causality to minimise its subjectivity.

Costing has to attribute costs to the activities and services which caused the cost to incur. Engagement with stakeholders will help cost accountants to understand the causal relationship between services, activities and costs. Costs should be assigned accurately on the basis of causality to avoid the end results being arbitrary.

Costs calculated based on causality can also help clinicians to deliver more cost effective services. This type of costing enables clinicians to see the relationship between the services they deliver and the financial impact this has on the organisation. An understanding of causality is also beneficial for price setting. If costs are assigned to cost objects (see Step 1 for definition) based on causation, prices should be better able to incentivise efficient clinical and operational behaviour.

Where costs and activity do not have an obvious causal relationship, for example overhead costs, they should be allocated on an agreed method within and across organisations.

Principle 6 – Transparency

Costing should be transparent and auditable.

For all costing purposes, it is important to document the costing process transparently. This might include recording the activities underpinning a cost object, the input data sources, the categorisation of costs, the cause and effect relationship between resource costs and activities and any assumptions used for allocation.

[7] By Definition: Improving the data definitions and their use in the NHS, Audit Commission (2012)
[8] NHS Data Dictionary http://www.datadictionary.nhs.uk/
[9] See Measure Costs Right: Make the Right Decisions, Cooper and Kaplan (1988)

Transparent costing has two benefits:

- Showing the assumptions and source data to end users will improve the credibility of the outputs and may help to deliver desired behaviour change.
- A clear audit trail will facilitate reconciliation and assurance processes.

For example, HRGs[10] as cost objects are not always transparent. On the other hand, PLICS allows users to drill down into the underlying cost of patient care. This will increase users' ability to interpret the costs and help engagement of clinicians and other stakeholders.

[10] Standard groupings of clinically similar treatments which use common levels of health care resource.

1.2 Applying the principles

NHS costing has traditionally adopted a predominately “top down” allocation approach through the analysis of the general ledger. Although this is a relatively simple way to calculate the costs, the accuracy of the results is often called into question, as the methodology is heavily based on using average estimates and apportionment methods which may not reflect the actual resource usage.

To apply the costing principles outlined in section 1.1 and increase the accuracy of NHS costing, we recommend providers adopt an activity-based costing (ABC) approach.

Table 2 - Activity-based costing

Why activity-based costing?

The concept of activity-based costing (ABC) was first developed for manufacturing industries as a way to deal with increased complexity and competition. ABC focuses on the identification of activities which a business performs and then assigns the costs to these activities based on causal relationship analysis. Using ABC means that all the individual activities that are part of a delivery process can be accurately costed.

Over the past decade, ABC has been widely adopted by the service sector, including the health care sector. In a recent publication[11], Professor Robert Kaplan and Professor Michael Porter argued that ABC could increase health care providers’ understanding of how much it costs to deliver patient care, and help to achieve “a true bending of the cost curve from within the system, not based on top-down mandates”.

Successful implementation of ABC is largely dependent on a good understanding of health care activities performed and data available to support the analysis of such activities.

In recent years, a move towards PLICS has seen a much wider adoption of ABC in the NHS. PLICS embodies the concept of ABC and puts an emphasis on collecting activity data at individual patient level. It allows providers to analyse the causality between activities and costs at a granular level. A recent study conducted by Nuffield Trust showed that PLICS has greater potential to generate more accurate and relevant cost data for the NHS, and will increase the clinical ownership of the cost data and help providers to improve their operational efficiency.[12]

[11] How to Solve the Cost Crisis in Health Care, Harvard Business Review, September 2011
[12] Patient-Level Costing: can it yield efficiency savings? Published by Nuffield Trust, September 2012

Based on the concept of ABC, we have developed six steps to support the implementation of the costing principles.

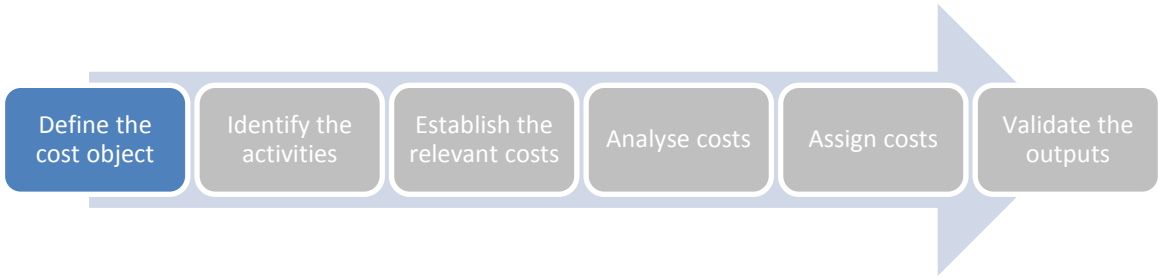
- Step 1: Define the cost object
- Step 2: Identify the activities
- Step 3: Establish the relevant costs
- Step 4: Analyse costs
- Step 5: Assign costs
- Step 6: Validate the outputs

Figure 1 – Six costing steps

These six steps should be followed sequentially. Together with the principles, they form the recommended practice for regulatory cost returns, such as reference costs and the PLICS data collection outlined in chapter 3 and chapter 4 of the *Approved Costing Guidance*. They may also be used by NHS providers undertaking internal costing exercises such as Service Line Management.

The steps are a high level guide to the costing process. For each step, we have provided cross references to other guidance documents, such as the HFMA costing standards, and definitions of key costing concepts for more detailed guidance. In what follows, we describe more fully the key features of each step.

Step 1 – Define the cost objects



Step 1 – Define the cost objects	
Costing concepts	• Cost objects
Further guidance on Step 1	**Chapter 2: HFMA clinical costing standards** • Standard 8 – Data integrity **Chapter 3: Reference costs guidance** • To be updated after reference costs guidance publication in 2013 **Chapter 4: PLICS collection guidance** • Section 4.2 Scope of the data collection

Guidance

For any costing exercise, the first step is to define what needs costing. This is known as a "cost object". A cost object is a product or a service (such as an episode of patient care or a service line) for which costs are accumulated or measured.

For some costing purposes, such as reference costs, the cost objects are pre-defined by mandatory guidance. For example, in reference costs, the cost objects include:

- HRGs by episode and spell for admitted patient care,
- Attendances for outpatient activity for acute services, and
- Care clusters for mental health services.

However, for other costing exercises, such as Service Line Reporting, cost objects need to be appropriately defined by individual providers to suit their organisation. This may involve engaging stakeholders to ensure that the cost objects are defined at a level that is appropriate and relevant to support the costing purposes and required reporting frequency.

When defining a cost object, organisations should also consider whether costing such a cost object (e.g. the level / granularity) can be adequately and accurately supported by the adopted costing approach. It should be noted that ABC, as opposed to the traditional top down costing, allows organisations the flexibility to design their cost objects and report more easily at many different levels, as ABC focuses on activities needed to support the defining of the cost object. This allows costs to be aggregated in many different ways to serve different reporting purposes. However, this approach does require sophisticated activity recording, which could potentially be expensive. These

factors should be considered (as described in Principle 4 Materiality) before defining the most appropriate cost object to suit the costing purpose.

The impact of clinical coding on the cost objects

The quality of the information used to derive the cost objects will impact on the accuracy of the costing information[13].

In acute services, HRG-based cost objects are derived from the underlying diagnoses and procedure codes recorded by clinical coders based on information written in patient notes by clinicians. Inaccurate coding or incomplete information in the patient notes will feed through into inaccurate costing. For example, if a patient's co-morbidities are not adequately captured, the coding department will not have enough information to reflect the patient's condition within the diagnoses coded. Similarly, a lack of specificity in procedure coding will result in the incorrect HRG being assigned. In both instances a provider's costs for this activity will be allocated to the incorrect cost object.

In mental health services, care clusters for working age adults and elderly patients are based on HoNOS[14] coding allocated by clinical staff. Such coding requires clinical judgement and timely recording.

For all types of activity, it is important to engage clinicians and clinical coders in the costing process. Internal or external reviews of clinical coding are also a key mechanism for improving activity data quality, with a positive impact on the quality of costing.

[13] Improving coding, costing and commissioning; Annual report on the Payment by Results data assurance programme 2010/11, Audit Commission (2011)
[14] Health of the Nation Outcome Scale (Working Age Adults)

Step 2 – Identify activities

Step 2 – Identify activities	
Costing concepts	• Activities
Further guidance on Step 2	**Chapter 2: HFMA clinical costing standards** • No specific standard, although activity features throughout the guidance **Chapter 3: Reference costs guidance** • To be updated after reference costs guidance publication in 2013 **Chapter 4: PLICS collection guidance** • Section 4.2 Scope of the data collection

Guidance

To allow costs to be accurately assigned to a defined cost object, there is a need to identify the activities associated with a cost object which consumes resources. This is to help determine the cost causality when it comes to allocation. Traditional top down costing often reviews activities based on departments while ABC reviews activities via processes. The latter helps to ensure cost causality can be most effectively established, especially if a cost object is underpinned by a complex process which consists of multiple activities and consumes different types of resources.

Identification of activities is also important for any cost objects that are new to NHS services, for example, new currencies or services that are being introduced. Such analysis will help to increase the understanding of what is being costed.

Activity analysis

One approach to activity analysis is to establish an activity and resource map. As shown in Figure 2, this breaks down the cost object into underlying processes, activities and resources consumed. This illustration shows a simple mapping of activities associated with a patient pathway, in this instance a diabetes pathway, and potential resources consumed to deliver these activities.

