Acute health clinical costing standards

2016/17
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Foreword

Costing has a major role to play in supporting the delivery of sustainable services across the NHS.

There is recognition that the service needs to develop new models of care to meet the challenges posed by a growing and ageing population and the prevalence of long-term conditions. But these new models cannot be developed without an understanding of the existing costs of meeting these demands and how these costs might change with a revised pathway.

Good cost data can also help health economies to understand variations in costs and treatment between different patients or in services provided by different organisations, helping to optimise service delivery. Robust cost information is also vital for informing payment systems, whether forming the basis of national tariffs or local contract prices.

But to realise its full potential in these roles, cost data needs to be as accurate as possible. And it needs to be collected using a consistent methodology and at a granular enough level to support detailed analysis.

Monitor’s Costing Transformation Programme is targeting these aims, moving towards national patient-level cost collection using a prescribed, detailed process. However the development of this guidance and its implementation across the NHS will take a number of years.

The HFMA has championed improvements in costing for several years. It continues to do this through the work of its costing practitioner groups and the Healthcare Costing for Value Institute, promoting both the production of robust cost information and its use in value-based decision making.

As part of this ‘championing’ role, the association has developed clinical costing standards since 2010 in conjunction with, and with support from, both the Department of Health and Monitor. These standards have aimed to guide NHS providers to improve their costing processes and, in particular, build up costs from the patient level.

The standards – and the materiality and quality score described within them – continue to have an important role in the drive to improve costing. The Acute clinical costing standards and the Mental health clinical costing standards, together with the two guidance papers Understanding the general ledger for costing and Improving the quality of source data for costing form part of Monitor’s Approved costing guidance for 2016/17.

For providers taking part in the annual voluntary patient-level cost collection, organisations are required to adhere to the standards or explain where they have not complied.

Organisations following the standards will be best placed to implement Monitor’s proposed new approach once guidance has been finalised. They provide a good way to understand what data feeds and allocation methods are needed to assign costs to patients and services users to reflect actual resource usage.

The costing standards have been developed from the outset with the full involvement of costing practitioners and have benefited significantly from this – improving ownership of the standards by the profession. The HFMA will continue to work with these practitioners as the service continues to improve costing and implement Monitor’s transformation programme.

John Graham
Introduction

These clinical costing standards set out best practice guidance for deriving cost data in the NHS. They reflect the methodologies and processes used to derive individual patient-level costs. We acknowledge that some organisations may not be doing full patient-level costing but will still have developed robust and detailed cost information. These standards therefore refer to clinical costing rather than just patient-level costing. They aim to provide organisations with best practice guidance to support improvement in the quality of cost information going forward.

Previous approaches to costing in the NHS have followed a top-down process – allocating total costs down to lower levels, such as a specialty or healthcare resource group (HRG). These previous approaches have provided useful information – and the data has been used to inform the national system in England. They can only produce information about high-level costs or average costs – the average cost of a hip replacement, for instance.

In contrast, robust patient-level cost data enables organisations to drill beneath aggregate costs to understand how costs are built up. This data can help to understand variations in cost and inform the efficient redesign of pathways, the elimination of waste and the reduction of costs. Patient-level costs should also provide better information to inform tariffs.

Analysing patient-level costs could help organisations understand whether cost variations result from differences between patients or between delivery of their treatment. A consistent approach to identifying how individual patient costs are built up can also help organisations understand where variations arise within a patient pathway – in theatres, wards or diagnostics, for example.

Focusing on costs at the patient level can facilitate meaningful discussions between clinicians, managers and support staff. These discussions can underpin improvements both in patient services and value for money.

Clinical costing builds costs from the bottom up, identifying where possible the resources used in treating individual patients – for example, the costs of a prosthesis or heart pacemaker. This is not always possible – it is difficult to assign medical and nursing staff time exactly to each patient. But costs can be allocated with reasonable accuracy using, say, the number of ward round visits to a patient or time spent on a ward, with adjustments made for the intensity of nursing support needed by a patient. Indirect or overhead costs – such as the costs of payroll or the finance team – can also be divided among all patients based on appropriate allocation and apportionment methods.

Once accurate patient cost data is derived, it can be aggregated to provide higher level costs for analysis – HRGs, specialties or service lines. But users will always be able to drill beneath these high-level figures to understand how the costs were made up by individual patient interactions.

Organisations are still required to submit cost information as part of the reference cost collection. Although there are differences in presentation – for example, the treatment of critical care or excess bed days – many organisations use their patient-level cost data as the basis for their reference cost return. Adhering to these clinical costing standards should lead to an overall improvement in the quality of cost data.

In addition, Monitor has set out a plan to move to a mandatory patient-level cost data collection for all trusts in its publication Improving the costing of NHS services: proposals for 2015-2021. As part of this vision, the HFMA standards continue to be integrated into Monitor’s Approved costing guidance, updated February 2016.

A first draft of the clinical costing standards was published in 2009 by the Department of Health, with a separate set subsequently produced for mental health organisations. The HFMA then took over responsibility for developing the standards, with continued support from the Department and Monitor. The standards reflect best practice and are intended to drive improvement. They may be stretching or aspirational for some organisations. Where this is the case, they should help organisations to understand their current data, systems and costing processes and how they need to develop to support adoption of the standards and an improvement in costing data quality.
Standard 1

Classification of direct, indirect and overhead costs

A: STANDARD
All general ledger costs need to be classified as direct, indirect or overhead.

B: PURPOSE
Assigning general ledger costs into direct, indirect and overhead groups improves the ability to analyse information at the organisational and patient level. It provides an understanding of costs that arise directly as a result of patient care and those that are more loosely tied to patient care. There may be occasions when costs need to be classified in different ways for specific reporting purposes. 

C: GUIDELINES

Definition of cost categories

Direct costs relate directly to the delivery of patient care. These costs can be directly linked to the delivery of patient care and costs are caused/arise as a result of individual patient episodes of care. Some costs, such as radiology costs, can usually be linked directly to individual patients because of the information available. For other costs, such as medical staffing costs, there is a known causal relationship between costs and individual patients. However, the data may not be available to link an individual’s time and cost to a specific patient, so the best available data may need to be used (see the MAQS template for information on this specific example at www.hfma.org.uk/costing/standards).

Indirect costs are indirectly related to the delivery of patient care, but cannot always be specifically identified to individual patients. Indirect costs can usually be allocated on an activity basis to service costs. Using weighted activity gives a better allocation method.

Overhead costs are the costs of support services that contribute to the effective running of an NHS provider. They are costs, such as the costs of the payroll service that cannot be traced or easily attributed to patients. An appropriate driver of cost should be used where possible (see Standard 3). Any remaining costs – such as board expenses – can be allocated according to size of service value after all other driver calculations have been completed.

Historically organisations have classified costs into direct, indirect and overhead categories based on their organisational reporting requirement or historic costing guidance. In order to ensure greater consistency going forward, organisations should adjust their internal costing system to classify costs according to the clinical costing standards. It is our understanding that if alternative classifications are also required for internal reporting, such as service line reports, costing systems should be able to deal with these multiple requirements.

Costs should be classified as accurately as possible, as set out in these guidelines. Wherever possible, new methods and information to support a more accurate allocation of costs should be sought. However, for the purposes of national reporting of costs and benchmarking, it is important to achieve a level of consistency in the way costs are classified. This standard sets out...
best practice classifications for the NHS based on the current information sources available to allocate costs. It is acknowledged that for local, internal reporting different classifications may be chosen, and clinical costing systems should be able to support this.

Examples of cost centre classifications are shown below. This list is not intended to be comprehensive. However, it reflects a common approach across the NHS.

### Direct costs

- **Critical care**
  - Adult high-dependency care (HDU)
  - Paediatric intensive care (PICU)
  - Adult intensive care (ITU)
  - Coronary care unit (CCU)
  - Neo-natal intensive care (NICU)
  - Other specialist ITU
  - Special care baby unit (SCBU)

- **Diagnostic**
  - Gait laboratory
  - Medical photography
  - Neurophysiology – for example, EEGs
  - Other – for example, lung function tests
  - Physiological measurement tests – for example, ECGs, echoes, exercise tests and BP monitoring
  - Sleep studies

- **Imaging**
  - CT
  - Fluoroscopy
  - General radiology
  - MRI
  - Mammography
  - Nuclear medicine
  - PET
  - Ultrasound

- **Emergency department**
  - Emergency department/minor injuries units/walk-in centres

- **Maternity**
  - Birthing suites
  - Delivery room/labour ward
  - Obstetric operating theatres

- **Operating theatres**
  - Operating theatres including sterile service department
  - Prosthetics

- **Wards**
  - Admission and discharge facilities (moved from indirect for the 2015/16 update of the standards)
  - Other ‘setting costs’
  - Virtual wards – for example, home care
  - Wards

*continued overleaf*
## Direct costs (continued)

- **Pharmacy**
  - Patient-specific preparations such as total parenteral nutrition (TPN) or aseptic suite
  - Prescribed drugs

- **Radiotherapy**
  - Radiotherapy treatment (external beam and brachytherapy)
  - Radiotherapy planning (CT/MRI scans, mould room and planning room activity)

- **Special procedure suites**
  - Angioplasty
  - Cardiac catheter
  - Endoscopy
  - Lithotripsy
  - Interventional imaging
  - Renal dialysis

- **Special treatment rooms**
  - Dressing rooms
  - Hyperbaric chamber
  - Plaster rooms

- **Therapies**
  - Diabetic educator
  - Dietetics
  - Neuropsychology
  - Occupational therapy
  - Orthotics
  - Physiotherapy
  - Play therapy
  - Podiatry (including therapy services)
  - Psychology
  - Speech and language therapy

- **Pathology**
  - Autopsy
  - Clinical biochemistry
  - Clinical microbiology
  - Clinical pharmacology
  - Cytogenetics
  - Cytology
  - General pathology
  - Haematology (laboratory)
  - Histopathology
  - Immunology (laboratory)
  - Mortuary
  - Phlebotomy
  - Serology
  - Toxicology
  - Virology

*continued overleaf*
Comment

3 CNST and pharmacy departmental costs are classified as indirect costs. However, in the MAQS template they are included within the direct cost section for presentation purposes only because they have their own cost pool groups.

4 The HFMA Acute Costing Practitioner Group is aware NHS bodies take a range of approaches to the classification of estates costs, treating them as overheads, indirect costs or both. The classification should not dictate the allocation method used. Whatever method is used, the allocation/apportionment method chosen should always use the best available data to approximate actual usage as closely as possible. The group believes there is value in having a common approach to classification of costs, facilitating like-for-like comparisons across organisations. For example, the group has agreed that capital charges relating to medical and surgical equipment should be classified as indirect costs. Capital charges relating to other equipment should be classified as overheads. If you are not able to split out the capital charges in this way, we suggest you report all capital charges as overheads until the necessary information can be provided by the organisation.

Direct costs (continued)

• Blood and blood products
• Other
  - Dental
  - Medical staffing costs
  - Optometry
  - Orthoptics
  - Outpatient clinics, including outreach clinics
  - Palliative care unit
  - Interpreters
  - Audiology
  - Social work

Indirect costs

• CNST premium
• Capital charges (depreciation and cost of capital) – medical and surgical equipment that can be allocated to clinical departments
• Clinical coding
• Clinical safety, quality and audit
• Consultancy costs if for a specific department or service (new for the 2015/16 update)
• Divisional managers and operational managers
• Medical records
• Patient catering and linen
• Pharmacy services (managing and running costs)
• Patient transport (new for the 2015/16 update)
• Portering
• Specimen collection
• Sterile services
• Training – departmental (new for the 2015/16 update)

Overheads

• Estates overhead costs include:
  - Building insurance
  - Building maintenance
  - Capital charges (depreciation and cost of capital) – buildings
  - Capital charges (depreciation and cost of capital) – equipment (please note this was previously categorised in indirect)
  - Cleaning
  - Consultancy costs for organisation-wide projects
  - Energy
  - Equipment maintenance
  - Rates
  - Utilities

continued overleaf
### Overheads (continued)

- **Other overheads include:**
  - Administration
  - Board expenses
  - Computer licences
  - Finance
  - Health and safety (new inclusion for 2015/16)
  - Human resources
  - Information management/information technology
  - Interest payments (new inclusion for 2015/16)
  - Marketing and public relations (new inclusion for 2015/16)
  - Medical director
  - Non-operational units/teams (for example, clinical governance)
  - Organisational development
  - PFI payments (new inclusion for 2015/16)
  - Patient liaison and complaints
  - Payroll
  - Procurement
  - Security
  - Strategic planning
  - Training – organisation-wide 5

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### Comment

5 The HFMA Costing Practitioner Groups has decided that overheads that relate to specific services and usually specialty specific services such as training or consulting work, should be treated as indirect wherever possible. Services such as training and consultancy which relate to trust wide activity should be treated as an overhead.
Standard 2

Creation of cost pool groups and cost pools

A: STANDARD
All service costs need to be grouped into associated cost pool groups.

B: PURPOSE
Grouping costs into cost pool groups has three main purposes:
1. To show the components of patient costs and provide useful and informative groupings to analyse and report costs
2. To enable the comparison of costs at individual and accumulated patient level for benchmarking purposes
3. To facilitate the audit of cost allocation and information systems

C: GUIDELINES
Cost pool groups are ‘types’ of costs, forming a set of component costs. Cost pool groups – such as for wards or pathology – are not the same as cost centres identified within general ledger accounting systems. For example, medical staff costs might be identified within various direct cost centres within the general ledger, but are collected in a dedicated cost pool group. Equally, drug costs might be identified within different direct costs centres within the ledger system, such as wards, but are pulled together into their own cost pool group.

Cost pool groups are also distinct from service lines or points of delivery (for definitions, see appendix A). Instead, cost pool groups represent the component costs within a particular service line and provide a more logical and useful high-level breakdown of costs for analysis and benchmarking purposes.

Cost pool groups are at the top of a hierarchy and only this top level is covered by the standard. One or more subsidiary levels in the hierarchy may be set locally, to enable organisation-specific reporting and to conform with data availability.

National cost pool groups are defined as follows:
- Blood and blood products
- CNST
- Critical care
- Drugs
- Emergency department
- Imaging
- Medical staffing (excluding radiology and pathology medical staff)
- Non-patient care activities (including education and training – see Standard 7)
- Operating theatres
- Other clinical services
- Other diagnostic testing

Comment
6 Cost pool groups should not be confused with service lines as used in service line reporting. See appendix A.