Figure 2: Illustrative activity and resource input map

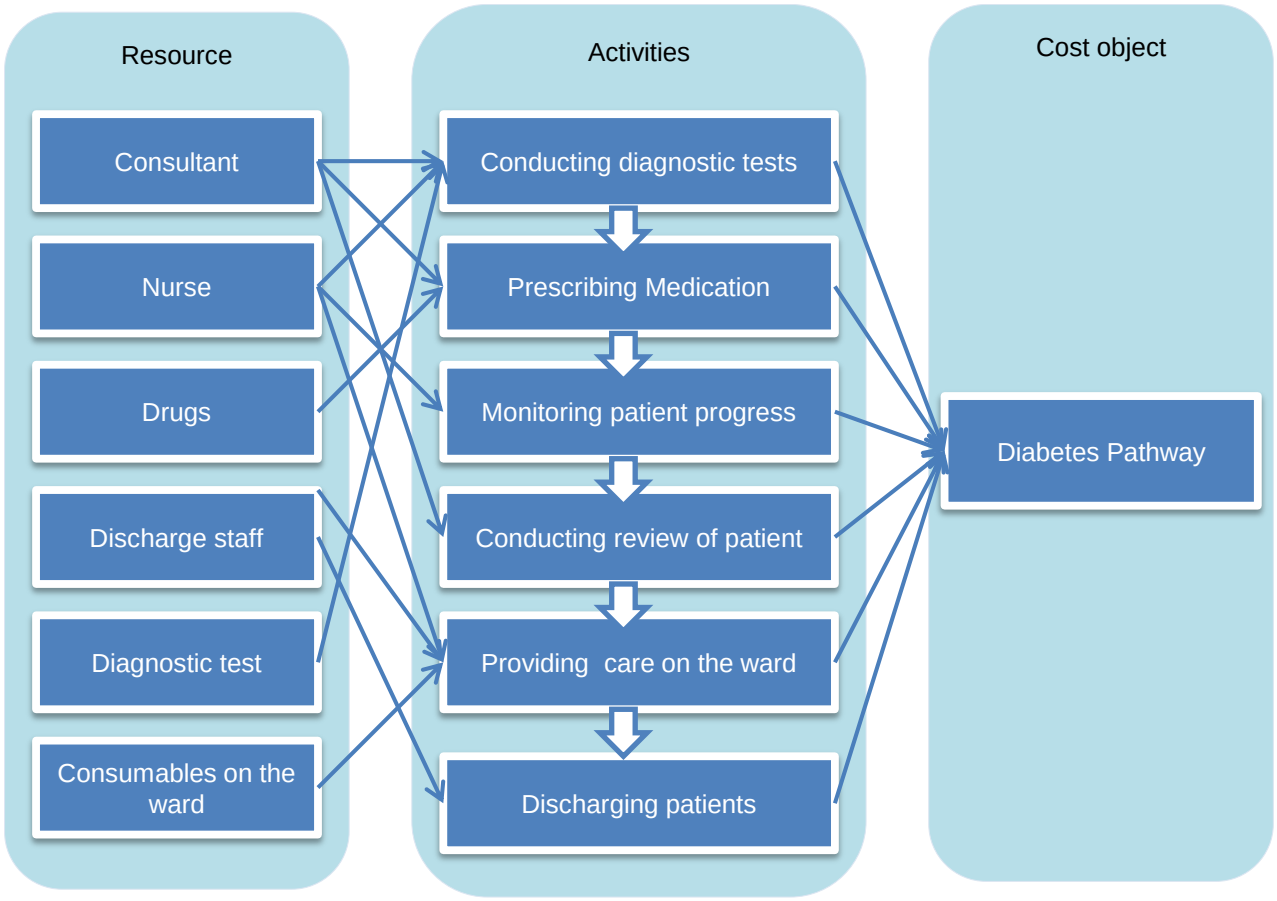
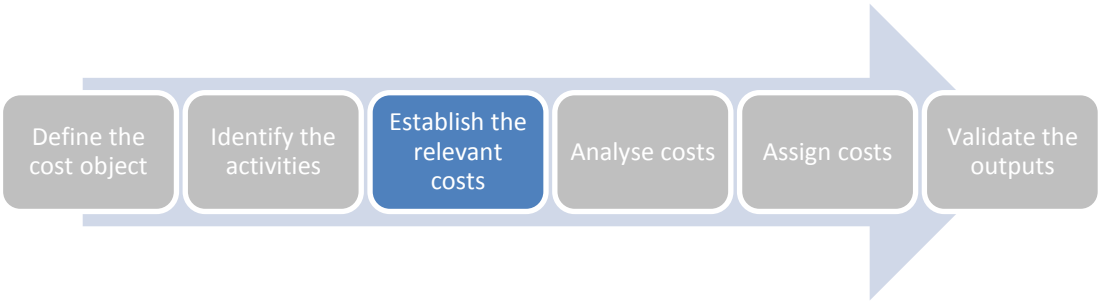


Figure 2 shows a simplified mapping of activities associated with a patient pathway and potential resources consumed to deliver these activities. It is possible that a delivery process associated with a cost object may consist of different layers of activities and be far more complex than the example illustrated above. When undertaking such mapping, costing practitioners should ensure all activities associated with a cost object and the resources consumed are fully captured.

The benefit of activity mapping is that it provides insight into the delivery processes and builds the foundation for the cost and activity analysis (which is described under Step 5) to be performed. It also provides a basis for more meaningful conversations with stakeholders by examining how costs can be saved by streamlining and standardising processes and activities.

Step 3 – Identify the relevant costs



Step 3 – Identify the relevant costs	
Costing concepts	• Cost quantum
Further guidance on Step 3	**Chapter 2: HFMA clinical costing standards** • No specific standard **Chapter 3: Reference costs guidance** To be updated after reference costs guidance publication in 2013 **Chapter 4: PLICS collection guidance** • Section 4.3 Inclusions and Exclusions

Guidance

Once the cost object has been defined and associated activities and resource have been identified, the next key step is to determine the relevant resource costs.

When establishing the relevant costs, the following factors need to be taken into consideration:

- What period does the costing exercise cover?
- What will be used as the source data?
- Which costs should be included?

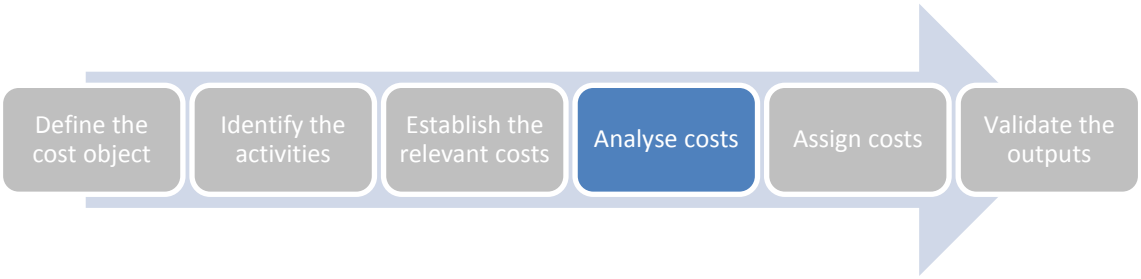
Cost quantum

A key concept for this step is the cost quantum – the total costs measured and allocated for the costing exercise. For any costing exercise, such as Reference Costs, PLICS reporting and Service Line Reporting, an appropriate cost quantum must be established to include all the relevant costs.

Excluded costs

Depending on the costing purpose, some costs may be excluded from the analysis. For example, costs associated with services such as acquired brain injury and domiciliary visits are excluded from the annual reference costs collection. Likewise in Service Line Reporting, it may sometimes be appropriate to exclude overheads to focus service managers' attention on costs which they can control. Further detail on excluded costs for reference costs and PLICS will be contained within chapters 3 and 4. In any costing exercise with exclusions from the quantum, it is best practice to document clearly the exclusions to facilitate validation (see step 6 on validation for more detail).

Step 4 – Analyse costs



Step 4 – Analyse costs	
Costing concepts	• Direct, indirect and overhead costs • Fixed, semi-fixed and variable costs
Further guidance on Step 4	**Chapter 2: HFMA clinical costing standards** • Standard 1 – Classification of direct, indirect and overhead costs • Standard 4 – Allocation of costs into fixed and variable categories **Chapter 3: Reference costs guidance** • To be updated after reference costs guidance publication in 2013 **Chapter 4: PLICS collection guidance** • Section 4.6 The template explained

Guidance

Following the identification of relevant costs which support a specific costing purpose and cost objects, the next key step in costing is to analyse and classify these relevant costs into appropriate categories. The purpose of cost categorisation is two-fold: it facilitates the cost causality analysis which supports the cost allocation (Step 5), but also enables the costs to be reported in different ways for control or study purposes.

Costs can be classified in many different ways. To support regulatory costing, costs should be categorised based on the following two classifications:

- Direct, indirect and overhead costs
- Fixed, semi-fixed and variable costs.

Direct, indirect and overhead costs

The classification of direct, indirect and overhead costs is used to examine how costs are related to a cost object, whether costs can be directly traced to a cost object or require allocation. Definitions of these costs may vary depending on the cost object being measured.

For reference costs and PLICS data collection, there are specific definitions for this classification. Further details will be published in chapters 3 and 4.

- **Direct costs** are those which relate directly to the delivery of patient care, are driven by patient type and throughput of patients. For example, medical staffing and nursing costs.

- **Indirect costs** are those costs which are indirectly related to patient care. They are not directly determined by the number of patients but costs can be assigned on an activity basis. For example, laundry costs.

- **Overhead costs** are the costs of support services that contribute to the effective running of an NHS provider. These costs are not directly driven by the level of patient activity and have to be apportioned to service costs because there are no clear patient activity based allocation methods. Examples include information technology costs, the salary costs of the executive team and human resources.

Fixed, semi-fixed and variable costs

The fixed, semi-fixed and variable classification is used to examine cost behaviour, and can also be used to examine cost controllability. Analysis of these costs can help providers and commissioners understand how cost will vary with changes to activity. This supports costing purposes such as Service Line Management, service restructuring and merger decisions, and commissioning.