7 This list will be different between mental health and acute sectors but the principle is to enable appropriate reporting of component costs.
• Outpatients
• Pathology
• Pharmacy services
• Prostheses/implants/devices
• Radiotherapy
• Secondary commissioning costs
• Special procedure suites
• Specialist nursing staff (including consultant and specialist, non-ward specific nurses)
• Therapies
• Wards

Cost pool groups should be created so that they can be reported both with and without overheads. This is particularly important in order to meet the requirements of national cost returns. The ability to report cost pool groups as fully absorbed groups of costs or just including the direct and indirect cost element will support benchmarking and the ability to better understand and drill down into variations in cost.

This approach is being followed by Monitor in their voluntary patient-level cost data collection. To support this approach we strongly recommend that organisations review their costing systems to ensure they are fully compliant with Standard 1.

The following tables list the inclusions and exclusions from each cost pool group:

### BLOOD AND BLOOD PRODUCTS

This cost pool group contains blood and blood products used and in stock across all service areas.

<table>
<thead>
<tr>
<th>Include</th>
<th>Exclude</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost of blood and blood products used and in stock</td>
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</tbody>
</table>

### CNST

The CNST cost pool group contains the costs associated with the Clinical Negligence Scheme for Trusts which handles all clinical negligence claims.

<table>
<thead>
<tr>
<th>Include</th>
<th>Exclude</th>
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</thead>
<tbody>
<tr>
<td>CNST costs</td>
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</table>
CRITICAL CARE
The critical care cost pool group covers adult ITU, adult HDU, paediatric ITU, paediatric HDU, neonatal unit and coronary care unit.

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<thead>
<tr>
<th>Include</th>
<th>Exclude</th>
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<tbody>
<tr>
<td>• Goods and services</td>
<td>• Blood and blood products</td>
</tr>
<tr>
<td>• Medical and surgical supplies</td>
<td>• Imaging</td>
</tr>
<tr>
<td>• Nursing salaries and wages</td>
<td>• Medical staffing (including anaesthetists)</td>
</tr>
<tr>
<td>• Other staff salaries and wages</td>
<td>• Pathology</td>
</tr>
<tr>
<td></td>
<td>• Pharmacy/drugs</td>
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<tr>
<td></td>
<td>• Prostheses</td>
</tr>
</tbody>
</table>

**Comment**
9 It is acknowledged that information regarding the use of drugs stocked in clinical areas may be limited. But for completeness and following review of the standards, it is advised that the costs of stock drugs should be allocated to the drugs cost pool group, rather than be included within a number of other cost pool groups – for example, wards and outpatients. This will ensure greater consistency in clinical cost data.

DRUG COSTS
The drugs cost pool group covers the cost of drugs. This includes all drugs, stock drugs, drugs dispensed directly to patients and home delivery of drugs.

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<thead>
<tr>
<th>Include</th>
<th>Exclude</th>
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<tbody>
<tr>
<td>• Cost of drugs that can be allocated to patients</td>
<td>• Costs of running the pharmacy service, as identified below</td>
</tr>
<tr>
<td>• Cost of purchased drugs</td>
<td></td>
</tr>
<tr>
<td>• Home delivery of drugs</td>
<td></td>
</tr>
<tr>
<td>• Stock drugs</td>
<td></td>
</tr>
</tbody>
</table>

In order to support national cost reporting requirements, we recommend the creation of three cost pools underneath the drug cost pool group:

• High-cost drugs
• Chemotherapy drugs
• All other drugs.

The high-cost drugs cost pool should collect the costs associated with high-cost drugs excluded from the payment by results tariff. These drugs are typically specialist, and their use is concentrated in a relatively small number of providers rather than evenly across all trusts that carry out activity in the relevant HRGs.

The high-cost drugs cost pool should include the costs of high-cost drugs that have been prescribed to patients and, if appropriate, the cost of any of these high-cost drugs held as stock. It should exclude the costs of running the pharmacy services as these will be included in the pharmacy cost pool group below.

EMERGENCY DEPARTMENT
The emergency department cost pool group covers the costs associated with running the emergency department, including minor injuries units and walk in centres.

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<thead>
<tr>
<th>Include</th>
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<tbody>
<tr>
<td>• Medical and surgical supplies</td>
<td>• Blood and blood products</td>
</tr>
<tr>
<td>• Nursing salaries and wages</td>
<td>• Imaging</td>
</tr>
<tr>
<td>• Other goods and services reported in emergency department cost centres</td>
<td>• Medical staffing</td>
</tr>
<tr>
<td>• Other staff salaries and wages</td>
<td>• Pathology</td>
</tr>
<tr>
<td></td>
<td>• Pharmacy/drugs</td>
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<tr>
<td></td>
<td>• Prostheses</td>
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</tbody>
</table>
IMAGING
This cost pool group covers the area of diagnostic radiology. Examples of imaging services, which could be separate cost pools within the cost pool group, include CT, plain film X-ray, mammography, fluoroscopy, MRI, nuclear medicine, PET, ultrasound and DEXA scans.

<table>
<thead>
<tr>
<th>Include</th>
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<tbody>
<tr>
<td>• Goods and services</td>
<td></td>
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<tr>
<td>• Medical and surgical supplies</td>
<td></td>
</tr>
<tr>
<td>• Medical staffing salaries and wages related to radiology cost centres</td>
<td></td>
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<tr>
<td>• Nursing staff salaries and wages</td>
<td></td>
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<tr>
<td>• Other staff salaries and wages</td>
<td></td>
</tr>
<tr>
<td>• PACS/RIS contracts</td>
<td></td>
</tr>
<tr>
<td>• Radiologist salaries and wages</td>
<td></td>
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<tr>
<td>• Radiographer salaries and wages</td>
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</tbody>
</table>

MEDICAL STAFFING
This cost pool group consists of medical staffing salaries associated with the treatment of patients. This is treated as a separate cost pool group because it is a significant cost that could have an impact on comparability of costs between organisations. It covers the costs of consultants, anaesthetists, registrars and junior doctors. However, medical staff working in radiology, pathology and other diagnostic departments should be excluded from this cost pool.

We suggest that, as a minimum, separate cost pools are created for consultants, other medical staff and juniors working across the services outlined below. In addition, separate cost pools should be created for the education and training element of their work. Where education and training is fully costed alongside service costs within a costing system, the element of costs of medical staffing relating to education and training should be included within the education and training cost pool, which groups to the non-patient care cost pool group. However, where the education and training cost pool is not fully used, the element of education and training costs for medical staffing may be kept in the medical staffing cost pool group. This will be monitored for the 2016/17 update.

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<thead>
<tr>
<th>Include</th>
<th>Exclude</th>
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</thead>
<tbody>
<tr>
<td>• Associated non-pay costs of medical staffing</td>
<td>• Medical salaries and wages for pathology, radiology and other diagnostics</td>
</tr>
<tr>
<td>• Medical salaries and wages, including costs of consultants, anaesthetists, registrars and junior doctors</td>
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</tr>
<tr>
<td>• Medical secretary salaries and wages</td>
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</tbody>
</table>

NON-PATIENT CARE ACTIVITIES
This would include the costs of running non-patient care activities including education and training and research and development (see Standard 7).

<table>
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<tr>
<th>Include</th>
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</thead>
<tbody>
<tr>
<td>• All costs covered by Standard 7</td>
<td></td>
</tr>
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</table>
## OPERATING THEATRES

The operating theatre cost pool group covers the area of a 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.

<table>
<thead>
<tr>
<th>Include</th>
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<tbody>
<tr>
<td>• Anaesthetics costs</td>
<td>• Blood and blood products</td>
</tr>
<tr>
<td>• Medical and surgical supplies</td>
<td>• Imaging</td>
</tr>
<tr>
<td>• Nursing salaries and wages, including recovery and anaesthetics</td>
<td>• Medical staffing</td>
</tr>
<tr>
<td>• Other goods and services reported in theatres cost centres</td>
<td>• Pathology</td>
</tr>
<tr>
<td>• Other staff salaries and wages</td>
<td>• Pharmacy/drugs</td>
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<tr>
<td>• Imaging</td>
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<td>• Medical staffing</td>
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<td>• Pathology</td>
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<tr>
<td>• Pharmacy/drugs</td>
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<tr>
<td>• Prostheses</td>
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## OTHER CLINICAL SERVICES

The other clinical services cost pool group would include the costs of clinical services not included in other groups. This cost pool group has been included to accommodate trusts with services that cannot be included elsewhere. It may include costs for services such as orthotics, disablement services, genetics, daycare and cancer multi-disciplinary teams.

<table>
<thead>
<tr>
<th>Include</th>
<th>Exclude</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Audiology – pay and non-pay costs</td>
<td>• All other services, which should be reported within the relevant cost pool group</td>
</tr>
<tr>
<td>• Disablement services – pay and non-pay costs</td>
<td>• Overhead costs should be allocated as per Standards 1 and 3. Overhead costs should not be separated and reported solely within this cost pool group. They should be reported across all relevant cost pool groups as determined by the appropriate allocation methodology</td>
</tr>
<tr>
<td>• Neonatal transport service</td>
<td></td>
</tr>
<tr>
<td>• Orthotics – pay and non-pay costs</td>
<td></td>
</tr>
</tbody>
</table>

## OTHER DIAGNOSTIC TESTING

The other diagnostic testing cost pool group covers all diagnostic tests, with the exception of imaging, pathology and pharmacy/drugs. Tests may include echocardiogram, stress tests, EEG, ECG, neurophysiology and lung function tests.

<table>
<thead>
<tr>
<th>Include</th>
<th>Exclude</th>
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<tbody>
<tr>
<td>• Goods and services</td>
<td>• Imaging</td>
</tr>
<tr>
<td>• Medical and surgical supplies</td>
<td>• Pathology</td>
</tr>
<tr>
<td>• Medical staffing</td>
<td>• Pharmacy/drugs</td>
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<tr>
<td>• Nursing salaries and wages</td>
<td></td>
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<tr>
<td>• Other staff salaries and wages</td>
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</tbody>
</table>
OUTPATIENTS
The outpatients cost pool group covers the costs associated with running outpatient clinics. Any clinics that are run in a community setting should be recorded within this cost pool group. However, we recommend that separate cost pools are established for these types of clinics to facilitate better cost comparisons.

<table>
<thead>
<tr>
<th>Include</th>
<th>Exclude</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Medical and surgical supplies</td>
<td>• Blood and blood products</td>
</tr>
<tr>
<td>• Nursing salaries and wages</td>
<td>• Imaging</td>
</tr>
<tr>
<td>• Other goods and services reported in</td>
<td>• Medical staffing</td>
</tr>
<tr>
<td>outpatient cost centres</td>
<td>• Pathology</td>
</tr>
<tr>
<td>• Other staff salaries and wages</td>
<td>• Pharmacy/drugs</td>
</tr>
<tr>
<td></td>
<td>• Prostheses</td>
</tr>
</tbody>
</table>

PATHOLOGY
The pathology cost pool group includes costs of diagnostic clinical laboratory testing for the diagnosis and treatment of patients. A full list of pathology types can be found in Standard 1. To recognise the different cost implications of the many separate tests within the costing process, more than one cost pool should be created within the pathology cost pool group. Examples include clinical biochemistry, clinical microbiology, clinical pharmacology, haematology (laboratory), histopathology and immunology (laboratory).

<table>
<thead>
<tr>
<th>Include</th>
<th>Exclude</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Goods and services (eg chemicals)</td>
<td>• Blood and blood products</td>
</tr>
<tr>
<td>• Medical and surgical supplies</td>
<td></td>
</tr>
<tr>
<td>• Medical staff salaries and wages</td>
<td></td>
</tr>
<tr>
<td>related to pathology cost centres</td>
<td></td>
</tr>
<tr>
<td>• Medical technician and scientist salaries</td>
<td></td>
</tr>
<tr>
<td>and wages</td>
<td></td>
</tr>
<tr>
<td>• Nursing salaries and wages</td>
<td></td>
</tr>
<tr>
<td>• Other staff salaries and wages</td>
<td></td>
</tr>
</tbody>
</table>

PHARMACY COSTS
The pharmacy cost pool group covers the production, distribution, supply and storage of drugs and clinical pharmacy services.

<table>
<thead>
<tr>
<th>Include</th>
<th>Exclude</th>
</tr>
</thead>
<tbody>
<tr>
<td>• All staff salaries and wages in pharmacy</td>
<td>• Cost of drugs included within the drugs</td>
</tr>
<tr>
<td>cost centres</td>
<td>pool group</td>
</tr>
<tr>
<td>• Goods and services in pharmacy cost</td>
<td></td>
</tr>
<tr>
<td>centres</td>
<td></td>
</tr>
<tr>
<td>• Manufacturing raw material costs in</td>
<td></td>
</tr>
<tr>
<td>pharmacy cost centres</td>
<td></td>
</tr>
<tr>
<td>• Medical and surgical supplies in</td>
<td></td>
</tr>
<tr>
<td>pharmacy cost centres</td>
<td></td>
</tr>
<tr>
<td>• Medical technicians in supply</td>
<td></td>
</tr>
</tbody>
</table>
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 into the body with the purpose of remaining permanently or until removed during another procedure.

<table>
<thead>
<tr>
<th>Include</th>
<th>Exclude</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Costs of prostheses, implants and devices in:</td>
<td>• Cost of drugs included within the drugs cost pool group</td>
</tr>
<tr>
<td>• Therapies</td>
<td></td>
</tr>
<tr>
<td>• Operating theatres</td>
<td></td>
</tr>
<tr>
<td>• Critical care</td>
<td></td>
</tr>
<tr>
<td>• Special procedure suites</td>
<td></td>
</tr>
<tr>
<td>• Other clinical service areas</td>
<td></td>
</tr>
</tbody>
</table>

RADIOTherAPy

This cost pool group covers the costs associated with the delivery of radiotherapy services.

<table>
<thead>
<tr>
<th>Include</th>
<th>Exclude</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Consumables</td>
<td>• Medical staffing</td>
</tr>
<tr>
<td>• Goods and services</td>
<td>• Pharmacy/drugs</td>
</tr>
<tr>
<td>• Medical physics salaries</td>
<td></td>
</tr>
<tr>
<td>• Moulding technicians</td>
<td></td>
</tr>
<tr>
<td>• Radiographers salaries</td>
<td></td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>Include</th>
<th>Exclude</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Direct costs of care commissioned</td>
<td></td>
</tr>
<tr>
<td>• Staff costs</td>
<td></td>
</tr>
</tbody>
</table>

SPECIAL PROCEDURE SUITES/SPECIAL TREATMENT ROOMS

The special procedure suites/special treatment rooms cost pool group 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 catheterisation laboratories, renal dialysis units (all types of unit including home and hospital based dialysis) and special treatment rooms such as plaster rooms or hyperbaric chambers.

<table>
<thead>
<tr>
<th>Include</th>
<th>Exclude</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Anaesthetics costs</td>
<td>• Blood and blood products</td>
</tr>
<tr>
<td>• Medical and surgical supplies</td>
<td>• Imaging</td>
</tr>
<tr>
<td>• Nursing salaries and wages, including recovery and anaesthesitcs</td>
<td>• Medical staffing and anaesthesitists</td>
</tr>
<tr>
<td>• Other goods and services reported in special procedure suite cost centres</td>
<td>• Pathology</td>
</tr>
<tr>
<td>• Other staff salaries and wages</td>
<td>• Pharmacy/drugs</td>
</tr>
<tr>
<td></td>
<td>• Prostheses</td>
</tr>
</tbody>
</table>
In order to support national cost reporting requirements, we recommend the creation of the following hierarchy of cost pools within the special procedure suite cost pool group:

- Catheterisation laboratory
- Endoscopy units/services
- Renal dialysis units
- Other special procedure suites

**SPECIALIST NURSING STAFF**

This consists of nursing staff that cannot be included in other cost pool groups. It should include the costs of community midwives and stoma care and COPD dedicated nursing staff.

<table>
<thead>
<tr>
<th>Include</th>
<th>Exclude</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community midwives</td>
<td>Nurses working exclusively in other areas</td>
</tr>
<tr>
<td>Consultant nurses</td>
<td>covered by specific cost pool groups</td>
</tr>
<tr>
<td>Specialist nurses</td>
<td>Ward nurses</td>
</tr>
</tbody>
</table>

**THERAPIES**

<table>
<thead>
<tr>
<th>Therapies cost pool</th>
<th>Exclude</th>
</tr>
</thead>
<tbody>
<tr>
<td>All staff salaries and</td>
<td>All therapist salaries and wages reported</td>
</tr>
<tr>
<td>wages reported in</td>
<td>in other cost centres</td>
</tr>
<tr>
<td>therapies cost centres</td>
<td>Medical and surgical supplies reported in</td>
</tr>
<tr>
<td></td>
<td>therapies cost centres</td>
</tr>
<tr>
<td></td>
<td>Other costs in therapies cost centres</td>
</tr>
</tbody>
</table>

**WARDS**

This includes nursing salaries, as well as costs of medical and surgical supplies and other goods and services used and delivered on wards. Each ward should be costed separately before being allocated to patients, so that each may be treated as a cost pool within the wards cost pool group. The ward cost pool group should include costs of admission and discharge lounges/facilities and chemotherapy day units.

<table>
<thead>
<tr>
<th>Include</th>
<th>Exclude</th>
</tr>
</thead>
<tbody>
<tr>
<td>All grades of nursing salaries and wages reported</td>
<td></td>
</tr>
<tr>
<td>in ward areas</td>
<td>Blood and blood products</td>
</tr>
<tr>
<td>Goods and services</td>
<td>Medical staffing</td>
</tr>
<tr>
<td>Medical and surgical supplies and services</td>
<td>Nursing salaries and wages reported in other</td>
</tr>
<tr>
<td></td>
<td>cost pool group areas, including:</td>
</tr>
<tr>
<td></td>
<td>- Imaging</td>
</tr>
<tr>
<td></td>
<td>- Pathology</td>
</tr>
<tr>
<td></td>
<td>- Critical care</td>
</tr>
<tr>
<td></td>
<td>- Operating theatre</td>
</tr>
<tr>
<td></td>
<td>- Emergency department</td>
</tr>
<tr>
<td></td>
<td>- Outpatients</td>
</tr>
<tr>
<td></td>
<td>- Special procedure suites</td>
</tr>
<tr>
<td></td>
<td>- Therapies</td>
</tr>
<tr>
<td></td>
<td>- Specialist nursing staff</td>
</tr>
<tr>
<td></td>
<td>- Stock drugs</td>
</tr>
</tbody>
</table>
### Classification of indirect costs across cost pool groups

Indirect costs should not be classified into the ‘other clinical services cost pool group’. In most costing systems, indirect costs are allocated using activity information, whereas overhead costs are allocated to other cost centres. The table below provides guidance on the cost pool groups into which the indirect costs listed in Standard 1 should be classified. In many systems this may require some initial work in order to split the costs so that they can be classified across several different cost pool groups. However, this work should be a one-off exercise and will allow costs to be allocated more accurately, as the costs classified within each cost pool group should be allocated differently.

<table>
<thead>
<tr>
<th>Indirect cost</th>
<th>Cost pool classification</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital charges (depreciation and cost of capital) – medical and surgical equipment that can be allocated to clinical departments</td>
<td>Wards, theatres, special procedure suites, radiotherapy, radiology and outpatients</td>
<td>Costs should be classified according to the location of the equipment and treatment the patients receive using the equipment</td>
</tr>
<tr>
<td>Clinical coding</td>
<td>Ward and outpatients</td>
<td>Costs should be classified across the wards and outpatient cost pool groups according to the workload of the clinical coding teams. Costs may only be classified to the ED and theatre cost pool groups if clinical coding teams undertake coding of this activity</td>
</tr>
<tr>
<td>Clinical safety, quality and audit</td>
<td>All cost pools with the exception of CNST, non-patient care activities, drugs, prosthesis, secondary commissioning costs</td>
<td>Costs will need to be classified across the cost pool groups that are relevant for each trust. This will be based on the work on individual departments</td>
</tr>
<tr>
<td>CNST premium</td>
<td>CNST cost pool group</td>
<td>Costs should be classified across all relevant cost pool groups. This will depend on the consultancy being provided</td>
</tr>
<tr>
<td>Consultancy costs if for a specific department or service</td>
<td>All relevant cost pool groups</td>
<td>Costs should be classified across appropriate cost pool groups for an individual trust, based on the work of the divisional and operational management teams</td>
</tr>
<tr>
<td>Divisional managers and operational managers</td>
<td>All cost pool groups with the exception of CNST, medical staffing, non-patient care activities, drugs, prostheses, secondary commissioning costs</td>
<td>Costs should be classified across appropriate cost pool groups for an individual trust, based on the work of the divisional and operational management teams</td>
</tr>
<tr>
<td>Medical records</td>
<td>Wards, outpatients and ED</td>
<td>The split across cost pool groups will depend on the advice of the medical records team</td>
</tr>
<tr>
<td>Patient catering and linen</td>
<td>Wards, outpatients, theatres, special procedure suites</td>
<td>Costs should be reported in the ward cost pool group. Costs should only be reported in other cost pool groups if meals are provided to patients – for example, renal dialysis</td>
</tr>
</tbody>
</table>

*continued overleaf*
<table>
<thead>
<tr>
<th>Indirect cost</th>
<th>Cost pool classification</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient transport (new inclusion for the 2015/16 update)</td>
<td>Wards, special procedure suites, outpatients, radiotherapy</td>
<td>Costs should be classified across relevant cost pool groups in proportion to the activity of the service.</td>
</tr>
<tr>
<td>Pharmacy services (managing and running costs)</td>
<td>Pharmacy cost pool group</td>
<td></td>
</tr>
<tr>
<td>Portering</td>
<td>Wards, theatres, outpatients</td>
<td>Costs should be classified across these cost pool groups depending on the work of the portering team.</td>
</tr>
<tr>
<td>Specimen collection</td>
<td>Pathology cost pool group</td>
<td></td>
</tr>
<tr>
<td>Sterile services</td>
<td>Theatre cost pool group</td>
<td>Costs may also be classified into the outpatient and special procedure suite cost pool group if services are provided to patients being treated in these areas.</td>
</tr>
<tr>
<td>Training – departmental</td>
<td>All relevant cost pool groups</td>
<td>Costs should be classified across all relevant cost pool groups. This will depend on the staff groups to whom the training is being delivered</td>
</tr>
</tbody>
</table>
Acute health clinical costing standards

Standard 3

Allocation of costs

A: STANDARD

This standard is based on the principle of full absorption costing\(^\text{11}\). For full absorption costing, all costs will be allocated at some point in the costing process. Whenever practical, costs should be allocated on an informed activity basis, using an appropriate driver of the resource use, rather than shared over a number of activity units based on total expenditure.

Cost pool groups will contain different types of patient resource – broadly staff/pay, consumables and other non-pay expenditure. These different patient resource costs should be allocated to patients using a method that as closely as possible reflects actual use of the resource.

Organisations should consider the materiality of a resource when considering the amount of effort and/or data collection required to collate information to drive the costs.

For 2015/16, Standard 3a (allocating ward costs), Standard 3b (allocating theatre costs) and Standard 3c (allocating medical staffing costs) have been updated. A new Standard 3d (allocating emergency department costs) has been developed.

In addition, the issue of costing out-of-hours care has been highlighted as a national issue because of the potential under-costing of emergency care. Costing out-of-hours care has been considered, and guidance provided within each of the chapters within this standard.

These chapters provide more detailed guidance on the approach to allocating costs within these cost pool groups, which are for most organisations the most material. They provide minimum standards of cost allocation and a framework on how to improve.

MAQS

The MAQS (materiality and quality score) template contains a full list of allocation methodologies. For each cost type there are a minimum of four allocation options to select, therefore showing which options are available to improve the quality of costing if data is available.

Given the importance of allocating indirect and overhead costs accurately, and the materiality of these costs, the MAQS has three distinct sections: direct, indirect and overhead costs.

Allocation methods are given a rating to reflect the increased granularity of the allocation achieved. These ratings (gold, silver, bronze, baseline) have an associated weighting that is used within the MAQS calculation to assess the quality of the costing process – see Standard 9.

Research commissioned by HFMA and Monitor has found that costing systems across Europe use a mixture of ‘top down’ and ‘bottom up’ costing methodologies. This is primarily because the data is not usually available to allocate many overhead and indirect costs using a bottom up costing methodology or directly to a patient.

Therefore all costing systems do contain a mix of methodologies. It is for this reason that the MAQS is so important because it highlights the mix of methodologies used by individual organisations and demonstrates how cost allocations could be changed to improve the overall quality of costing.

‘International approaches to costing’ can be found on the HFMA’s website at www.hfma.org.uk/costing/standards

B: PURPOSE

To identify the most appropriate mechanisms to allocate costs. This includes direct, indirect and overhead costs.

Comment

\(^{11}\) This standard reflects best practice methodology. This may be aspirational for some organisations, given the information available. However, this should not deter organisations from implementing clinical costing and using the best methodologies available in individual circumstances, while putting plans in place to improve costing methodologies over time.
C: GUIDELINES

Overhead costs
Overhead costs are defined in Standard 1. The allocation of overhead costs involves a stepped process. First, costs are allocated across cost pool groups. This usually involves allocating costs across direct, indirect and other overhead cost centres using appropriate activity information, therefore uplifting the total costs in these cost centres. This may be calculated once or multiple times, eventually fully absorbing overhead costs into direct and indirect cost centres. The second step in the process is the application of an allocation method for direct and indirect cost centres.

Overheads should therefore not be taken directly to the ‘other clinical services’ cost pool group. They should be allocated according to this standard, and the MAQS allocation methodologies in Standard 9.

The MAQS template sets out the allocation options for overhead costs. Allocating costs on the basis of expenditure (known traditionally as the true overhead approach) may be acceptable in some instances for allocating overhead costs. However, more sensitive resource drivers should always be used to allocate costs if these are available.

Indirect costs
Indirect costs again use a two-step process to allocate costs to patients. Costs should be allocated to cost pool groups and then directly to patients or to other direct costs. Usually patient-level\textsuperscript{12} information or activity information as a proxy is used to allocate these costs.

The MAQS has a separate section setting out the options for allocating indirect costs. Costing systems usually achieve this in different ways and via different routes.

Fully absorbed direct costs
Allocating costs using a ‘bottom up’ costing approach or directly to patients based on actual resource consumption will provide the most accurate result and provide greater transparency and drill-down of results.

Where it is not possible to allocate costs to specific patients based on resource consumption, an informed activity basis should be used that best reflects actual consumption. This will allow costs to be allocated to a patient level but will not provide the same accuracy as a result. Due consideration should be given to the materiality of the cost being allocated and the time and effort needed to allocate the costs.

Where information is not available regarding the resources consumed by individual patients or groups of patients, costs will need to be averaged across specialties or groupings such as HRGs, ICD10 or OPCS codes. This ‘top down’ approach to costing was used historically by many organisations for allocating all or many fully absorbed direct costs.

Principles for allocating fully absorbed direct costs
This section sets out a number of methodologies to allocate costs from cost pool groups to patients. The methods below are broadly set out in a hierarchy, with actual usage providing the preferred option where feasible. If this information is not available, then a method that best approximates actual usage should be used.

---

Example: two-step process

<table>
<thead>
<tr>
<th>Ward cost pool group</th>
<th>£10,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pay</td>
<td>£8,000</td>
</tr>
<tr>
<td>Non-pay</td>
<td>£2,000</td>
</tr>
<tr>
<td>Cleaning overhead</td>
<td>£1,000</td>
</tr>
</tbody>
</table>

From this, £100 allocated to wards cost pool group via floor area allocation statistics

The £100 is split across the ward cost pool group as follows:

<table>
<thead>
<tr>
<th>Pay</th>
<th>£80</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-pay</td>
<td>£20</td>
</tr>
</tbody>
</table>

Therefore the fully absorbed ward cost pool group is:

<table>
<thead>
<tr>
<th>Pay</th>
<th>£8,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-pay</td>
<td>£2,000</td>
</tr>
<tr>
<td>Overhead</td>
<td>£100</td>
</tr>
<tr>
<td>TOTAL</td>
<td>£10,100</td>
</tr>
</tbody>
</table>

\textsuperscript{12} In all cases, the best available allocation method should be used and the rationale recorded. For example, for financial services, payroll and purchasing department, an allocation based on the number of transactions is likely to be more accurate than using total spend.
1. Actual usage
Where possible, the actual resource utilised or consumed should be directly allocated to specific patients. This may involve allocating resources based on the time spent with an individual patient and/or the actual consumption of a resource, e.g. a specific pathology test.