In chapter 4 there are specific definitions for fixed, semi-fixed and variable costs that apply to the PLICS data collection:

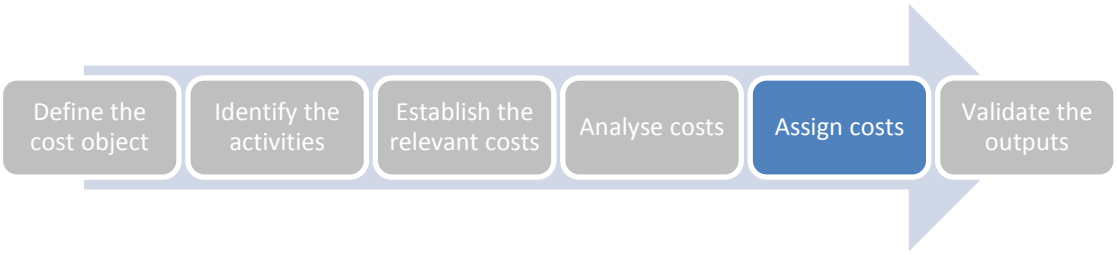
- **Fixed costs** are not affected by short term changes in activity, e.g. rent, rates and depreciation.

- **Semi-fixed** are fixed for a given level of activity but change in steps when activity levels exceed or fall below these given levels, e.g. nursing staff.

- **Variable** costs change proportionately with changes in activity, e.g. drugs and consumables.

Using the above classifications of costs can facilitate the cost assignment and allow providers to determine whether cost can be assigned to cost objects via direct tracing, cause and effect or cost allocation as described in Step 5.

Step 5 – Assign costs



Step 5 – Asssign costs	
Costing concepts	• Cost pools • Direct charging / direct tracing • Cause and effect • Cost allocation • Cost drivers
Further guidance on Step 5	**Chapter 2: HFMA clinical costing standards** • Standard 2 – Creation of cost pool groups and cost pools • Standard 3 – Allocation of costs • Standard 4 – Allocation of costs into fixed and variable categories **Chapter 3: Reference costs guidance** • To be updated after reference costs guidance publication in 2013 **Chapter 4: PLICS collection guidance** • Section 4.4 Minimum requirement for costing

Guidance

Once resource costs and activities underpinning a cost object have been fully analysed and understood, the next step in the costing process is to assign resource costs to the relevant cost object. Costs can be attributed to a cost object via:

- Direct tracing,
- Cause and effect assignment, or
- Allocation if causal relationship cannot be established.

We discuss each approach in turn.

Direct tracing to cost object

Some direct costs can be directly assigned to a cost object itself, if the cost of a resource consumed is recorded at the cost object level. This is the most accurate way of tracing costs to cost objects, but is only suitable for a subset of costs. Table 3 below provides examples of direct tracing to cost object.

Table 3 – Examples of direct tracing to cost object

Direct resource costs	Cost Classification	Cost object
Cost of drugs prescribed to Patient A	Direct, variable	FCE[15] (of Patient A)
Cost of prosthesis provided to Patient B	Direct, variable	FCE (of Patient B)

This method of direct tracing increases the level of costing precision, and should be maximised. However, the benefit of increased precision should be assessed against the cost of data recording. Following Principle 4 (materiality), we recommend providers focus investment in activity recording on the most significant specialties in terms of cost.

Assigning costs based on cause and effect

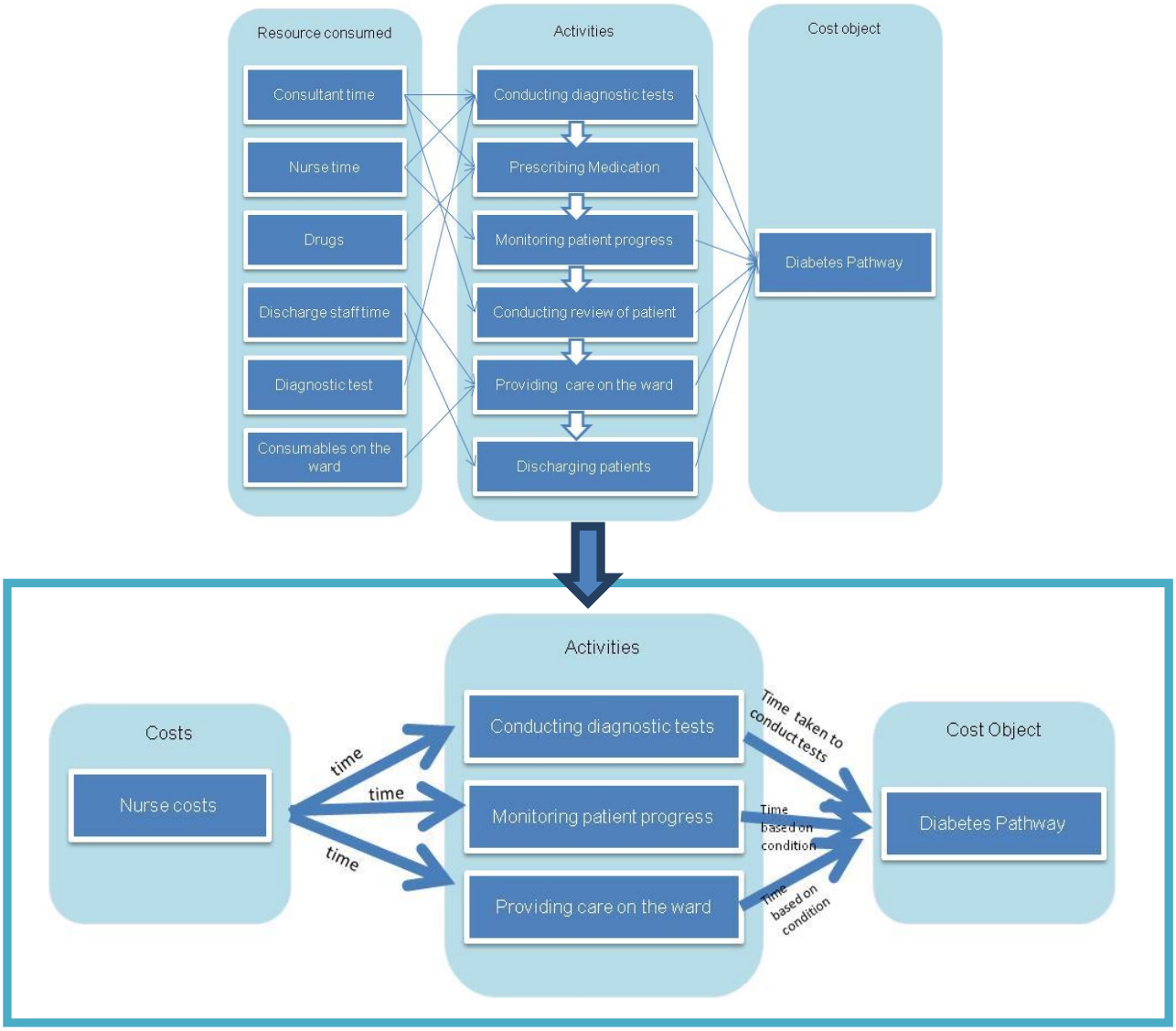
In many instances, resources are consumed by multiple activities and costs of these activities are often captured at an aggregated level, which makes tracing costs to cost objects more complex. In these cases, cost should be assigned based on an understanding of the causal relationship between activity and cost.

Cost and activity analysis

To help assign costs to a cost object based on cause and effect, providers should examine how resources are being consumed by activities and then cost objects. This could be achieved by using the activity and resource mapping highlighted under step 2. Based on the activity resource mapping illustrated under step 2, we can analyse how resources are consumed by activities, and identify causal relationships between cost objects and activities. This type of analysis can help providers assign costs logically to cost objects.

[15] Finished Consultant Episode: an episode of patient treatment under the care of one consultant which has finished.

Figure 3 – Analysis of causal relationships



In this activity resource map, nursing resources are being consumed by a number of activities such as conducting diagnostic tests, monitoring patient progress and providing care on the ward. Using analysis of nursing time consumed by each activity, the correct proportion of nursing costs can be assigned to each activity. The next step is to link these activity costs to the cost object (the diabetes pathway in this illustration).This can be based on the analysis of causal relationship between the activity costs and cost object. The activity resource map shows how activity costs can be matched to the cost object based on time input. By conducting such analysis, all resource costs can be correctly traced to the cost object, based on activities.

Assigning consultant costs to patient activities based on cause and effect – an example

A significant resource cost within the NHS is consultant costs. However, as consultants undertake various activities, such as ward rounds and outpatient clinics, it is not always clear how to trace the costs to the cost objects. To help assign these costs, one method is to identify the amount of time the

consultant spends on each activity. Time can then be used to allocate the cost of the consultant to the activities. Gathering this data may involve analysis of job plans, discussions with consultants and observations of their working patterns.

Table 4 shows a very simplified illustration of how consultant costs can be matched to activities based on an analysis of job plan sessions.

Table 4 – Example of consultant cost being assigned to activities

Activities	Time spent	Proportion of costs
Operating in a theatre	5 sessions per week	50%
Conducting ward rounds	2 session per week	20%
Attending outpatient clinics	3 session per week	30%
	Total %	100%

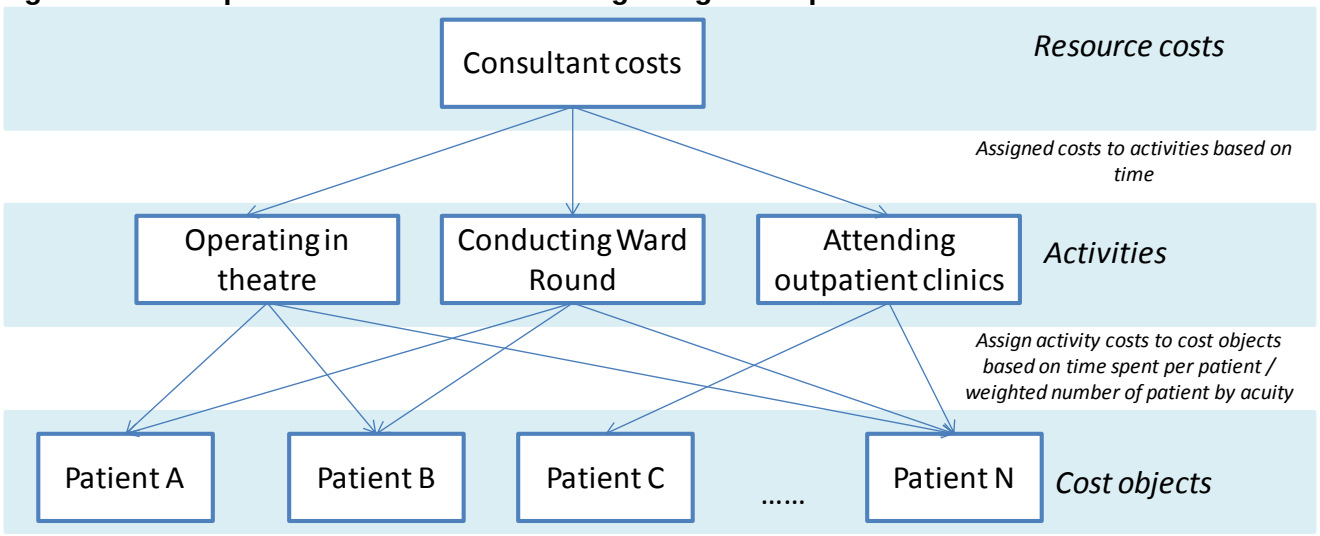
The next step is to assign the activity costs to the relevant cost objects. The relationship between activity costs and cost objects is often called the cost driver. For consultant costs, the relationship between the cost object (in this case the patients) and activity costs is treatment time or the number of patients treated, weighted by acuity (a way of measuring the dependency requirement of patients, e.g. based on time commitment), as shown in Table 5.