2. Estimated average usage
It may be necessary to estimate the actual time spent with each patient or group of patients, or the utilisation of consumables across a particular group of patients. This may be necessary where actual patient level data is not available. Examples using the estimated average usage method are as follows:

- Physiotherapy: average time of, say, 15 minutes is used for every patient with a particular condition
- Theatre consumables: estimated average or standard cost of, say, £500 for a particular procedure
- Recovery time for a particular procedure/patient type: assumed to be, say, an average of two hours

These average costs should be based on actual data collected for a sample of patients from which an average is calculated and applied across an appropriate grouping of patients. If sample data is not available, estimates should be obtained from the clinical staff in the area concerned.

3. Using activity information as a proxy for specific patient level resource information
Where there is a patient resource that has no associated feeder system to provide patient level data, it may be appropriate to use other patient resource information as a ‘proxy’ for the consumption of that resource. For example, ward stock drugs could be allocated on the basis of bed days/hours/minutes spent on the ward. The MAQS rating (see Standard 9) will differ according to the level of detail available for the unit of time (days, hours, minutes), but the MAQ score is generally lower for this approach than the above sampling approach.

4. Allocating costs using high level activity information
Where neither a patient-specific resource nor patient duration can be identified, the number of specific attendances or episodes of patient contact may be used to allocate costs. This may only be considered satisfactory where there is significant homogeneity in the amount of resource used per attendance. For example, this approach could be used to allocate the costs of a centralised medical records service.

5. Averaging costs across services
This involves allocating costs across a wide group of patients or products. So, pharmacy costs may be allocated across all healthcare resource groups, with each HRG receiving a service weight based on the value of broad categories of resource used – for example, dispensary staff costs may be allocated based on the number of dispensed items, but the ward based pharmacy staff might have their costs allocated with reference to admissions and discharges taking into account length of stay. This begins to reflect the different use of this resource by individual patients but is not actually tracking the time individual pharmacists spend with individual patients.
6. Overhead – based on total expenditure

This methodology allocates costs based on the size of the expenditure pot after all other allocations have been made. This is not acceptable for direct costs but may be appropriate or necessary (due to the lack of better information) for overhead costs, although more sensitive resource drivers should always be used to allocate costs if available.

In all cases the best available allocation method should be used and the rationale recorded. For example, for financial services, payroll and purchasing departments an allocation based on the number of transactions is likely to be more accurate than using total spend.

The use of cost weights

Cost weights have an important role to play in allocating costs to individual patients. They may be used when allocating some costs between different cost pools or even allocating costs from the same cost pool.

An example of the use of cost weights across cost pools would be to recognise that an MRI scan consumes more resources than a CT scan.

Cost weights should be derived in conjunction with the individuals involved in the provision of the service. For example, cost weights for imaging and other diagnostics should be developed in conjunction with clinical staff, including medical, nursing and radiographers and operational management.

Cost weights should also be used to allocate costs within cost pools down to patient level, recognising that each element of the resource will have different inputs and therefore costs. An example of a product with more than a single cost weight might be an imaging test. For instance, X-rays may be one cost pool within the imaging cost pool group. But within the X-rays cost pool there are two broad cost drivers – the time taken (tying up staff, space and equipment) and the consumables used.

Cost weights can be used to more accurately allocate these resources to patients. For example, procedure A, an X-ray of the upper body, may take 30 minutes with consumables costs of £40, while procedure B, an X-ray of the lower limb, may take 10 minutes and have consumables costs of £10. The relative weighting for time would be 3:1 and for consumables would be 4:1. Alternatively, a combined cost weighting or standard cost, may be calculated based on all component costs.

Where pay costs are involved, the number of direct minutes by staff group on an actual or average basis will usually determine the cost weight. Cost weights should be developed for each patient resource that is identified by a feeder system. For example, each different pathology test or group of pathology tests that, on the advice of pathology staff, consume similar resource and that is reported from the pathology unit, should be assigned an appropriate cost weight.

Cost weights that describe pay components should ideally be verified by examining productivity measures. For example, the total number of chest X-rays performed by a radiographer per session should be consistent with the cost weight (time taken) for the chest X-ray.

Non-pay costs should be verified against the actual price paid for the product. In each of these cases, where variation is observed the cost weight should be reviewed. The final verification of costs should occur in consultation with the relevant clinical lead or operational manager.

As a minimum, cost weights should be reviewed annually with relevant departments/teams to ensure current practice is reflected, taking into account the following circumstances:

- Significant changes in the purchase price of a product
- Significant changes in clinical practice and/or technology
- Introduction of new feeder systems.
Standard 3a

Allocating ward costs

A: STANDARD
Wards are a material cost pool group for most organisations. There are six main breakdowns of cost within the wards cost pool group:

- Nursing pay
- Other staff pay
- Ward stock drugs
- Consumables
- Other non-pay
- Overheads (space occupancy cost)

These different patient resource costs should be allocated to patients using a method that as closely as possible reflects actual use of the resource, recognising materiality.

B: PURPOSE
To identify the most appropriate mechanisms to allocate ward costs. This standard focuses on the most material component of ward costs, nursing costs, although the HFMA will continue research into other cost types.

C: GUIDELINES
Historically organisations in the NHS have allocated nursing costs on the basis of the time a patient spends on a ward14. However, this approach does not reflect the actual nursing input required to treat and care for individual patients, and this view is reflected in the MAQS. The most accurate method would be to allocate nursing costs using the actual time each nurse spends with a patient. However, this would place considerable burden on nurses to collect this information, and potentially require significant IT investment to support.

Understanding patient acuity and the resulting nurse dependency is clearly key to ensuring wards have the right nursing staff in place to meet the needs of patients. Different patients need different levels of nursing care and support. The HFMA has been working closely with NICE as part of its work on safe staffing guidelines. It recommends that trusts take account of patient acuity both in setting ward nursing establishments and then in assessing, on a daily basis, whether actual staffing levels are adequate to meet the specific needs of patients on the day.

NICE has subsequently endorsed the Shelford Group’s Safer Nursing Care Tool (SNCT), identifying the features that are in line with the guideline for the toolkit so that it can be used alongside NICE guideline SG1 on safe staffing12.

The recommendation for trusts routinely to monitor patient acuity on wards to ensure that staffing levels remain safe will have a knock-on benefit for calculating patient level costs. If these acuity ‘scores’ are recorded at the patient level, they should be available to refine the allocation of ward nursing costs to individual patients. This refined approach would recognise that two patients on a ward for the same length of time could consume significantly different amounts of nursing resource, depending on each patient’s individual nursing needs.

Taking account of acuity and allocating costs on the basis of hours on a ward (rather than bed days) was seen as best practice in the 2014 HFMA Acute health clinical costing standards. On the back of the NICE recommendation, it is expected that NHS providers will be looking to put in systems that enable them to understand patient nursing needs. Greater availability of patient

Comment
14 The NICE guidance on safe staffing for nursing in adult inpatient wards in acute hospitals can be found at www.nice.org.uk
Acute health clinical costing standards

Acuity data should enable more providers to meet best practice in allocating ward nursing costs. In addition, the HFMA believes that the regulator will increasingly need to understand the impact of patient acuity in developing prices, particularly in light of the push to move lower acuity patients into community settings.

During 2014, the HFMA met with INEk, the German institute for the hospital remuneration system. As part of this work, the allocation of ward costs in Germany was discussed. For hospitals in the German costing sample, there is a mandated collection of acuity data required on general care wards and special care wards. Further details are available in our report, which can be downloaded from www.hfma.org.uk/costing/standards.

The work with INEk and NICE has strengthened the HFMA gold standard for allocating ward costs. It is for this reason that the MAQS template has been amended this year.

The baseline score has effectively been split in two. Using length of stay in days (using midnight bed count information) without any acuity measure will attract a score of 0.2. Using length of stay in hours and minutes without any acuity measure will attract a score of 0.4. In order to score higher, acuity information will need to be incorporated into the allocation of nursing costs.

Gold standard will now only be awarded for acuity information captured on a daily basis in line with NICE guidelines. This will attract a score of 1 in the MAQS. Silver standard will be awarded for the allocation of nursing costs using length of stay in hours and incorporating acuity measures on an episodic basis. This will attract a weighting of 0.8 in the MAQS. The bronze standard will be awarded for the allocation of nursing costs using length of stay in hours and a standardised measure of acuity. This may be required for those organisations yet to implement systems on wards that capture daily acuity information that can be incorporated into costing systems.

Case studies have been developed to support these different approaches. These can be found on the HFMA costing website (www.hfma.org.uk/costing/standards). The resources to support the implementation of each option vary considerably, and as a result we have prioritised the approaches according to the additional information/data required to implement them. We have adopted this approach to reflect the very different starting points to this area of work across the NHS as it is dependent on the level of engagement of nursing teams, IT systems available and the types of data being routinely collected or even collected on a sample basis. The options provided are not intended to be exhaustive but have been developed to provide organisations with tangible options they may wish to adopt.

We will continue to monitor progress with costing in this area in light of the NICE guidance published in July, and we will update future versions of the standards to reflect progress made.

What do we mean by patient acuity and dependency?

In general, patient acuity refers to the patient’s medical condition – a higher acuity would indicate a more serious medical condition or likelihood of deterioration that would require more nursing input and at a higher skill level. Patient dependency on nursing, however, reflects the fact that two patients of the same acuity may still require different levels of nursing care according to factors such as their condition, mobility and mental capacity. Dependency therefore is the cost driver of the nursing resource being consumed.

For the purposes of this standard, we will use the term ‘nursing dependency’ to reflect the better allocation of nursing costs taking into consideration the acuity and dependency of patients, rather than just purely length of stay.

We feel that it is important to note that the role and scale of nursing is likely to change over the short and medium term as a result of the Francis recommendations, which in turn is likely to have significant impacts on ward and theatre costing. It may mean that the requirements for greater transparency will result in increased opportunities for improving the measurement of dependency and how this is linked to staff levels and patient resource usage. Costing practitioners are encouraged to maintain and develop their links to nursing colleagues to ensure that the changing nature of nursing is accurately reflected.

Comment

15 The HFMA produced a briefing paper in conjunction with the Royal College of Nursing. This paper provides background information for finance professionals on nursing dependency. It was published in March 2014 and is available for download at www.hfma.org.uk/costing/standards.
Framework for implementing patient dependency into clinical costing

We strongly recommend that organisations engage with nursing teams, in the development of any acuity/dependency model. This includes discussions at the ideas stage. Where organisations have been successful, the information collected by nursing staff has been clinically meaningful and used to support ward management and performance as well as costing and nurses have been fully involved in the development of the whole process.

Baseline

The baseline option for allocating ward costs is to measure the length of stay (LOS) using days, as defined by occupying a bed at midnight. Given that nursing is the most material component of cost within the wards cost pool group, it would seem sensible that time continues to be a reasonable method of allocating these costs. Indeed, many workforce planning tools are based on an assessment of nursing hours required and this implies that a measurement of time will reflect nursing cost.

However, using length of stay in days will now only attract a MAQ score of 0.2. If length of stay is measured in hours and minutes, then a MAQ score of 0.4 will be awarded. This will clearly improve accuracy in allocating costs, as a patient staying for 52 hours is likely to be more expensive than a patient staying 32 hours, despite both being effectively in hospital for two days if you use the midnight bed count approach.

Bronze

If no information regarding the dependency of patients is available, then the baseline approach can be augmented by incorporating weightings from data that should already be available.

For example, some organisations weight the first day of admission while other organisations use a step-down model where the first few days of a patient’s stay are weighted at a higher rating and the weighting is reduced each day. Patient turnover is also used in some cases as a proxy measure for dependency. While these options are not actually based on acuity and dependency data, they provide a way of commencing the journey and acknowledging that just using time is not accurately reflecting the resources consumed by patients on a ward.

Other more sophisticated weightings that may be used are to incorporate assessments of the patient’s cognitive abilities (dementia and/or delirium) and the depth of co-morbidities, either in terms of hierarchy value, a scoring based on count of co-morbidities or the use of an established tool such as the Charlson coefficient of co-morbidities. Without an electronic interface, this will mean working closely with nursing colleagues to agree a scoring methodology, or assessment with a quality group.

Silver

The silver approach uses LOS in hours augmented by acuity data collected on a patient episode basis. Many organisations are not yet capturing acuity information on a daily basis and therefore this approach recognises this initial data collection exercise.

Many organisations are already submitting data on acuity to national bodies such as the AUKUH or GRASP, and incorporating these scores into their costing system. Each patient episode would therefore receive a separate banding and associated weighting. Given that in most cases the scores are not recorded against each individual patient but for the ward as a whole, the information may be collected and used to develop standard weightings by patient type that can then be incorporated into a costing system.

One organisation has devised a score using variables such as age, LOS, Charlson co-morbidity, admission method, primary diagnosis and ward turnover. These scores are then linked to the AUKUH bandings in order to provide a weighting. This weighting should be developed with nursing staff to ensure the variables incorporated are actual drivers of acuity on their wards.
In order to reflect the AUKUH bandings in the Safer Nursing Care Tool (SNCT), weightings can be used as set out below and applied to nursing costs. (The weightings reflect that 5 different levels of care, level 0 being described as a patient who requires normal ward care, through levels 1a, 1b, 2 and 3, being a patient needing advanced respiratory support and or therapeutic support of multiple organs.

<table>
<thead>
<tr>
<th>Bands covered</th>
<th>Weightings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 0</td>
<td>0.99</td>
</tr>
<tr>
<td>Level 1</td>
<td>1.39</td>
</tr>
<tr>
<td>Level 1b</td>
<td>1.72</td>
</tr>
<tr>
<td>Level 2</td>
<td>1.97</td>
</tr>
<tr>
<td>Level 3</td>
<td>5.96</td>
</tr>
</tbody>
</table>

See [www.shelfordgroup.org](http://www.shelfordgroup.org) for further information

**Gold**

Capturing nursing acuity scores electronically at intervals during the day, and for this information to be fed straight back into a costing system, seems to be the most effective method of incorporating nursing dependency. This would allow acuity scores to be assigned across multiple episodes of care, and reflect the changing acuity of patients, particularly within the first day of their hospital stay or first day post-operatively.

In 2014, NICE endorsed the Shelford Group’s SNCT, identifying the features that are in line with the guideline for the toolkit so that it can be used alongside the NICE recommendation for trusts routinely to monitor patient acuity on wards to ensure that staffing levels remains safe will have a knock-on benefit for calculating patient level costs. If these acuity ‘scores’ are recorded at the patient level then they should be available to refine the allocation of ward nursing costs to individual patients. This refined approach would recognise that two patients on a ward for the same length of time could consume significantly different amounts of nursing resource depending on each patient’s individual nursing needs.

In light of this endorsement by NICE, we have recognised that systems that capture daily acuity and follow the SNCT guidelines will form our gold standard.

**Out-of-hours care**

It is widely accepted that by not identifying and allocating the premium costs of providing out-of-hours services to the correct patients, the impact is that elective and outpatient pathways tend to bear the cost of this service when it really should be the non-elective and emergency department pathways that incur these costs.

This issue is relevant to the allocation of nursing costs because of the different rates paid for out-of-hours and weekend shifts.

There is now greater use of time stamps in information feeds, allowing organisations to develop weightings for out-of-hours costing.

We recommend that this issue is discussed with nursing leads and ward managers in order to understand the impact on a ward by ward basis and determine whether additional weightings should be used in the allocation of nursing costs to individual patients.
Standard 3b

Allocating theatre (or operating room) costs

A: STANDARD
Theatres is a material cost pool group for acute hospital trusts. The 2014 HFMA costing survey highlighted wide variation in approaches to allocating theatres costs. This standard covers the following types of costs within the theatre and prosthetics cost pool group:

- Consumables
- Pay costs (surgeons and anaesthetics costs are covered in Standard 3C)
- Prosthetics/devices
- Other non-pay

B: PURPOSE
To identify the most appropriate mechanisms to allocate operating theatre costs.

C: GUIDELINES
Historically, organisations have allocated theatre pay costs on the basis of the time a patient spends in theatre, as this information is routinely captured on theatre information systems. However, this approach does not reflect the actual resources required to provide theatres with different staffing levels at different times of the day and at weekends. It also does not address the issue of unused theatre sessions, which should be allocated to a particular theatre list. Therefore this traditional approach to allocating theatres is now set as the baseline standard in the MAQS allocation options.

The most accurate method to allocate theatre costs takes into account the type of theatre list and the staffing resources required for each list. In addition, costing should incorporate the use of time and date stamps to identify whether the patient was treated out of hours and therefore requires a higher weighting of costs to reflect the additional costs of staffing such a theatre. Incorporating these factors is now required to reach the gold standard in the MAQS.

Downtime, or un-utilised theatre minutes, has historically been treated as an overhead in costing models. However, this could have a material impact on the quantum of costs that are allocated to specific procedures or patients. If costs are only allocated on the basis of minutes, and a theatre has a utilisation rate of only 80%, then the resources that are effectively wasted – 20% – will be treated as an overhead to the costs of the theatre. This overhead will increase the unit cost for all patients being treated in that theatre. It will also result in higher costs for those patients and specialties with the longest operating time.

A more accurate approach would be to charge the unused minutes to the specialty that has booked the session, therefore the costs will be allocated to those specific patients and specialties and will not be allocated to the services who are operating more efficiently.

Identification of costs
In order to allocate theatre costs accurately, they must be clearly identifiable or separately captured in the general ledger at cost centre and account code level. The table overleaf sets out the minimum requirements for identifying theatre costs within the general ledger.
Separate cost centres to capture

- Main theatre costs
- Day surgery costs
- Recovery units
- Sterile services
- Separate account codes to capture:
  - Nursing by pay band
  - Surgical practitioners by pay band
  - Anaesthetic practitioners by pay band
  - ODPs by pay band
  - Theatre porters
  - Prosthetics/devices and implants by specialty or groups of specialties
  - Medical/surgical equipment and dressings
  - Drugs

Allocation of costs

To support all organisations in improving how theatre costs are allocated, a table is provided in Appendix B, providing four options for allocating each of the cost types outlined above. A number of trusts have contributed to the review of this standard. Case studies outlining their approaches to allocating theatre costs are on the HFMA costing website www.hfma.org.uk/costing/standards. The aim of these case studies is to provide practical support to those organisations working to improve the quality of costing theatres.

Note that the framework below breaks down theatre costs into more detailed cost components to better reflect the specific resources used. The current MAQS is based on a summary level grouping of costs. So work may be required to ensure the breakdown of costs in this framework is available from the general ledger and the categories used to group costs within a costing system.

Framework for allocating costs

Appendix B sets out four options for allocating the following costs:

- Drugs
- Medical/surgical equipment and dressing costs
- Prosthetics/devices/implants
- Recovery unit costs
- Theatre pay costs – nursing
- Theatre pay costs – ODPs and anaesthetic practitioners
- Theatre pay costs – ODPs and surgical practitioners
- Theatre porters
- Other non-pay

Additional areas of complexity for consideration

We have identified a number of areas of complexity, which organisations should consider when deciding how to allocate theatre costs:

- Care should be taken to ensure different staff groups are allocating using different drivers. For example, anaesthetists will spend longer with the patient in theatre than the surgeons and therefore a different cost driver should be used (see Appendix B for further guidance).

- The number of people involved in each theatre session is an important driver of cost. Simple procedures may require few assistants. But more complex procedures that require higher staffing levels and multiple surgeons to operate will be under-costed if this approach is not incorporated into costing models. This is a focus in Germany, as highlighted in our recent meeting with INEK. A case study is provided in the supporting material to these standards (www.hfma.org.uk/costing/standards) to show how several organisations have incorporated staffing levels into their theatre costing models. Identifying theatre downtime has been highlighted as an issue in how theatre costs are allocated. Traditionally in the NHS, theatre costs were allocated based on number of minutes recorded for each patient in theatre. But this fails to account for any time planned but not used. If an operation starts late, it does not
Acute health clinical costing standards

take into account the cost of having the theatre ready. We have identified trusts that have started to amend their costing systems to account for this. It is important once outputs from patient-level costing start to be used. In these cases, the costs of unused theatre minutes are allocated to the specialties planning to use them.

- Our work on costing out of hours care, has identified that it is important to identify the full costs of emergency theatres and allocate these costs to the patients treated in them. Theatres such as transplant theatres are often held empty on standby, so the sessional cost of these theatres will be higher.

- Our work on costing out of hours care has also identified that the full costs of theatres/lists used out of hours should be calculated. This is because they will often incur higher staffing costs per hour and these additional costs should be allocated to the correct patients treated at these times. This will require the use of time indicators for the theatres feed. Care should also be taken to ensure that staff are being coded to the correct cost centre on the general ledger, in order that these additional staff costs can be accurately captured at source (see example left). In this example operating room minutes are weighted based on time of day, type of theatre, type of anaesthetic, day of the week and bank holiday. These issues will vary in their significance between organisations and even between specialties. Different hospitals are likely to operate in different ways. We therefore recommend that discussions take place with theatre managers and clinicians to understand how these theatres operate and how the costs are captured. Costing teams will then need to identify how the information can be incorporated into costing systems.

Theatre non-pay

Historically, organisations have allocated theatre non-pay costs by allocating the costs across all patients who have been in theatre. Some organisations have undertaken work to produce weightings for different types of procedure. The use of barcoding and tracking of non-pay items, usually for the primary purpose of tracking stock, is becoming more widespread. The information provided by these systems allows organisations to allocate these non-pay costs to specific patients, as well as provide better management of stock across the hospital. Following discussions with the HFMA acute costing practitioner group, the allocation options set out in the MAQS template for theatre non-pay costs have been updated to:

- **Baseline** In the absence of any robust theatre non-pay information at the patient level, costs should be allocated across all patients treated in the operating theatres using planned or unweighted theatre time as the cost driver.

- **Bronze** In some organisations, costs are captured and reported at service line level. If this is the only information available, costs should be allocated across patients recorded for each specialty on the theatre system, using planned or unweighted theatre time as the cost driver.

- **Silver** In the absence of robust non-pay information systems capturing information at patient level, standard costs should be developed for the most material procedure codes. Costs should be allocated to patients on the basis of the OPCS codes reported for them, using the standard weightings. Further information on how to develop these standard weightings is in the case studies published at www.hfma.org.uk/costing/standards.

- **Gold** Gold standard requires the costs of high-cost consumables in theatres to be allocated across patients based on actual usage. Some organisations have developed barcoding systems and vending machines that capture this patient-level information. Some specialties (eg spines) may have their own database that captures this information for other purposes such as the National Spinal Register. This information is usually quite detailed and could be used to allocate costs in the absence of bar coding systems.

**Comment**

16 Case studies to provide practical examples of how organisations allocate theatre non-pay costs can be downloaded from www.hfma.org.uk/costing/standards
Standard 3c

Allocating medical staffing costs

A: STANDARD
The 2014 HFMA costing survey highlighted wide variation in approaches to allocating medical staffing costs and in the information used to allocate these costs. This standard covers the allocation of the following costs:

- Consultants (including on-call costs)
- Junior doctors

B: PURPOSE
To identify the most appropriate mechanisms to allocate medical staffing costs.

C: GUIDELINES

Identification of costs
In order to allocate medical staffing costs accurately, they must be clearly identifiable or separately captured in the general ledger at cost centre and account code level. The table below sets out the minimum requirements for identifying theatre costs within the general ledger.

Separate cost centres to capture:

- Consultants by specialty or groups of specialties
- Junior doctors by specialty or groups of specialties
- Medical secretaries by specialty or groups of specialties.

If the same cost centre is used to capture consultant and junior medical staff, the costs will need to separately identify the following payments for costing purposes:

- Consultants by specialty or groups of specialties
- Staff grades by specialty or groups of specialties
- Junior medical staff by specialty or groups of specialties.

Having identified the costs, consideration should be given to the point of delivery for each category. Some costs, such as intensity payments, should only be allocated to specific points of delivery whereas some, such as management responsibility, should be allocated across all activity.

Allocation of costs
Job plan information should be available from the medical staffing team. Job plans break down consultant activities by session or PA and should be updated annually.

Job plan breakdowns should be discussed with the clinical leads and managers for each specialty to ensure the information provided is accurate and sufficient for costing purposes.

Comment
17 Job plans are a legal contract for individual consultant activities and pay, and as such should reflect accurately the services provided by the consultant to the trust.
The list below provides the minimum breakdown of job plans that should be used for costing:

- Admin
- CPD
- Cancer MDT meetings
- Critical care
- Community clinics
- Day surgery
- Education
- Emergency department
- Main theatres
- Outpatient clinics and travel
- Research
- Special procedure suites – for example, endoscopy
- Support for other services – for example, anaesthetic support for obstetrics or paediatric MRI
- Ward rounds
- Other – for example, clinical lead

Careful consideration should also be given to the split between elective and non-elective work, particularly with respect to ward and theatre time.

**Simple example**

Consultants’ cost including basic pay, waiting list initiative and on-call.

- Evidence from the 2014 HFMA costing survey suggests that most organisations currently take the full consultant staffing cost and allocate based on job plans. This tends to allocate most of the cost to elective and outpatient activity.
- Basic pay should be allocated using a combination of job plans and input from the clinical teams.
- Waiting list initiative costs should be allocated to the relevant point of delivery for this cost. For example, if additional clinics are commissioned to improve waiting times for outpatients, then the cost of the activity should be allocated to outpatients only. If additional theatre lists are commissioned in a particular speciality to improve waiting lists, then the additional consultant salary costs should be allocated to elective inpatients in that particular speciality.
- The allocation of on-call payments should be discussed with clinical leads. It is likely that on-call payments will be allocated across emergency patients. However, this may again vary between specialties.

Junior doctors should not be allocated using the same methodology and data as consultants. This is because junior doctors often spend different proportions of their time undertaking different activities – for example, spending more time in outpatients. Junior doctor rotas should be used as the basis to break down junior doctor time, but discussions should be held with the medical staffing team and clinical leads to validate these breakdowns. The approaches taken are likely to vary considerably by specialty, particularly between surgical and medical specialties. The costs of the different grades of junior doctors should be allocated differently. The costs of the different grades of junior doctors should be allocated differently to reflect the changing role of junior doctors and the impact on the delivery of services as they progress through their training programmes.

**Patient acuity**

As medical staffing is one of the largest cost pools and patient acuity has a large effect on the resources used there should be a move towards using patient acuity to weight medical staffing costs. Whilst this is not common practice across the NHS at present, it is a methodology that will be investigated further by the HFMA for future updates of the clinical costing standards.
Standard 3d
Allocating emergency department costs

A: STANDARD
Emergency departments (ED) are traditionally challenging to cost as they are an area where the information available to costing practitioners is relatively poor. This is highlighted by lower MAQ scores being recorded for this service\(^9\). This standard reviews the options available for allocating the costs associated with the operation of an ED.

B: PURPOSE
To identify the most appropriate mechanisms to allocate ED costs.

C: GUIDELINES
Identification of costs
In order to allocate ED costs accurately, they must be clearly identifiable or separately captured in the general ledger at cost centre and account code level. The table below sets out the minimum requirements for identifying ED costs within the general ledger.

Separate cost centres to capture:
- 24-hour emergency department costs
- Minor injuries unit costs
- Walk-in centres
- Other ED units (see below).

D: ALLOCATION OF COSTS
The 2014 HFMA costing survey indicates that the minutes patients spend in the ED are the most common way of allocating medical and nursing costs. Diagnostic tests are usually matched to the individual patient, using methodologies outlined in Standard 8a. It appears that weightings based on patient acuity or another algorithm are not routinely being used at the present time.

The checklist below provides details of issues to consider when costing ED patients:
- Identifying whether a patient is admitted or discharged is important because admitted patients are more likely to consume more resources within the emergency department and therefore incur higher costs.
- Identifying the type of unit – for example, minor injuries units, 24-hour emergency departments and walk-in centres. We recommend that separate cost pools are created for different types of units as the structure of costs is likely to be very different.
- The costs of all staff supporting the operation of the ED should be identified and allocated to ED patients. This will include the costs of on-call payment to ED staff, as well as clinical staff working in other specialties who have a role to support the ED.
- Organisations must be clear exactly which costs and activity are classified as ED services. For example, some organisations have admission wards that form part of the ED. These wards tend to treat patients who have been admitted from a GP stream or who have been previously treated in the ED.
• Costing practitioners should discuss the pathway of care within the ED with clinical staff to understand, for example, the protocols for ordering radiology and pathology tests. If all of the diagnostic tests are carried out in the ED before the patient is admitted, this should be costed to the ED. However, this will result in a higher unit cost in the ED compared with those organisations that would admit these groups of patients and conduct investigations once admitted.