Table 5 – Example of consultant cost being assigned to cost objects via activities

Activity costs	Cost drivers	Cost object
Consultant costs of operating in theatres	Operating time	Patients
Consultant costs associated with conducting ward rounds	Weighted number of patients based on patient acuity	
Consultant costs of attending outpatient clinics	Consultation time	

This analysis allows consultant costs to be appropriately traced to cost objects for a unit cost to be derived at, as illustrated in Figure 4.

Figure 4 – Example of consultant costs being assigned to patients



Cost pools

Cost pools are used to group resource costs that can be attributed on the same basis to the cost objects that consume these costs, for example, resource costs consumed by wards can be grouped into one cost pool. This simplifies the costing process. However, care must be taken when constructing cost pools to ensure costs included within a cost pool share the same causal relationship with the activities and cost objects. The HFMA acute clinical costing standards contain specific guidance on how to create cost pools. We recommend the HFMA-defined cost pools, and we have largely aligned the pilot PLICS collection with these standards.

Selection of cost drivers

There may be a range of possible cost drivers for any one cost pool. The choice of cost driver can have a large impact on the estimate of cost produced. Choice of cost driver may be limited if the underlying activity data is not recorded. It can also be difficult to make comparisons between providers if different allocation methods are used.

Table 6: Impact of nursing acuity as a cost driver

Allocation of ward costs of £1000 to 2 patients	Patient A Higher acuity case	Patient B Lower acuity case
Allocation method 1		
Cost Driver 1 – Length of stay	5 days	5 days
Allocations %	50%	50%
Result 1	£500	£500
Allocation method 2		
Cost Driver 2 – Nursing time assigned on the basis of acuity	60 hours	40 hours
Allocation %	60%	40%
Result 2	£600	£400

We illustrate these problems in Table 6 below which shows the impact of recording nursing acuity on the cost of patient care. The first allocation method, based on length of stay, suggests that the two patients have consumed the same resources and hence incurred the same ward cost. But if nursing acuity is recorded, as shown in the second allocation method, the estimated costs better reflect real ward resource consumption. This example highlights the need for NHS organisations to record cost driver information which best reflects the causal relationship between costs and cost objects to improve costing accuracy.

Another benefit of recording such information is that such cost driver data can also be linked and applied to clinical decision making. For example, by recording nursing acuity information, clinicians can examine how their decisions on the level of care provided to patients with similar needs can impact on costs and outcomes.

Allocation of overhead costs

Costing is required to be conducted on a full absorption basis to support pricing. This means that overhead costs also need to be included in the cost calculation and, in turn, reported as part of the unit cost.

HFMA clinical costing standards for acute and mental health service providers have outlined a number of usage-based allocation methods for overhead costs which we would recommend all providers to follow.

Typically, overhead costs do not have a well-established quantitative cost driver because these costs are not directly related to specific patient treatments. Examples include information technology, executive team and human resources. As a result, the causal relationship between the costs and activities are less well understood. It is recommended that a two stage approach can be adopted for allocation overhead costs to a cost object:

1. Allocate costs to an activity cost pool; then
2. Allocate the activity cost pool to a patient care activity.

When allocating overhead costs, costing Principle 5 (objectivity) should be followed to allow such costs to be allocated based on logic and reason. Costing practitioners should avoid where possible using just a simplified “spread” allocation method for overhead costs, where possible, to minimise any potential cost distortion.

Costing practitioners can analyse their overhead costs in more depth to develop a better understanding of costs. Providers should consider allocating overheads using Time-driven Activity Based Costing (TDABC) as suggested by Kaplan and Porter[16]. TDABC uses time as a common cost driver for all costs including overhead costs. Costs are calculated by establishing a unit resource cost per minute for each resource type and then analysing total time taken to perform an activity within a business process. By adopting this approach, overheads can be more accurately attributed to the activities associated with a cost object.

Kaplan and Porter illustrate TDABC with the example of allocating support department costs in a German hospital. The hospital had been allocating these overhead costs to front line services based on length of stay. Applying TDABC showed that patients receiving treatment during the daytime have a higher demand for support services than patients receiving treatment at night. After conducting this analysis, overheads could be more accurately assigned to reflect actual resource use.

We anticipate that, over time, the increased uptake of PLICS will facilitate providers in making progress on implementing TDABC.

[16] How to Solve the Cost Crisis in Health Care, Harvard Business Review, September 2011

Step 6 – Validate the outputs

Step 6 – Validate the outputs	
Costing concepts	• Assurance
Further guidance on Step 6	**Chapter 2: HFMA clinical costing standards** • Standard 10 – Audit **Chapter 3: Reference costs guidance** • To be updated after reference costs guidance publication in 2013 **Chapter 4: PLICS collection guidance** • Section 4.6.4 Reconciliation

Guidance

The final step of costing is to validate the outputs. Providers should ensure they undertake basic checks to ensure their costs are accurate:

- Sense check submissions to ensure there are no obvious mistakes,
- Analyse historical data to identify and explain large year-on-year changes,
- Benchmark activity and costs to ensure they are reasonable, and
- Reconcile to other data sources, such as Hospital Episode Statistics (HES).

The effort applied to validation should be proportionate to the significance of the costs being measured, and proportionate to the costing purpose. To support validation we recommend keeping a clear audit trail of all source data and calculations.

Internal and external reviews of costing processes and outputs should also be undertaken to provide assurance that the costing information is proportionately accurate for its intended use.

Chapters 3 and 4 will specify the assurance measures required for the reference costs and PLICS collections.

1.3 Questions for stakeholders

We welcome stakeholder feedback on the draft costing principles and steps, especially comments on the following questions:

- Do you agree with the costing principles outlined in chapter 1?
- Are the costing steps outlined in chapter 1 helpful for providers?
- Are there any aspects of costing which require further guidance?

Approved Costing Guidance

Chapter 2 – Costing standards

(To be prepared by HFMA – and published in early 2013)

Approved Costing Guidance

Chapter 3 – Reference costs guidance

(To be prepared by the Department of Health – and published in early 2013)

Approved Costing Guidance

Chapter 4 – PLICS collection guidance

(Draft, November 2012)

Chapter 4 – PLICS collection guidance

This chapter of the *Approved Costing Guidance* sets out:

- the guidance for the collection of 2012/13 patient-level costs,
- what data will be collected, and
- the fields and other features of the PLICS template.

4.1 The purpose of the data collection

Increasing numbers of providers have adopted Patient-level Information and Costing Systems (PLICS) in recent years. Just over half of acute Trusts have already implemented PLICS - and 80% of Trusts (87% of acute Trusts) have either implemented, are implementing or are planning to implement PLICS, according to a survey conducted by the Department of Health[17]. We are responding to the increased take-up of PLICS by introducing a patient-level collection.

The Department of Health has in recent years been encouraging NHS Trusts and Foundation Trusts to adopt PLICS, and to use PLICS data to support their reference costs submissions. Some providers have started to do this. However, the cost granularity at individual patient level has not been captured in reference costs data, which are reported on the basis of average costs for a provider for a particular Healthcare Resource Group (HRG).

The stakeholders consulted on the report *Strategic Options for Costing* have widely supported a move towards greater use of patient-level data in price setting.

Encouraged by the current implementation progress and responses from stakeholders, Monitor has designed a PLICS data collection to cover 2012/13 costs. The collection is aimed to capture cost data at a more granular level via PLICS, to enable us to conduct more in-depth analysis of costs and cost variation at HRG level within a single provider, as well as across a number of providers. This will add considerable value to future development of price setting.

4.2 Scope of the data collection

All acute providers are invited to submit 2012/13 PLICS data to Monitor. The collection is voluntary. Monitor will publish a template for this collection, which covers admitted patient care.

We recognise that PLICS are more widely implemented among acute providers than mental health, community service or ambulance providers. However, if non-acute providers wish to supply PLICS data to Monitor, please email pricing@monitor-nhsft.gov.uk so that we can discuss this.

The collection is designed to capture the unit costs, cost components and activities of admitted patient care at Finished Consultant Episode (FCE) level for NHS patients (and the private patients of NHS providers) in 2012/13.

The types of admitted patient care included in the collection are:

[17] *PLICS Survey*, Department of Health 2012

- Day cases,
- Ordinary electives,
- Ordinary non-electives, and
- Regular day or night admissions.

In addition, the pilot data collection will also capture the underlying diagnoses (ICD10) and procedure (OPCS-4) codes of each episode of care. This additional information provides a richer data set for benchmarking, and allows us to examine the relationship between cost and co-morbidity at a granular level to facilitate the development of pricing and currency design.

4.3 Inclusions and exclusions

The data collection is retrospective (i.e. the collection taking place in 2013 applies to 2012/13 costs) and applies to a full financial year of activity. Based on the collection scope outlined in this document, the following costs and activities should be included as part of the data submission:

- **Private patients of NHS providers**

  Activities related to privately-admitted patients of NHS providers should be included in the submission with the unit cost of each episode clearly identified.

- **Income from clinical training, education and research**

  Incomes received for training, education and research should be excluded from the unit cost reported but separately identified and reported at individual FCE level.

  We do not expect providers to separately identify their costs associated with non-patient-care activities, as guidance on how to calculated these costs are currently being developed by the Department of Health.

- **Services unbundled under reference costs**

  The following services are reported as unbundled services under reference costs:

  (1) chemotherapy,
  (2) critical care,
  (3) diagnostic imaging,
  (4) high cost drugs,
  (5) radiotherapy,
  (6) rehabilitation, and
  (7) specialist palliative care.

  For the PLICS data collection, however, the costs and activities of these services should be bundled, i.e. matched to the correct patient and correct patient FCEs. They are to be reported as part of the total unit costs of that patient's FCE.

- **Provider-to-provider agreements**

Where there are provider-to-provider agreements for any support or treatment services, the costs of receiving such services should be allocated to the correct patient's FCE by the receiving organisation. The organisation which provides such services and treatments should exclude the costs incurred and incomes received from their cost quantum.

4.4 Guidance relevant to the PLICS collection

We propose including some self assessment assurance processes in this collection. We are finalising our proposals for 2013 but are minded to include a Materiality and Quality Score (MAQS) and a self-assessment checklist. The purpose is to understand the data quality of the PLICS data we receive,

The costing principles outlined in chapter 1 and HFMA Acute Clinical Costing Standards (to be updated and published in January 2013, and included in chapter 2) are both very relevant for the PLICS data collection. This year, chapter 1 is provided as guidance, and the HFMA standards are on a "comply or explain" basis (as described in the Introduction). In due course, these costing principles and standards may become mandatory.

4.5 How the PLICS data will be used by Monitor

Monitor and its pricing partner the NHS Commissioning Board intend to use the data to conduct analysis to inform, for example:

- New methods of pricing NHS services,
- New approaches and other changes to currency design,
- Relationship between provider characteristics and cost,
- Relationship between patient characteristics and cost, and
- Developing an approach for benchmarking for regulatory purposes.

We intend to share a summary of the PLICS data collected with participating Trusts, so they can use this data to conduct their own benchmarking and cost comparison. Due to the potential sensitivity of the data, our intention is to restrict full publication, although we may share suitably-anonymised data with other national bodies such as the NHS Commissioning Board and Department of Health, where appropriate.

The PLICS collection and template will take on board the latest advice and guidance on information governance issues, including Dame Fiona Caldicott's review[18].

Subject to the evaluation of the 2013 data collection, we will consider mandating the PLICS data collection (recognising both the advantages of PLICS and that implementing a new costing system has significant cost implications) or consider collecting this data from a representative sample of providers in the future. The scope of the collection may also be extended to include other types of services, patient activities and/or providers.

[18] http://caldicott2.dh.gov.uk/

4.6 The template explained

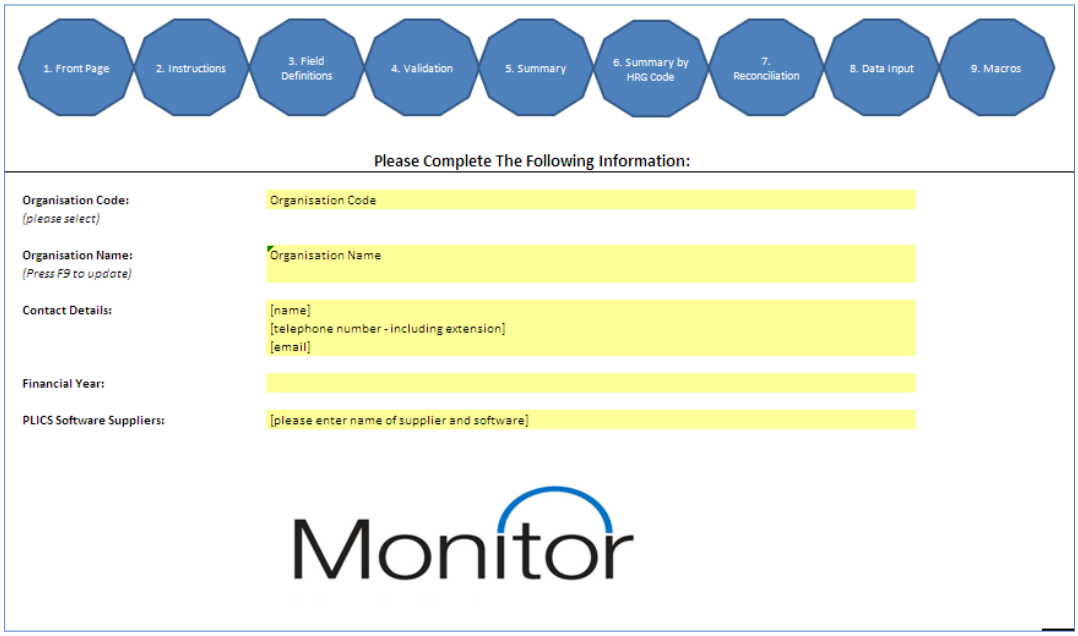
A PLICS data collection template is under development. The draft version is currently available on request. Any providers interested in assisting Monitor with the development of the template should contact us by email at pricing@monitor-nhsft.gov.uk.

The template contains the following sections:

4.6.1. Front page which collects the basic information of the submitting Trust,
4.6.2. Instructions and macros,
4.6.3. Data upload sheet where the main cost information is captured,
4.6.4. Validation sheets on errors, data completeness and cost pools,
4.6.5. Reconciliation sheet which reconciles the PLICS cost to the financial accounts, and the PLICS activity to records in the Secondary Use Services (SUS) data warehouse, and
4.6.6. Summary by HRG code sheet which provides a summary of activities and costs at HRG level.

All fields should be considered mandatory for providers submitting data, with the exception of the two non-mandatory fields noted below.

4.6.1 Front page

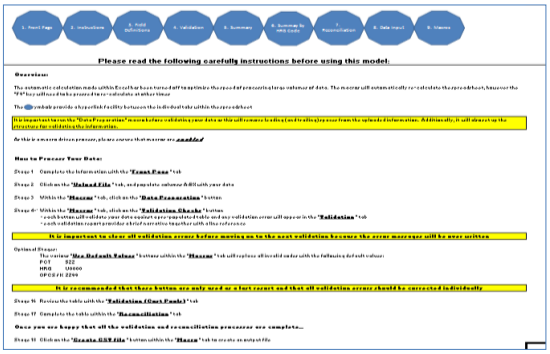


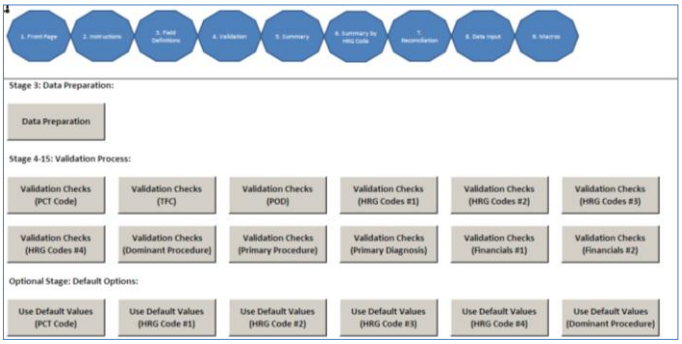
The Front Page sheet of the template contains the following fields:

- Three-digit organisation code,
- Organisation name,
- Contact details,
- Financial year, and
- PLICS supplier.

All the sheets also contain navigation buttons to allow users to switch between the different sheets in the template.

4.6.2 Instructions and macros

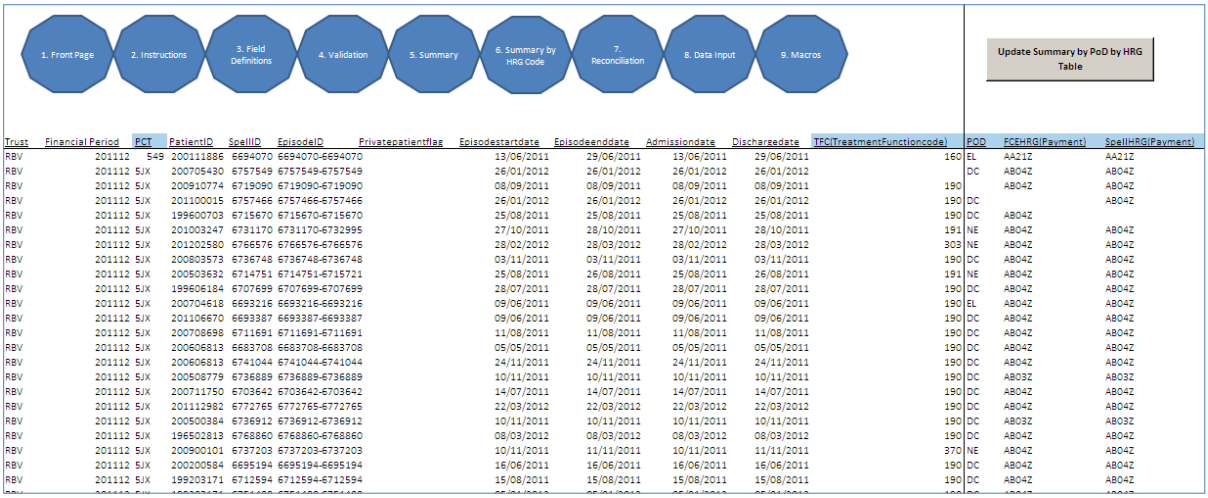




The template contains a set of instructions on how to prepare and submit data. These instructions should be followed before any data submission.

There is also a series of macros built into the template, to help prepare and validate the data. These macros must be followed to ensure the data submitted to the system is validated and consistent. Any potential errors identified during the validation process should be reviewed and corrected before submission.