• Major trauma centre costs will result in higher costs in the ED, although it would be expected that generally a greater complexity of casemix would be treated. Again, it is important to understand where the costs of a major trauma centre are captured in the ledger and allocate these costs to the appropriate part of the patient’s pathway, according to how the activity is recorded on the patient administration system (PAS).

• There are often additional overheads associated with the operation of the ED because of the focus on waiting time targets and flow of patients. It should therefore be ensured that all appropriate senior management costs are included within the ED total costs.

The HRG structure for the classification of emergency department patients is based on treatments and diagnostic tests undertaken. This information should be captured for commissioning purposes and therefore should be routinely collected and used to inform costing.

The Health & Social Care Information Centre has set out the hierarchy of both treatments and investigations that can be used to allocate costs at a more granular level in the absence of other information being available\(^{20}\). For example, a patient with a treatment category 5 would cost more than a patient with a treatment in category 1. These hierarchies can be used to develop weightings to ensure that those patients who receive treatment and investigations in higher categories will also be allocated a higher cost. These treatment and investigation codes will be captured in your emergency department’s PAS system, which will be maintained by informatics.
Standard 4

Classification of costs into fixed, semi-fixed and variable categories

A: STANDARD
All costs are to be classified as fixed, semi-fixed or variable.

B: PURPOSE
Understanding the variability of costs will facilitate better analysis of costs around incremental changes in activity (upwards and downwards) but also inform decision-making when considering growing or divesting of services. When an organisation has knowledge of its fixed cost base and the thresholds where blocks of cost are added or removed, the financial impacts of service development can be more accurately anticipated.

C: GUIDELINES
As a general rule, fixed costs are those that would not be affected by in-year changes in activity. It is accepted that, in the long term, all costs are variable as all resources can be removed. However, using a 12-month period to judge how costs vary with activity enables the consistent classification of costs from organisation to organisation.

- Fixed costs – fixed costs will not change as activity changes over a 12-month period. Fixed costs are absorbed across the patients treated in a period and therefore the amount absorbed per patient will change as volumes of patients flex through the year. Fixed costs may also change if a contracted service is removed or added – therefore fixed costs are not just time-defined.

- Semi-fixed costs – semi-fixed costs do not move with activity changes on a small scale, but ‘jump’ or ‘step up’ when a certain threshold is reached. Defining the threshold, and the materiality of the step change, is at the discretion of individual organisations.

- Variable costs – variable costs will be directly affected by the number of patients treated or seen. They are an incremental or marginal cost. One more unit of activity will generate an extra cost. It is important to note that the very nature of patient-level costing means that this cost may differ from patient to patient, but the nature of the cost is that it is triggered by the quantity of patients.

An example of this would be drugs costs, which will generally increase or decrease depending on the number of patients seen within a service. However, for two patients undergoing the same procedure, if one of those patients is obese a greater quantity of anaesthetics drugs may be required. From an alternative perspective, a cost can be identified as variable if it would not have been incurred had the patient not been treated or had not attended.

A mapping of account codes to fixed, semi-fixed and variable classifications is provided in Appendix E. This mapping has been reviewed by the HFMA clinical costing practitioner groups. Whilst the list intends to be as comprehensive as possible, if an organisation uses an account code that is not listed, similar account codes can be found to classify the costs according to the principles developed by this standard.
Standard 5

Work in progress

A: STANDARD

Following feedback from the NHS, this standard has been updated to provide a framework to support organisations to accurately cost work in progress. This specifically relates to:

- The costing of patients whose hospital admission spans financial reporting periods
- The costing of patients who are not discharged from hospital at the end of a costing period.

B: PURPOSE

Work in progress can have a significant impact on the interpretation of clinical costs. Work in progress should be costed appropriately to ensure that the outputs from the costing process are not distorted by those patients whose hospital admission spans financial reporting periods. This standard aims to ensure that:

- The costs of treating a patient are accounted for once and only once – patients spanning financial reporting periods should not be omitted from costing processes across sequential financial reporting periods and they should only be included in one financial reporting period.
- Patients who are treated within a financial reporting period do not receive a disproportionately high allocation of costs because of the treatment of other patients.
- Patients who are admitted across a financial reporting period do not receive disproportionately lower allocations of costs.

The benefits of costing work in progress accurately include:

- Those patients who have been discharged in the financial reporting period will not bear additional costs that actually relate to those patients who have been admitted but not yet discharged. When work in progress is not accurately costed, patients who have been discharged will have artificially inflated total costs. Therefore individual patient costs will be more accurate when work in progress is accurately costed.
- The costs of each episode of care will be costed accurately, which will result in more accurate spell and pathway costs, even if part or all of the episodes relate to previous financial periods.
- An appropriate work-in-progress policy or value is an important requirement for financial reporting, particularly if the patient-level cost information is to be used as the basis for formal financial reporting in the future.

We acknowledge, that the materiality of work in progress will differ across organisations and will be influenced by several factors including:

- The number/duration of long-stay inpatients not discharged by the end of the costing period
- The number of short-stay inpatients not discharged by the end of the costing period
- The complexity of the inpatients not yet discharged by the end of the costing period.

However, organisations should cost work in progress accurately regardless of its materiality because of the impact that differing approaches has on the comparability of data.
C: GUIDELINES

Costing methodologies

The HFMA has actively sought feedback on costing work in progress. In order to recognise that organisations continue to be at different stages in their costing journey, a phased and incremental approach is outlined below. The five levels in previous versions of the clinical costing standards have now been replaced with just three levels in order to simplify the methodology:

**Level 1** This is the approach currently set out in the Department of Health’s reference cost guidance. This is the minimum standard for costing work in progress and should be achievable by all organisations.

**Level 2** This approach generates more accurate information. It is recognised that the granularity of the information available will depend on the clinical coding policy of the trust but feedback suggests that sufficient information should be available with respect to completed episodes within an open spell.

**Level 3** This approach is the most accurate and all trusts should be working towards reaching this level in their costing development plan. This approach ensures the outputs of the costing process are not distorted by occurrences of patients treated across financial reporting periods.

It is recommended that in all of these approaches, the cost information for individual patients is reviewed by clinical staff, where the patient generates significant cost, such as a transplant, and their admission spans a financial reporting period. This will ensure that all cost information has been accounted for correctly.

Appendix F provides a diagram that summarises the methodology for each level.

**Detail of approaches**

All three approaches require the costs that are reported in the final audited annual accounts for the financial year to be used as the basis for the ledger input. If patient-level costs are reported on a more frequent basis, the same ledger extract should be used, and costs should be reconciled back to board reports.

Organisations should be aware, that the parameters used to produce the patient level activity data used in the costing process may need to change in order to ensure that the correct episode and spell information is being used.

**Level 1**

Level 1 takes all episodes within spells that were completed within the financial year. This may include episodes that actually started in a previous reporting period.

The activity should be taken from the PAS extract supplied by the information team. A review of the activity needs to identify where part or full episodes took place in previous financial reporting periods. A cost profile will need to be built for these episodes to ensure they are allocated the correct proportion of cost.

The cost profile would include:

- CNST
- Imaging
- Indirect costs such as nursing management
- Medical costs such as ward rounds
- Other significant cost items
- Overheads including estates and utilities
- Pathology
- Theatres if applicable
- Ward stay.
Where available, departmental utilisation data from prior costing periods will need to be collected and included within costing systems in order to support the matching process and identify the resources consumed by these patients.

The cost profile generated will then ensure episodes that start in previous periods receive costs in proportion to the care received over the entire stay.

If a patient was admitted for a 10-day length of stay, but five days relate to a previous reporting period, information regarding the patient’s stay in the previous period will need to be included within the costing system. If that patient spent five hours in theatre in the previous reporting period and received pathology tests, the cost of these minutes in theatre and the pathology tests will be the same unit cost as in the current financial reporting period. Obviously information from the previous financial reporting period will be used to assign to these resources to these specific episodes of care.

This approach spreads the costs that are reported within the financial reporting over:

- Activity relating to the current financial reporting period, using PAS extracts and other activity information used to allocate costs.
- Episodes that occurred in previous financial years but the spell was completed in this financial year using the cost profile built up from activity information from the previous financial reporting period.

However, in this approach care must be taken to ensure that patients who have been admitted in the financial reporting period but not yet discharged at the end of it are not costed. Feeder systems such as theatres, pathology, imaging and critical care will include activity relating to these patients. Given the FCE for these patients will not have been included within the system, these resources will not match and therefore should be effectively ignored and not costed.

Therefore the costs of the pathology department, for example, will be spread over the pathology tests that relate to patients whose episodes and spells were completed in the financial period and those patients whose episode started in a previous period but completed in the current period.

This approach ignores and does not cost those patients who had been admitted but not discharged at the end of the financial reporting period. This will result in ‘unmatched’ activity for these patients, which is discussed in Standard 8a.

**Level 2**

Level 2 takes all of the completed finished consultant episodes included within spells that are either completed in the financial reporting period or still open at the end of the financial reporting period.

All activity needs to be obtained from the trust’s patient administration system (PAS) relating to:

- Episodes that cross the financial year for spells completed in the financial reporting period
- All in-year episodes within all spells completed within the financial reporting period
- All completed episodes within spells still open at the end of the financial reporting period.

A review of the activity needs to identify where part or full episodes took place in previous financial periods. A cost profile will need to be built for these episodes to ensure that they are allocated the correct proportion of cost for their stay in a previous reporting period.

The cost profile would include:

- CNST
- Imaging
- Indirect costs such as nursing management
- Medical costs such as ward rounds
- Other significant cost items
- Overheads including estates and utilities
- Pathology
- Theatres if applicable
- Ward stay
Where available, departmental utilisation data from prior costing periods will need to be collected and included within costing systems in order to support the matching process and identify the resources consumed by these patients.

Therefore, the costs of the pathology department, for example, will be spread over the pathology tests that relate to patients whose episodes were completed in the financial period, and those patients whose episode started in a previous period but was completed in the current period.

Care should be taken to ensure that activity relating to patients who had been admitted but not yet discharged at the end of a financial reporting period are not costed. Feeder systems such as theatres, pathology imaging and critical care may contain activity information for these patients. However, this activity should be ignored and these patients not costed.

**Level 3**

Level 3 takes all of the episodes within spells that are completed within the financial reporting period and all of the completed episodes within spells still open at the end of the financial year as well as all episodes still open at the end of the financial reporting period.

Therefore the following activity will be required by the trust’s PAS relating to:

- The in-year portion of cross-financial year episodes for spells completed in year
- All in-year episodes within all spells completed within the financial year
- All completed episodes within spells still open at the end of the financial year
- All episodes still open at the end of the financial year.

In order to bring all of this information into a costing system, a proxy episode end date and time stamp should be used for those patients who have been admitted but not yet discharged. The date that should be used at the financial year-end is midnight of 31 March.

This approach aims to allocate a full period’s costs over the exact activity that occurred in the financial reporting period. To do this it will cost part episodes where an episode spans a financial reporting period.

The activity information feed will require the following fields as a minimum:

- Care provider
- Episode number
- Episode start date and time
- Spell number
- Treatment function code/specialty
- Ward location
- Ward location duration (start and end date).

Patient-level feeds that are received from non-integrated databases such as theatres, pathology, imaging and critical care will also contain all of the activity incurred within the financial year. This means it will contain activity relating to patients at the end of the financial year who are not yet discharged. These patients should be costed and the resource information in these feeder systems matched to the correct episode, whether it is complete or not.

This approach aims to allocate a full period’s costs over the exact activity that occurred in the financial reporting period. To do this it will cost part episodes where an episode spans a financial reporting period.

However, this approach will not automatically reconcile back to the financial accounts or board reports. A reconciliation will be required – see box.

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**Reconciliation for level 3**

Final audited accounts 2013/14 – over 2013/14 activity:

- £200,000,000

Episodes in full or in part that occurred in 2012/13:

- £10,000,000*

Episodes that in full or in part that occurred in 11/12:

- £2,000,000*

Total quantum of cost for all episodes for completed spells in financial year

+ completed episodes in open spells

+ incomplete episodes at financial year end:

- £212,000,000

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A: STANDARD
Income should be clearly identifiable for internal reporting without being netted off from cost. There are two classifications that are relevant for income:

- All income should be classified as core or other.
  - **Core income** Commissioning income for core NHS patients (including overseas patients covered by reciprocal arrangements)
  - **Other income** Includes income from private or overseas patients (not covered by reciprocal arrangements), service provision to other providers (for example, payroll or pathology) or provision of goods and services to non-NHS entities. Research and development income and education and training levy income (see Standard 7) is also other income.
- All income should be classified as direct, indirect or corporate.

B: PURPOSE
To ensure consistent treatment of different sources of income so that patient-level costs reflect the real cost of treating patients and do not include costs associated with non-core income ('other' income). Additionally, the standard supports a consistent approach to the treatment of income to support the understanding of profitability at patient and service line level.

C: GUIDELINES
The treatment of income relates to costing in two ways. First, the costs of activities generating income that is unconnected to patient care – for example, for the delivery of a payroll service to a local trust – should not be assigned to patient costs. Instead the costs should be identified, matched with the relevant income and stripped out of service costs before any profit/surplus element is allocated down to patients, and shown as income. Second, it is acknowledged that income is vital for comparing with cost data to understand profitability at patient and service line level. Income therefore needs to be handled consistently to ensure accuracy and comparability.

**Core/other income**
Core income is defined as clinical commissioning group/NHS England (NHSE) income for main clinical services:

- Contracts with NHSE/NHSE area teams for specialised services
- Injury cost recovery income, paid centrally
- Non-contract activity with CCGs
- Patient activity and block contracts with CCGs/NHSE for core care
- Other income – all other income streams that do not relate to the core NHS activity commissioned by PCTs, commissioning groups, specialised commissioning groups or national sources
- Screening services, paid centrally.

Other income includes:

- Contracts with non-NHS parties
• Private and overseas patients
• Provider-to-CCG services for non-patient care
• Provider-to-provider service contracts.

The ‘other’ income category aligns with the reference cost guidance for allowable income. The costing system should be able to provide clear and reconcilable information on these areas. As with reference costs, the allowable (other) income should be matched to the service where the income was generated, offsetting the cost of providing the service. However, this methodology will also help to ensure that the cost and income for clinical services can be clearly understood for pricing these episodes of care or the services provided.

Direct, indirect and corporate income

All appropriate income must be classified as direct, indirect or corporate\(^\text{24}\). It is acknowledged that information may not be available to place all income streams into these categories with confidence. The guiding principle is whether the income relates to direct patient care (direct), patient care for other organisations (indirect) or non-patient care services/goods (corporate).