4.6.3 Data input sheet



Trust	Financial Period	PCT	PatientID	SpellID	EpisodeID	Privatepatientflag	Episodestartdate	Episodeenddate	Admissiondate	Dischargedate	TFC(TreatmentFunctioncode)	POD	FCEHRG(Payment)	SpellHRG(Payment)
RBV	201112	549	200111886	6694070	6694070-6694070		13/06/2011	29/06/2011	13/06/2011	29/06/2011	160	EL	AA21Z	AA21Z
RBV	201112	5JX	200705430	6757549	6757549-6757549		26/01/2012	26/01/2012	26/01/2012	26/01/2012		DC	AB04Z	AB04Z
RBV	201112	5JX	200910774	6719090	6719090-6719090		08/09/2011	08/09/2011	08/09/2011	08/09/2011	190		AB04Z	AB04Z
RBV	201112	5JX	201100015	6757466	6757466-6757466		26/01/2012	26/01/2012	26/01/2012	26/01/2012	190	DC		AB04Z
RBV	201112	5JX	199600703	6715670	6715670-6715670		25/08/2011	25/08/2011	25/08/2011	25/08/2011	190	DC	AB04Z	
RBV	201112	5JX	201003247	6731170	6731170-6732995		27/10/2011	28/10/2011	27/10/2011	28/10/2011	191	NE	AB04Z	AB04Z
RBV	201112	5JX	201202580	6766576	6766576-6766576		28/02/2012	28/03/2012	28/02/2012	28/03/2012	303	NE	AB04Z	AB04Z
RBV	201112	5JX	200803573	6736748	6736748-6736748		03/11/2011	03/11/2011	03/11/2011	03/11/2011	190	DC	AB04Z	AB04Z
RBV	201112	5JX	200503632	6714751	6714751-6715721		25/08/2011	26/08/2011	25/08/2011	26/08/2011	191	NE	AB04Z	AB04Z
RBV	201112	5JX	199606184	6707699	6707699-6707699		28/07/2011	28/07/2011	28/07/2011	28/07/2011	190	DC	AB04Z	AB04Z
RBV	201112	5JX	200704618	6693216	6693216-6693216		09/06/2011	09/06/2011	09/06/2011	09/06/2011	190	EL	AB04Z	AB04Z
RBV	201112	5JX	201106670	6693387	6693387-6693387		09/06/2011	09/06/2011	09/06/2011	09/06/2011	190	DC	AB04Z	AB04Z
RBV	201112	5JX	200708698	6711691	6711691-6711691		11/08/2011	11/08/2011	11/08/2011	11/08/2011	190	DC	AB04Z	AB04Z
RBV	201112	5JX	200606813	6683708	6683708-6683708		05/05/2011	05/05/2011	05/05/2011	05/05/2011	190	DC	AB04Z	AB04Z
RBV	201112	5JX	200606813	6741044	6741044-6741044		24/11/2011	24/11/2011	24/11/2011	24/11/2011	190	DC	AB04Z	AB04Z
RBV	201112	5JX	200508779	6736889	6736889-6736889		10/11/2011	10/11/2011	10/11/2011	10/11/2011	190	DC	AB03Z	AB03Z
RBV	201112	5JX	200711750	6703642	6703642-6703642		14/07/2011	14/07/2011	14/07/2011	14/07/2011	190	DC	AB04Z	AB04Z
RBV	201112	5JX	201112982	6772765	6772765-6772765		22/03/2012	22/03/2012	22/03/2012	22/03/2012	190	DC	AB04Z	AB04Z
RBV	201112	5JX	200500384	6736912	6736912-6736912		10/11/2011	10/11/2011	10/11/2011	10/11/2011	190	DC	AB03Z	AB03Z
RBV	201112	5JX	196502813	6768860	6768860-6768860		08/03/2012	08/03/2012	08/03/2012	08/03/2012	190	DC	AB04Z	AB04Z
RBV	201112	5JX	200900101	6737203	6737203-6737203		10/11/2011	11/11/2011	10/11/2011	11/11/2011	370	NE	AB04Z	AB04Z
RBV	201112	5JX	200200584	6695194	6695194-6695194		16/06/2011	16/06/2011	16/06/2011	16/06/2011	190	DC	AB04Z	AB04Z
RBV	201112	5JX	199203171	6712594	6712594-6712594		15/08/2011	15/08/2011	15/08/2011	15/08/2011	190	DC	AB04Z	AB04Z

The Data Input sheet contains a list of data fields for which participating providers should submit data. Table 1 defines each data field.

Table 1 – Data fields

Field Description	Guidance
Trust	Three-digit organisation code which will be automatically imported from the Front Page sheet.
Financial year	The financial year of the collection. This will be 2012/13 for this collection.
PCT	Three-digit organisation code of the commissioning PCT.
Patient ID	Local patient ID. This will be anonymised in the data collection process.
Spell ID	Local spell ID. This will be anonymised in the data collection process.
FCE ID	Local episode ID.
Private patient	An indication if a patient is a private or NHS patient: "0" indicates an NHS patient and "1" indicates a private patient.
Specialist service code	An indication of whether the spell is considered a specialist service under the HRG4. The code used in this field should follow the guidance set out in the Specialised Services National Definitions Set.
Episode start date	The start date of the FCE. The input format is as follows "dd/mm/yyyy".
Episode end date	The end date of the FCE. The input format is as follows "dd/mm/yyyy".
Admission date	The admission date for the spell. The input format is as follows "dd/mm/yyyy".
Discharge date	The discharge date for the spell. The input format is as follows "dd/mm/yyyy".
TFC	Treatment function code (TFC). Further guidance on TFCs can be found in the Data Dictionary.
POD	Point of delivery. There are four points of delivery used in this collection: • **DC**: day case, • **EL**: elective inpatient, • **NE**: non elective inpatient, and • **RP**: regular ward attendance.
FCE HRG (Payment)	The FCE HRG based on the Payment HRG4 grouper.
Spell HRG (Payment)	The spell HRG based on the Payment HRG4 grouper.
FCE HRG (RC)	The FCE HRG based on the reference cost HRG4 grouper.
Spell HRG (RC)	The spell HRG based on the reference cost HRG4 grouper.
Age	Age of the patient at the date of admission.
Consultant	An optional field, based on admission consultant.
Dominant procedure	An OPCS code nominated by the HRG Grouper, if applicable.
Primary ICD10	The primary ICD10 code.
Primary OPCS	The primary OPCS4 code if applicable.
ICD10 Codes (x 13 fields)	Fields for recording primary and secondary ICD10 codes.
OPCS-4 codes (x 12	Fields for recording primary and secondary OPCS codes.

Field Description	Guidance
fields)	
Theatre Time	The total number of minutes in theatre from the patient being anaesthetised to the patient entering the recovery room.
Critical care start date	The date when the patient is admitted into a critical care unit. The input format is as follows “dd/mm/yyyy”.
Critical care end date	The data when the patient is discharged from a critical care unit. The input format is as follows “dd/mm/yyyy”.
Acuity Score	An optional field. Guidance on the Acuity Dependency Tool can be found on the website of the Association of UK University Hospitals.
Total Cost	The unit costs should be reported on a full absorption basis, which should equal the sum of the costs reported under the different cost pool groups and sub cost pools. Non patient care activities incomes should be excluded from the unit cost.
Fixed Costs	Costs that are not affected by in-year changes in activity. Non patient care activities incomes should be excluded from the unit cost.
Semi-fixed Costs	Costs that are fixed for a given level of activity but change in steps when activity levels exceed or fall below these given levels. Non patient care activities incomes should be excluded from the unit cost.
Variable Costs	Costs which change proportionately with activity. Non patient care activities incomes should be excluded from the unit cost.
Non patient care activities incomes	Income from non patient care activity. For the PLICS cost collection, non clinical incomes, such as incomes for education, training and research should not be netted off against costs. The income should be recorded in this data field and the cost should be included in the cost pools groups where appropriate.
Cost pools groups and sub cost pools (x 23 fields)	Breakdown of the total costs by cost pool groups and sub cost pools. For further guidance on cost pools please see Table 2 of this chapter.

Cost pool groups

Table 2 contains a list of cost pool groups to be used as part of this data collection. The table provides guidance on what services or cost types each cost pool is intended to cover.

These cost pool groups are developed in line with 2013/14 HFMA acute clinical costing standards. However, in some areas, we have made some modifications so that we could obtain data at a more granular level to support our pricing research. The main differences are as follows:

- **Overhead costs** have been identified separately for the PLICS data collection, and should be reported without being absorbed in the cost pool groups. However, the unit cost reported for each episode of care should reflect the full absorbed cost.

- **Drug cost pool group** has been split into two sub cost pools:

  1. Drugs (all drugs excluding high cost drugs)
  2. High cost drugs.

- **Special procedure suite cost pool group** has been split into two sub cost pools:

  1. Special procedure suite costs without endoscopy costs
  2. Endoscopy costs.

- **Blood** costs and **Clinical Negligence Scheme for Trusts (CNST)** have been identified as two separate cost pool groups.

Table 2 – Cost pool groups and sub cost pools

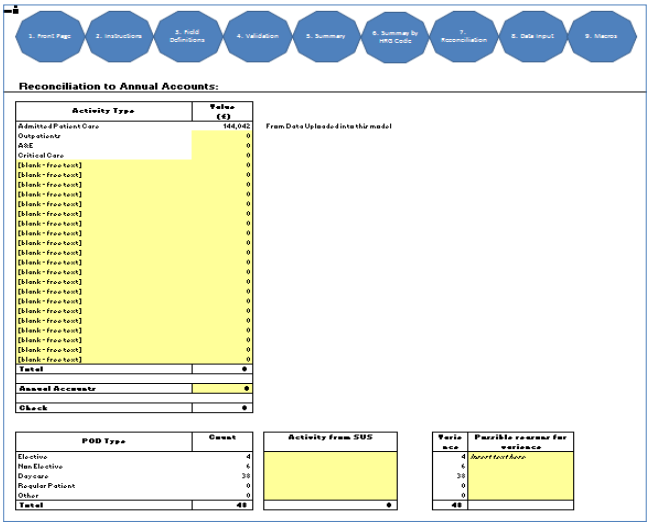
Cost pool groups and sub cost pools	The services covered by the cost pool group and sub cost pools	Cost Inclusion	Cost Exclusion
Medical Staff	The medical staffing cost pool group consists of medical staffing salaries associated with the treatment of patients. It covers the costs of consultants, anaesthetists, registrars and junior doctors. However, medical staff working in radiology and pathology departments should be excluded from this cost pool.	• Medical staff salaries and wages.	• Medical staff salaries and wages for pathology and radiology.
Wards	The ward cost pool group includes nursing staff salaries, as well as costs of medical and surgical supplies and other goods and services used and delivered on wards.	• All grades of nursing salaries and wages reported in ward areas • Medical and surgical supplies and services • Goods and services	• Nursing salaries and wages reported in other cost pool group areas, including: - Imaging - Pathology - Critical care - Operating theatre - Emergency department - Outpatients - Special procedure units - Therapies • Medical staffing • Stock drugs
Operating Theatres	The operating theatre cost pool group covers the area of a	• Nursing staff salaries and wages, including recovery	• Medical staff • Pathology

Cost pool groups and sub cost pools	The services covered by the cost pool group and sub cost pools	Cost Inclusion	Cost Exclusion
	hospital where significant surgical procedures are carried out under surgical conditions under the supervision of qualified surgeons. The operating theatre must be equipped to deliver general anaesthesia.	and anaesthetics • Other staff salaries and wages • Medical and surgical supplies • Anaesthetics costs • Goods and services	• Imaging • Pharmacy / drugs • Prostheses • Blood
Critical Care	The critical care cost pool group covers: Adult intensive care (ITU), Adult high-dependency care (HDU), Paediatric intensive care (PICU), Neo-natal intensive care (NICU).	• Nursing staff salaries and wages • Other staff salaries and wages • Medical and surgical supplies • Goods and services	• Medical staff (including Anaesthetists) • Pathology • Imaging • Pharmacy / drugs • Prostheses
Emergency Department	The emergency cost pool group covers the costs associated with running the emergency department, including minor injury units and walk in centres.	• Nursing staff salaries and wages • Others staff salaries and wages • Medical and surgical supplies • Goods and services	• Medical staff • Blood • Pathology • Imaging • Pharmacy / drugs • Prostheses
Imaging	The imaging cost pool group covers area of diagnostic radiology which includes: X-Ray, Mammography, Fluoroscopy, CT, MRI, Nuclear medicine, PET, Ultrasound.	• Medical staff salaries and wages • Radiologists salaries and wages • Radiographer salaries and wages • Nursing staff salaries and wages • Other staff salaries and wages • Medical and surgical supplies • Goods and services	
Pathology	The pathology cost pool group includes costs of diagnostic clinical laboratory testing for the diagnosis and treatment of patients. For a full list of services please see HFMA Acute Clinical Costing Standard 1.	• Medical staff salaries and wages related to pathology cost centres • Medical technicians and scientist salaries and wages • Nursing staff salaries and wages • Other staff salaries and wages • Goods and services (e.g. chemicals) • Other costs as reported as part of the pathology cost centre	• Blood
Other Diagnostics tests	The other diagnostic tests cost pool group covers all diagnostic tests, with the exception of imaging, pathology and pharmacy/drugs. Such tests may include: Echocardiogram, Stress tests, EEG, ECG, Neurophysiology, Lung function tests.	• Nursing staff salaries and wages • Other staff salaries and wages • Medical and surgical supplies • Goods and services • Echocardiograms • Stress tests • EEG • ECG • Neurophysiology • Lung function testing	• Medical staff • Pathology • Imaging • Pharmacy/drugs

Cost pool groups and sub cost pools	The services covered by the cost pool group and sub cost pools	Cost Inclusion	Cost Exclusion
Special procedure suites (excluding endoscopy unit)	The special procedure suites sub cost pool covers costs for suites specifically equipped to enable diagnostic and therapeutic procedures to be performed under the direction of qualified medical practitioners. It would also include costs for special treatment rooms such as plaster rooms or hyperbaric chambers. Costs for Catheterisation Laboratory and Renal Dialysis Unit should also be included here.	• Nursing staff salaries and wages, including recovery and anaesthetics • Other staff salaries and wages • Medical and surgical supplies • Anaesthetics costs • Goods and services	• Medical staff (including Anaesthetists costs) • Pathology • Imaging • Pharmacy / drugs • Blood • Prostheses • Endoscopy unit
Special procedure suites – endoscopy unit	This is a sub cost pool established specifically for the PLICS cost collection. This sub cost pool covers all Endoscopy services.	• Nursing staff salaries and wages • Others staff salaries and wages • Medical and surgical supplies • Goods and services	• Medical staff • Pathology • Imaging • Pharmacy / drugs
Outpatients	The outpatients cost pool group covers the costs associated with running outpatient clinics.	• Nursing staff salaries and wages • Others staff salaries and wages • Medical and surgical supplies • Goods and services	• Medical staff • Pathology • Imaging • Pharmacy / drugs • Blood • Prostheses
Pharmacy	The pharmacy cost pool group covers the area of the provision of drugs. This includes the production, distribution, supply and storage of drugs and clinical pharmacy services.	• All salaries and wages in pharmacy cost centre • Manufacturing raw materials costs • Medical technicians in supply • Medical and surgical pharmacy cost centre • Goods and services	
Drugs	The drugs sub cost pool covers the cost of drugs. This includes all drugs, stock drugs, drugs dispensed directly to patients and home delivery of drugs.	• Cost of purchased drugs • Stock drugs • Cost of drugs have been prescribed to patients • Home delivery drugs	• Costs of running the pharmacy services, as identified within the pharmacy cost pool group • Costs associated with high cost drugs
High cost drugs	The high cost drugs sub cost pool covers costs associated with high cost drugs that are excluded from the PbR tariff. These drugs are typically specialist, and their use is concentrated in a relatively small number of centres rather than evenly across all Trusts that carry out activity in the relevant HRGs. This cost pool has been specifically designed for this PLICS data collection.	• High cost drugs that have been prescribed to patients • Cost of purchased high cost drugs • High cost drugs stock	• Costs of running the pharmacy services, as identified within the pharmacy cost pool group • Costs associated with drugs cost pool group
Prostheses / Implants/Devices	The prostheses cost pool group includes the costs of all prosthetics, implants and medical devices. A prosthesis is defined not only as an artificial part of the body but also any item – e.g. surgical screws, wires – attached to or implanted	• Cost of prostheses, implants and devices in: – Therapies – Operating theatres – Critical care – Specialist procedure suites	

Cost pool groups and sub cost pools	The services covered by the cost pool group and sub cost pools	Cost Inclusion	Cost Exclusion
	into the body with the purpose of remaining permanently or until removed during another procedure.	– Other clinical service areas	
Radiotherapy	The Radiotherapy cost pool group covers the costs associated with radiotherapy services.	• Radiographer salaries and wages • Moulding Technicians salaries and wages • Medical Physics salaries • Consumables • Goods and services	• Medical staff (including Anaesthetists costs) • Pharmacy / drugs
Therapies	The therapies cost pool group includes clinical services delivered by qualified therapy professionals who have direct patient contact. For a full list of services please see HFMA Acute Clinical Costing Standard 1.	• Therapist salaries and wages • Others staff salaries and wages • Medical and surgical supplies • Goods and services	
Other Specialist Nursing Staff	The other specialist nurse cost pool group consists of nursing staff that cannot be included in other specific cost pool groups.	• Consultant nurses • Specialist nurses	• Ward nurses • Nurses working exclusively in other areas covered by specific cost pool groups
Blood	The blood cost pool contains blood products used and in stock across all service areas. This is a cost pool established specific for the PLICS cost collection.	• Cost of blood used and in stock	
CNST	The CNST cost pool contains the costs associated with Clinical Negligence Scheme for Trusts which handles all clinical negligence claims. This cost pool has been specifically designed for this PLICS data collection.	• CNST costs	
Other clinical supply and services	The other clinical supply and services cost pool group contains costs of clinical supply and services that are not covered by other cost pool groups.	• Other clinical supply and services that are not currently included in other cost pools	
Secondary commissioning costs	The secondary commissioning cost pool group contains costs related to secondary commissioning of activity undertaken by, for example, an independent treatment centre.	• Staff costs • Direct costs of care commissioned	
Overhead	Overhead include costs of support services such as Board, HR, Finance, information management and information technology, and other costs that are not directly related to patient care. Overheads are technically not a cost pool group but should be reported separately in the PLICS collection.	• Staff costs in relation to these functions • Goods and services related to these functions	

4.6.4 Reconciliation



The Reconciliation sheet helps providers to validate the costs and activities they have recorded in the Data Input sheet.

Cost reconciliation

Costs reported in the return should be reconciled to the audited financial accounts. This can be achieved by adding in the patient-level costs for outpatient, A&E and other excluded services from the PLICS model to form the total PLICS cost quantum, then compare it to the total expenditures reported in the audited accounts. Any differences between these two totals should be clearly documented using this template and explained in the free text box provided.

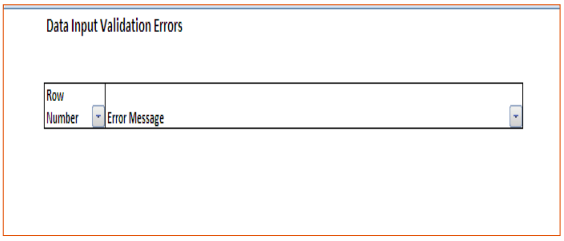
Costs associated with work in progress should be excluded from the main data upload, but should be included in the cost reconciliation as a reconciling item. Work in progress costs include:

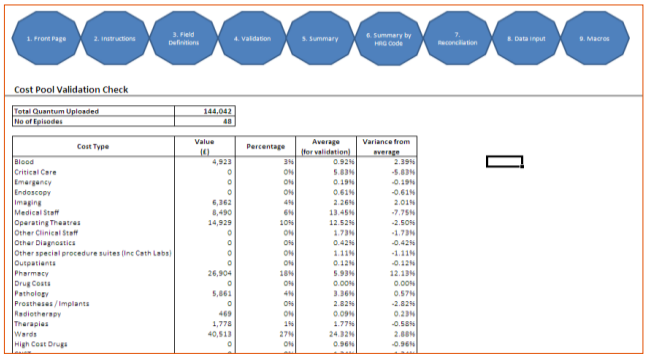
- Any FCE costs associated with a spell with an admission date earlier than 1 April 2012 and a discharge date between 1 April 2012 and 31 March 2013.
- Any FCE costs associated with a patient that is yet to be discharged (i.e. an unfinished spell).