As a general principle, income should not be netted off from gross costs – but shown separately as an income stream. The reasons for this are as follows:

• After netting off, the residual value may not truly represent the cost of patient treatment (there may be an element of profit or loss, which would be incorrectly absorbed into the cost of patient care). For example, a small surplus achieved on the provision of catering services should be shown as exactly that. If instead the full income were netted off the quantum of costs, this would result in reported patient costs that were artificially low.

• Expenditure or resources that attract non-patient care related income should not be included in the costs of patient treatment to start with – for example, rented-out floor space.

• Where a trust receives income other than that received for patient care, it is usually associated with a defined business unit that could make up or be part of a separate service line – for example, clinical training income or provider-to-provider pathology testing.

While the general rule is that income should not be netted off from gross costs, there will be exceptions. For example, if the relevant information is not available to split costs accurately between patient and non-patient related services, netting off income received and applying the remaining cost to patient services may be the most reliable alternative approach. The approach will depend on materiality, quality of information and the accuracy obtained in matching income and costs. Standards for the treatment of various types of income are described below.

Direct income

Direct income – income that can be directly linked to patient care – should not be deducted from gross cost. For service line reporting, it should be reported at the episode/attendance level as patient-related income. Examples include:

• NHS clinical income with activity-related payment (price and volume) – including tariff and non-tariff income
• NHS block contract income where this relates to a particular group of patients – this may be reported as patient-level income calculated by dividing total block contract income by total activity or split to specialty level first, if this information is available
• Non-NHS clinical income – private patient and overseas visitor income should be reported in the same way as NHS clinical income: at the patient level and not deducted from NHS patient costs. If the timing of this income does not allow it to be linked directly to a patient episode, this income can be reported at specialty level
• Injury cost recovery income – where this is identifiable to individual patients. However, it is likely that the income cannot be linked directly to a patient episode due to timing differences; in this instance it can be reported at specialty level.
Indirect income

Indirect income relates to patient care services, but not directly to the care of the organisation’s own patients. It should not be deducted from the gross cost of providing a service if it is material and the costs relating to how the income is generated can be isolated.

For example, a group of consultants are spending a number of programmed activities (PAs) per week running outpatient clinics at a nearby hospital, where the activity belongs to the host site. The cost of these PAs (including overheads) should be separated from patient care and matched with the associated income received (but may still be reported under the relevant specialty for service line reporting purposes).

Where there is insufficient information available to isolate the costs, or the income stream is not material to the service line, income should be netted off against the associated relevant costs:

- Income from low-value or non-regular staff share arrangements – deducting this from the gross cost of the member of staff gives the cost of providing the service. The level of detail to pursue depends on the materiality of the impact on the costs.

- Clinical excellence award income – the actual cost to the service is the subsidised cost of the member of staff awarded. This cost should be held against the service the post is supporting.

Corporate income

Corporate (also known as overhead) income should be reported separately from the costs associated with the business unit that is receiving this income. This income should not be deducted from gross cost but can be allocated in service line reporting processes to provide information about the fully absorbed income for a service line. It may be possible to use an appropriate activity-based driver. Examples include:

- Commercial income from the rental of the organisation’s facilities – for example, retail outlets or consulting rooms rented to consultants working privately

- Provider-to-provider arrangements – where a service is provided for another organisation, such as payroll, the income and associated costs should not be included when calculating the cost of providing a service to the organisation’s own service users

- Interest receivable

- Technical adjustments from NHS England

- Service level agreement income for service user services provided to other organisations.

A significant amount of work may be required in order to ascertain the costs associated with corporate income – for example, the element of facilities costs associated with retail space. However, this standard sets out a higher standard than is currently in operation and it is recommended that organisations aim for these classifications over time and within acceptable resource allocation of finance professionals.

Surplus (an excess of income over expenditure) should be treated as income and kept separate from the costs of running the service. For service line reporting, the organisation may wish to show surplus separately from the income covering costs, but this is not a part of this standard. In general for service line reporting, it is recommended the surplus, like income, is matched to the service that generated it, or shared across a range of (or all) services.

Training income and research and development funding should be treated as corporate income and reported separately, together with their associated costs. This income should not be deducted from gross cost. In service line reporting processes, it should be matched against the relevant service line.

Training income is mainly received in three categories, as set out in Standard 7.

Income relating to research and development should not be deducted from gross cost either, as it does not relate to providing a patient service (Standard 7). This also applies to clinical trial income and Department-funded research and development. The income should be matched with costs relating to research activities.
Standard 7

Treatment of non-patient care activities

A: STANDARD
The costs of clinical training and education, and research and development should be separately identified from the costs of providing patient care.

The costs incurred in other clinical and non-clinical activities, where the organisation’s patients are not the primary reason for the activity, should not be allocated to patients but separately identified.

B: PURPOSE
To provide a consistent methodology to determine the cost of non-patient care activities to ensure these costs are not included in patient care costs. This treatment will also show the surplus or deficit of providing services, to enable information for reimbursement discussions.

C: GUIDELINES
Training and education and research and development have historically been funded separately from healthcare. In costing terms, these activities have generally been treated as cost neutral in terms of the costs of patient care activities. In practice the income received for these activities has been deducted from an organisation’s overall quantum of cost before these costs are allocated down to patient care activities.

However, using income received as a proxy for the costs of delivering training/research may not reflect the actual costs incurred. This may result in costs for patient care that are higher or lower than the real costs of care delivered.

Health Education England and the Department of Health are working closely with trusts to improve the NHS’s understanding of the true cost of delivering clinical placements and training posts. As part of this work, the second annual mandatory cost collection will take place in summer 2015, in which trusts are required to identify their education and training costs and to report these costs by training programme and cohort year.

It is recognised that for some other activities, identifying costs may be difficult and may require a great deal of effort for a perceived small amount of benefit. For non-patient care activities other than education and training, if the costs involved are judged to be not material, the costs may be left with the patient (rather than separated out and matched with the relevant income).

Equally, where new commercial ventures are material in cost terms, they should only be undertaken if the cost of providing the service can be validated against the income. Therefore, the costs should be identified. For non-material commercial ventures, costs may be left with those of running the healthcare services.

An assessment tool to consider appropriate levels of materiality is being considered for future versions of the standards. The costing lead of the organisation should agree the treatment of these areas with the director of finance.

Definition
Non-patient care activities are any clinical and non-clinical activities where the organisation’s patients are not the primary reason for the activity. This includes clinical training, education and research and other non-patient-related or commercial activities, such as rental of space or catering.
Training and education

The Department of Health introduced transitional tariffs for non-medical placements and undergraduate medical placements in secondary care from 1 April 2013. A similar tariff for postgraduate/medical trainees came into effect on 1 April 2014.

The cost collection does not cover all types of training programmes that take place within NHS trusts. In broad terms, the training programmes included are those that lead to a professional registration. For the purposes of costing, these training programmes have been categorised as non-salaried and salaried training.

The guidance and collection templates to support the 2014/15 collection exercise are currently being developed and will be added to the Department of Health and Health Education England website early in 2015. As with services, an in-depth costing exercise for education and training should be undertaken, and organisations are recommended to use the costing methodology set out on this website.

Research and development

Research costs can be generated in one of three ways:

- Research that is funded by an external third party, such as Cancer UK
- As part of a funded trial, such as by a drug company
- Through internal NHS research.

Organisations should identify the full cost of research activities, regardless of the funding stream, in order to separate them from the costs associated with patient care.

Robust methods will be required to ensure that appropriate time, space and activity drivers are agreed and identified. While it is likely that consultant job plans will identify research and development time, this is only a starting point. The involvement of junior medical staff, nursing time and support service staff time must also be identified.

For example, there may be instances when the research is funded by the supply of specific drugs without charge. These will still need to be registered, recorded, checked, measured, assessed, stored and dispensed by pharmacists.

Organisations will also need to identify the space used by research activities and, therefore, ensure appropriate allocation of capital charges and estate-related overheads.

In developing robust methodologies for research, there must be a clear involvement with each specialty to ensure the best drivers can be identified relating to activity and that these in turn link accurately to costs.

Other non-patient care activities (including commercial activities)

These activities should be costed using the same principles as patient care costs (as in Standards 1, 2 and 3) but without the patient care context. The key objectives are to provide transparent costs, using appropriate methodology. This will ensure costs are available for pricing and contract discussions.
Standard 8

Information

A: STANDARD
This standard provides guidance on how organisations can assess and ensure the integrity of all of the information used in the costing process.

B: PURPOSE
To ensure that the data used to underpin or inform clinical costing is a complete and accurate reflection of the treatment delivered within an organisation. This therefore ensures that costing outputs reflect as closely as possible the actual cost of the treatment and care provided for each patient. To do this:

- Data should be managed and maintained centrally by informatics, providing direct and ongoing support to the costing process.
- There should be adequate processes to ensure that data is accurate, and these processes should cover all services delivered by the trust, and all data used within costing.

C: GUIDELINES

Data management
No matter how detailed and accurate costing methodologies are, if the activity data used to inform them is inaccurate, then so will the unit costs produced. Costing leads should work with informatics and IT to ensure the data used for costing is in line with national guidance and has already undergone routine checks.

The data used for costing should be the same data used elsewhere in the organisation, and the same data that is submitted in national returns. Costing leads should not have to amend data to fit national requirements when loading into the system.

Activity data for costing should be provided by the informatics team. Costing leads should not have to go directly to the service for activity data. The role of the informatics team should be clearly outlined in the costing plan, and signed up to by senior managers responsible for data management and data quality.

At a minimum level, all data within an organisation should be managed and overseen by a central team. If this is not currently in place, this issue should be escalated through the costing development plan and plans put in place to move to a more adequate structure and management arrangement. Where services have their own data staff managing standalone systems, at the very least the central informatics team should maintain professional responsibility for the data in those systems, ensuring the quality of that data and managing the use of that data within the trust and for national returns.

Ideally, a trust will have a data warehouse that contains all data from all systems within the trust, covering all services provided. There will be routine automatic checks run on the data to ensure it is consistent and that all fields are completed, such as the NHS number.

It is vital to involve IT and information staff as early as possible. Costing leads should ensure that the informatics team understand the ultimate use of the data provided and feed back any issues identified when using the data. The informatics team should ensure the data is in line with national guidelines and that the data accurately reflects the care delivered within the trust.
Good-quality source documentation is fundamental to recording accurate information on patients and ensuring the costs allocated reflect the resources consumed. The payment by results assurance framework has noted that the quality of source documentation at some trusts is a persistent cause for concern. The condition and contents of notes will have a direct impact on data quality. In addition, poor documentation also poses a risk to patient safety. Medical records are a legal document that trusts must ensure they are fit for their many purposes.

Where a data warehouse is not in place, costing teams should create a series or service level agreements with the teams providing each source of data. This will provide assurance over who will provide the data and to what timeline, the format of the data and what data quality checks will be undertaken prior to the data being sent to the costing team.

When setting up patient-level activity records with informatics, care should be taken to consider all of the fields available in the PAS extract. For example, it may be helpful to bring demographic and commissioning information for patients into the costing system to support analysis at the end of the process. In addition, Standard 5 – work in progress – should be discussed with the informatics team to ensure that there is agreement over which level is to be met and therefore the parameters required for the PAS activity extract.

Data quality

Trusts should have processes in place to review the care recorded, or treatment delivered, in activity data against source documentation to ensure it is an accurate reflection of the treatment delivered.

For admitted patient care (APC) this would be clinical coding audit programme, combined with clinical validation of the coded data. The audits should be focused using local intelligence and national comparisons, and should be proportionate to the volumes of activity with the specialties audited. Costing leads can use sections 505 and 508 of the IG toolkit to check a trust’s performance in this area.

These same principles of audit and clinical validation should be applied to all other activity data. Trusts should have audit and review programmes in place to assure the quality of data in:

- **Other APC data items that have an impact on grouping and will drive costs** – especially point of delivery and length of stay. This may need to be focused on particular areas, such as assessment units or specialties with transfers, where there is higher risk of this data being incorrect.

- **Outpatient data** – including treatment function code and procedure coding. It is generally accepted nationally that the use of clinical coders to code outpatient data is not necessary. However, clinical coding should maintain professional responsibility for the accuracy of the codes used. Both the process for data entry and the procedure codes used should be subject to the same scrutiny as APC coding to ensure the data is fit for purpose nationally.

- **Emergency department data** – especially the treatment and investigation codes used to derive emergency department HRGs. The payment by results assurance framework has noted the high level of inaccuracy around data capture, specifically the under-recording of scans and drugs at some trusts, and the lack of scrutiny of this data. While individual attendances generate small levels of income, overall inaccuracy in this dataset will mean cost data is not actually reflective of the resources consumed.

- **Point of delivery** One of the main causes of inconsistency of prices at a national level is the variation of point of delivery – whether activity is delivered as a day case or an outpatient attendance for routine short-stay elective activity; a regular attender or day case for ongoing treatments; or as a ward attender or an admission for patients who attend assessment units (this data would then be submitted through the outpatient data set). Trusts should make sure they have adequate governance arrangements in place to oversee and review the application of point of delivery, in line with national guidance.

- **Critical care** Guidance has changed over recent years, but trusts should review their critical care data to ensure it is complete, and in line with national guidance, and that level of intensity where used to inform costing is also accurate.

- **Community** Like the emergency department, this a high-volume service with low individual cost and highly variable accuracy of data. In many places these are services that trusts have inherited. Nevertheless, the data used to inform costing and national returns should be accurate and in line with guidance.
Acute health clinical costing standards

The HFMA has produced a patient-level guide for community services that discusses these issues in more detail. This report can be downloaded from www.hfma.org.uk/costing/standards

- **Diagnostic imaging and pathology** The accuracy of cost data for these services is crucial to the accuracy of data within PLICS and for understanding how these services interact with the other specialties within the trust.

- **Other services** – such as renal, radiotherapy, cystic fibrosis and other specialised areas. Data for these areas will come from standalone systems and should be scrutinised in the same way as other patient care data.

- **Costing inputs** – such as prosthesis data, theatre time, bloods and drugs. Where activity or patient-level data is used to drive cost allocation, that information should also be subject to review and assurance processes. In many trusts, job plans are used to allocate significant volumes of cost. We understand from feedback in our annual survey that the quality, and access to, job plan information can vary significantly on a trust by trust basis. Therefore the costing team may need to spend considerable time reviewing job plans with the medical director’s team and clinical leads in order to ensure the information is kept up to date, is complete and is as accurate as possible.