Activity reconciliation

Total admitted patient FCEs and spells should be reconcilable to the SUS data reported for the same period. Any differences should be clearly documented in this template and explained in the free text box provided.

4.6.5 Validation



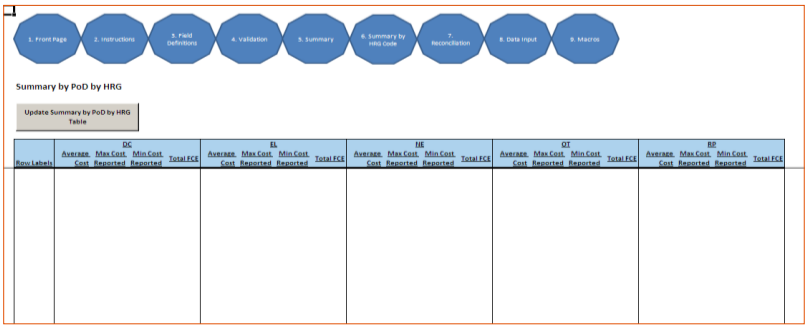


There are two validation sheets in this template:

- The Validation sheet records a log of potential errors from running the validation macros.
- The Summary sheet provides an overview of the cost spread from the Data Input sheet across the cost pool groups.

All participating providers should sense-check the data using these built-in validations and correct any errors before submission.

4.6.6 Summary by HRG Codes



The Summary by HRG Codes sheet provides a summary of the activities and costs uploaded at HRG level by point of delivery. The summary includes:

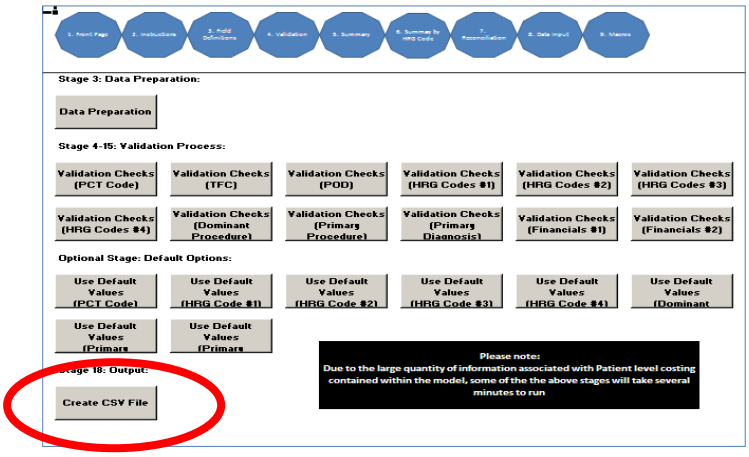
- Average unit cost per HRG,
- Maximum unit cost per HRG,
- Minimum unit cost per HRG, and
- Total FCEs.

The maximum cost per HRG and minimum cost per HRG are intended to highlight any potential cost anomalies, which is intended to help providers prior to submission of costs, as well as Monitor after the data is submitted.

The Summary by HRG Codes sheet can be updated by running a macro in the Data Input sheet.

4.7 Submission of the PLICS data

The final step in using the template is to create a comma-separated values (CSV) file by clicking the "create CSV file" button on Macro worksheet (as shown below). We are still finalising plans for a secure process for transferring this CSV file to Monitor to ensure that all information governance requirements are fully met. We will announce further details before the pilot collection.



4.8 Questions for stakeholders

The PLICS collection guidance is still in draft form. We would welcome comments from stakeholders on these documents, especially on the following questions:

- Is the collection guidance sufficiently clear and easy to follow? What improvements would you make?
- Can the proposed fields of data be fairly readily provided by your organisation? If not, what changes would make that more feasible?
- Would your organisation be interested in participating in the pilot data collection?

For providers that have requested and reviewed the draft PLICS collection template:

- Is the template compatible with your costing system? Is it straightforward to use?

Please respond to these questions to **pricing@monitor-nhsft.gov.uk** **by 5pm on 11 December 2012**.

Appendix 1 – Glossary

Activities	A measurable amount of work performed to convert resources into products or services, as used in Activity-Based Costing.
Acuity	The level of severity of an illness. This can be considered in patient classification systems designed to guide the allocation of nursing staff, to justify staffing decisions, and to aid in long-range projection of staffing and budget.
Allocation	The process of assigning costs from a high-level pool of costs to a cost object or activity, based on a predetermined methodology.
Admitted patient care	Patients who are admitted to hospital including ordinary elective admissions, ordinary non-elective admissions, day cases, regular day admissions and regular night admissions.
Cause and effect	Cause-and-effect cost assignment method assigns costs to the cost object based on the long-run cause of the cost.
Cost driver	A factor that causes activities and costs to vary, such as length of stay or theatre minutes.
Cost object	A product or service (such as an episode of patient care or a service line) for which costs are accumulated or measured.
Cost pools	Accumulated costs in logical groupings, which are subsequently used to support cost allocation, and for reporting.
Cost quantum / Cost base	The total costs measured and allocated for the costing exercise.
Direct charging / direct tracing	Costs which are directly traceable to a cost object.
Finished consultant Episode (FCE)	An episode of patient treatment under the care of one consultant which has finished.
HRG	Standard groupings of clinically similar treatments which use common levels of health care resource.
ICD10	A list of diagnosis codes maintained by the World Health Organisation (WHO) (“International Classification of Diseases”).
OPCS-4	Classification of Interventions and Procedures, used for the Admitted Patient Care Commissioning Data Sets and maintained by the NHS Classifications Service.
Patient-level costs	Costs which are calculated by tracing the actual resource use of individual patients.
Patient-level information and costing systems (PLICS)	IT systems which combine activity, financial and operational data to cost individual episodes of patient care.
Reference costs	The average unit cost across the NHS of providing defined services in a given financial year.
Service line reporting (SLR)	A method for reporting cost and income by service lines to improve management’s understanding of the contribution of each service line to performance.
Spell	The period from the date of admission of a patient to the date of discharge.

Appendix 2 – Four levels of clinical and financial engagement

The Department of Health has defined four levels of engaging clinicians in finance department activities. Cost accountants can use this framework to review how engaged their clinicians are in the costing process.

Dr Mahmood Adil is the Department of Health's national QIPP adviser for clinical and financial engagement. He has conducted two national surveys (in partnership with HFMA) between November 2011[19] and February 2012[20] to understand the current state of clinical-financial engagement and how well clinicians and finance professionals understand each other's business and share and use clinical and cost data on routine basis.

After his comprehensive review of the situation, Dr Adil has devised four levels of engagement in the NHS[21]. The scenarios describe four different levels of engagement from purely board level (level 1) through to full engagement at different levels and across all clinical specialties (level 4).

i. Level 1: Engagement is only at board/strategic level. For example, dialogue takes place between medical director and finance director, but there is no real joined-up, collaborative work between the wider clinical and finance teams

ii. Level 2: There is some joined-up, collaborative work between clinical and finance teams but only on an ad hoc basis when required, for example for a specific Commissioning for Quality and Innovation (CQUIN) project

iii. Level 3: Joined-up collaborative working between clinical and finance teams is the norm in at least one clinical specialty/directorate. For example, a finance manager works as an integral part of a clinically led quality improvement team. There is also a plan to roll this out across other directorates

iv. Level 4: Joined-up collaborative working between clinical and finance teams is the norm across all clinical specialties/departments. Finance managers routinely work as integral members of clinically led quality improvement teams and both professional groups share cost and quality data to improve outcomes.

The Department of Health has subsequently asked all Trusts to declare their level of engagement in the PLICS survey. The results of 2012/13 return (see Figure 1 & Table 1) has given us an insight and motivation to the Trusts to increase their level of engagement, which would in return improve the quality of cost data in the future.

[19] HFMA clinical-financial engagement survey – Finance Managers (autumn 2011)
[20] HFMA clinical financial engagement survey - clinicians (spring 2012)
[21] http://www.hfma.org.uk/publications-and-guidance/publications.htm?sort=3&keyword=&categories=info_8

Figure A1: Clinical and financial engagement in Trusts (based on 2011/2012 reference cost Returns)

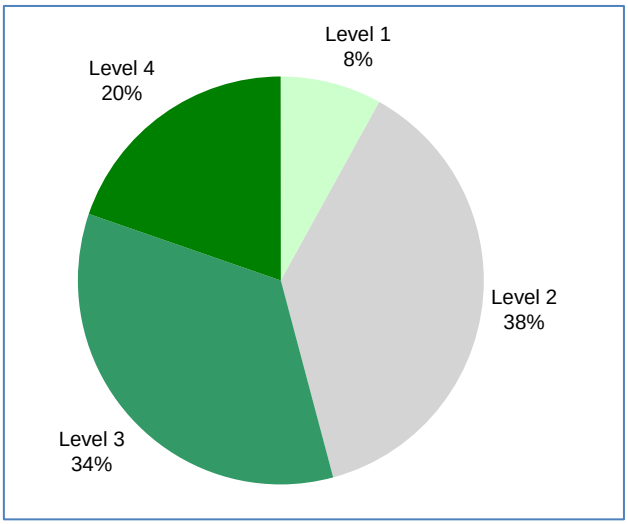


Table A1: Clinical and financial engagement by Trust type

	Acute	Ambulance	Community	Mental health	All Trusts
Level 1	12	4	0	4	20
Level 2	60	4	6	24	94
Level 3	62	0	7	16	85
Level 4	31	3	3	12	49
Total	165	11	16	56	248

Dr Adil is currently conducting further work to develop:

- a 'self-assessment toolkit' to help Trusts assess and improve their engagement in an objective manner; and
- a 'Check list' on the characteristics of Level 4 organisations to support Monitor and the NHS Trust Development Authority.

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