- **Information used in the allocation of indirect and overhead costs.** The information used to allocate indirect and overhead cost is set out in the MAQS template (see Standard 9). This information includes floor plans, headcount and other financial and non-financial information. It is important that all of these allocation statistics are included within the costing team’s information policy and should be subject to the same data quality checks and rigour. Floor area in particular is often owned by the estates department and is used to allocate significant volumes of cost. There are key principles that should be used to ensure completeness and accuracy of this information:
  - Ensure it is updated/reviewed on an annual basis
  - Ensure it is checked/tested by a member of the costing team or relevant member of the finance team. In the case of floor area, this may involve walking the floors to check the usage of rooms and allocate them to the correct team/specialty or department.

The clinical engagement within PLICS will then supplement all of these processes, as data will be one of the areas verified and then used by clinical teams. Once fully rolled out and embedded, PLICS could then be used to direct further data quality audits.

All trusts should have a data quality policy that covers data from all services within the trust, not just data from the PAS. This data quality policy should been signed off by a senior manager and be monitored by a senior committee. Staff within the trust should be aware of the data quality policy and their responsibilities and ideally data quality will be the standard objective for all staff involved in the capture and management of information, including clinicians.
Standard 8a

Data matching

A: STANDARD
Matching resources accurately to individual patient episodes is essential for accurate clinical costing.

B: PURPOSE
The successful matching of feeder systems to patient interventions is absolutely integral to the costing process for the following reasons:

• It provides the basis for attributing costs to specific patients based on the actual resources they consume.
• Low levels of matching or incorrect matching will significantly distort individual patient costs and therefore undermine the validity of patient level cost data.
• Unmatched activity will distort patient-level costs through:
  • Unmatched patients not having the full cost of care attributed to them.
  • Patients that did not necessarily receive the care attributed to them may receive the cost of this unmatched activity. This will result in significantly inflated costs if the unmatched activity is treated as an overhead to matched activity.

In an ideal world, every resource allocated using a feeder system would be matched perfectly to a patient episode or attendance. However, in the absence of fully integrated information systems we know that in reality discrepancies will arise for the following reasons:

• Poor data quality of feeder systems
• Work in progress
• Patients not recorded on PAS systems
• Tests ordered or delivered outside of the dates of an attendance or episode.

The quality of the underlying data is a significant issue and we encourage costing professionals to liaise with clinical and information colleagues to understand the issues and resolve as an organisation-wide issue. If significant, they should also be placed on the costing risk register.

C: GUIDELINES
This standard focuses on the following two resources:

• Radiology examinations / tests
• Drugs

Matching also applies to the patient-level data feeds used to allocate costs to patients such as:

• Ward minutes
• Theatre minutes
• Therapy time
• Pathology tests
Understanding the information source

We recommend the following information is completed for each feeder system to document, understand and monitor the quality of feeder systems and how they are used in costing systems:

- Cost allocated by feeder system
- Currency and fields of data – for example, time or test and details of cost weights applied
- Percentage allocated to inpatients, outpatients and A&E
- Percentage linked
- Total transaction count
- Type of feeder system – name, owner and version being used.

Matching parameters and the quality of matching

Organisations could report excellent matching scores but the resources may not be allocated against the correct patient episode or attendance. This not only impacts the quality of the cost data produced, it will also be detrimental to obtaining the buy-in of clinical staff – if they see that costs include tests or resources the patient has not consumed or not consumed as part of that episode of care.

There are several fundamental rules that should be applied:

- Resources must be linked to the correct patient type. For example, prosthetics used in theatre should only be allocated to admitted patients.
- As a minimum, resources should match to the patient type using date and a patient identifier. Further accuracy can be obtained using additional variables, including speciality code, consultant and a location code – for example, ward or department code.
- Where there are multiple possibilities for a patient as to which episode or attendance to link to, then a consistent set of rules should apply – for example, if the patient presents at A&E and has an X-ray and then is subsequently admitted, link the X-ray to the A&E attendance. Organisations should understand and document these rules. Furthermore, using additional variables in the matching process will improve the accuracy of these matches.
- When matching to the patient type, hierarchy of matching should be A&E, inpatients and then outpatients. The exception to this rule is for blood and blood products which can be ordered in A&E but used during the subsequent inpatient episode.
- Where the attendance is out of the date scope, some flexibility is required such as extending the parameters of the date to which it is matched. Further guidance is provided for some specific datasets at the end of this standard.
- Care should be taken to ensure that where relevant direct access activity is removed, and any activity that relates to patients not reported on PAS is accounted for – for example, patients attending HIV and sexual health clinics.
- Unmatched activity needs to be costed up to prevent the matched activity from attracting higher costs.

There is some key information organisations must understand and document:

- How the matching rules set up in their costing system work
- The percentage matching for each resource dataset used – this figure is based on activity count and not the cost value. Where possible this should be broken down by patient type.
- Ideally this should be broken down by cost driver to fully understand data quality.
- The data quality issues relating to the underlying feeder system. Data quality should be monitored with each costing update.
- Where the attendance is out of the date scope, some flexibility may be required such as extending the parameters of the date that is matched to.
Matching and the MAQS

It should be noted, that when calculating a matching score, including for use within the MAQS, the count of activity/resources should be used, not the value. However, internally within organisations it is suggested that both calculations are undertaken in order to ensure high-value items are being accurately matched.

Treatment of unmatched activity

Unmatched activity will distort patient-level costs through:

- Unmatched patients not having the full cost of care attributed to them
- Patients that did not necessarily receive the care attributed to them may receive the cost of this unmatched activity. This will result in significantly inflated costs if the unmatched activity is treated as an overhead to matched activity.

Organisations should investigate the reasons why resources have not been matched to patient episodes. This may be the result of:

- Data quality issues in the underlying information source
- Patients who receive treatment but whose episode is not recorded on PAS (for example, HIV clinics)
- Poor matching rules
- Work in progress.

Unmatched activity should not be treated as an overhead to matched activity. This will result in significant distortions in cost to those patients, whose activity and resources utilised can be matched. Unmatched activity should be costed separately. Some of these costs will be included within the work in progress quantum reported by the trust. This will depend on the level to which work in progress is being costed (see Standard 5).

Matching of radiology tests and drugs

The HFMA Costing Practitioner Groups have provided additional guidance for two specific resources. We are publishing this guidance within the standard, to provide support to organisations that wish to undertake more detailed work in this area. Examples for other resource types will be published in future updates of the clinical costing standards.

Radiology

If a patient under the care of A&E has a radiology test ordered, the test should be linked to the A&E attendance and not the subsequent admitted patient care episode, if the patient is subsequently admitted. This will require the request date and time to be pulled through as well as the date the examination was undertaken.

For outpatients, the date parameters or rules within an organisation will need to be established as tests are often not undertaken on the date of an attendance or episode. These rules must be documented and discussed with the radiology department and individual clinical teams to ensure the rules are consistent with clinical protocols.

Care needs to be taken to use the correct date in line with other national guidance documents. It is suggested that the event date is used for inpatients, outpatient interventional radiology, critical care and A&E. For all other outpatient diagnostic imaging it is recommended that the request date is used. Where possible, matching rules should be specific to the trust’s patient pathway.

Again, care should be taken to ensure that direct access tests are removed (or linked to a dummy patient), and any tests that relate to patients not reported on PAS are accounted for – for example, patients attending screening clinics.
Radiology costs will be higher for patients in critical care and in some cases for inpatient care compared with outpatient attendances. The radiology department needs to be involved when identifying the difference in costs attributed to the tests being carried out in the various settings and where possible this should be reflected in the patient costings.

Where the attendance is out of the date scope, some flexibility may be required such as extending the parameters of the date that is matched to. However, care should be taken where it is possible that more than one patient event may be matched within the set period. It may be necessary to expand the date parameters on an incremental basis and/or to add other parameters such as referrer or location of referral.

Initial research shows that the maximum day ranges should be 12 days for inpatients, two days for A&E and 28 days for outpatients. If changes are made to the matching processes, the outcomes must be monitored and evaluated. For example, if narrowing the maximum date range by which a match can occur causes a high number of records to not match, the reasons for this need to be investigated and addressed accordingly.

**Drugs**

If a patient under the care of A&E has a drug prescribed, the drug should be linked to the A&E attendance and not the subsequent admitted patient care episode if the patient is subsequently admitted. This may require the prescription date and time to be pulled through, as well as the date the drug was dispensed.

For outpatients, the date parameters or rules within an organisation will need to be established as drugs may not be dispensed on the date of prescribing. These rules must be documented and discussed with the pharmacy department and individual clinical teams to ensure the rules are consistent with clinical protocols.

There are some drug issues that will not match to a patient type – for example, ward stock and HIV/GUM drugs. Ideally these tests should be linked to a dummy patient so that they are traceable prior to the matching process commencing. If this is problematic, they should be removed from the data prior to the matching process.

Additionally, this activity should also be excluded from the matching percentage calculations as they will adversely skew the values. Where there is good data quality and activity data is captured, Healthcare at Home drugs can be matched to patient episodes. However, in most cases this will not be possible because no patient activity will be recorded and therefore these drugs should be excluded prior to the matching process taking place, in the same way as ward stock drugs and HIV/GUM drugs.

Some specific situations should also be considered:

- If your pharmacy data has chemotherapy drug flags, these drugs should then be matched to a chemotherapy event in the first instance.

- Where there are multiple issues on one prescription, discussions must take place with the pharmacy department to resolve any adverse impacts on the matching processes. An example of good practice is where one trust asks the pharmacy department to match the returns prior to the data being loaded onto the costing system. Where the attendance is out of the date scope, some flexibility may be required, such as extending the parameters of the date to which it is matched. However, care should be taken where it is possible that more than one patient event may be matched within the set period. It may be necessary to expand the date parameters on an incremental basis and/or to add other parameters such as referrer or location of referral. Initial research shows that the maximum day ranges should be 10 days for inpatients, five days for A&E and seven days for outpatients (based on median values of the data collected in the research project). If changes are made to the matching processes, the outcomes must be monitored and evaluated – for example, if narrowing the maximum date range by which a match can occur causes a high number of records to not match, the reasons for this need to be investigated and addressed accordingly.
Comment

26 The scores produced by the MAQS process are intended to provide a guide only – helping organisations to understand the current quality of their costing data in assessing its reliability to inform decision-making. The scores should also help organisations to target their improvement efforts for costing systems and processes. However, it is recommended that MAQS is presented annually (as a minimum) to the organisation’s audit and assurance committee.

Standard 9

Quality assessment and measurement

A: STANDARD

Organisations should document and measure the materiality and quality of their costing process. This should be evidenced by a materiality and quality score (MAQS), calculated using the supporting template. The score structure26 is as follows:

- Gold MAQS 75%-100%
- Silver MAQS 60%-74.9%
- Bronze MAQS 45%-59.9%
- Baseline MAQS below 44.9%

B: PURPOSE

This standard provides a consistent methodology for organisations to assess and improve the quality of their costing process and data. In particular it looks to:

- Provide internal awareness of data quality issues that affect the quality of costing data
- Provide a tangible method to assess improvements in the quality of costing over time – for example, to demonstrate improvements to an organisation’s board or audit committee
- Inform development plans by focusing attention on areas that will create maximum improvement to cost information
- Provide transparency on the approaches taken to produce cost data
- Provide a consistent approach to comparing data quality across NHS organisations.

Clinical costing is intended to be a practical management tool that helps to drive best care/best value. Robust and transparent cost information is essential for the engagement of clinicians and managers to improve the management of resources and clinical care. The materiality and quality score (MAQS) has been designed to assess an organisation’s ability to provide robust, reliable data for internal and (potentially) external assurance.

The MAQS is important because the template provides a list of allocation methodologies for all cost types. Therefore, for organisations just starting on their clinical costing journey, the MAQS should be used to inform the allocation of all costs. The MAQS will also help organisations to monitor improvements in data quality and costing processes as they move from the lower scoring levels towards the gold standard. It will also help to inform the costing development process as the template can be used to highlight where an improvement in costing will have the greatest impact on the quality of the costing process.

For most organisations, the main driver for undertaking clinical costing is to deliver high-quality internal business information. Understanding the robustness or the limitations of the information presented to senior management is very important if decisions are to be taken on the back of this information.

There is also an aspiration for accurate clinical costing information to have a greater role in informing the development and setting of currencies and price regulation. In line with this aspiration, the MAQS will be collected and used by Monitor in its 2015 voluntary patient-level cost data collection as one mechanism to assess the robustness and quality of cost data submitted. Organisations will also be asked if they have calculated their MAQS and, if so, to report their score as part of the 2015 reference cost survey (this will be on a voluntary reporting basis only).
C: GUIDELINES

The MAQS template can be downloaded from the HFMA website www.hfma.org.uk/costing/standards. The template and all supporting documentation should be completed and saved for future reference.

The HFMA has collated all feedback and issues raised with the MAQS, and minor changes have been made to the template. There are two significant changes for the 2015/16 update:

- Five allocation options have been introduced for nursing costs and the scoring system has been changed to accommodate this. This reflects the increasing importance of the collation of nursing acuity information in the allocation of these costs.
- The ability for organisations to report any deviations from the options contained in the MAQS template. These can then be investigated by the HFMA and Monitor and advice provided, or changes made to future updates of the template.

Procedure for calculating the MAQS

1. The MAQS template is designed to allow the calculation of a MAQ score for the allocation of direct costs, indirect costs and overhead costs separately. Standard 1 has been reviewed in detail to support this.

2. For direct costs, the template is further broken down by cost pool group to allow the calculation of a MAQ score for each cost pool group individually. This is intended to provide a focus on where the greatest impact can be made through improvements to costing.

3. The MAQS template is now automated. This is intended to reduce the burden and time required to complete the process.

4. The calculation process works as follows:
   - A report will be required from your costing system breaking costs down by:
     - Direct, indirect and overhead
     - Direct costs further broken down by cost pool group
     - The MAQS template then provides the cost types within each of these cost pool groups.
   - Starting with direct costs (within each cost pool group), input the actual financial resources used for each cost type (to provide a measure of materiality).
   - The MAQS template has been automated so that for each cost type, the template provides a drop down box with a selection of allocation methodologies. For each cost type you will need to select the allocation methodology used (each methodology has an associated quality rating). The options available have been significantly reviewed in light of feedback received.
   - Organisations will also need to input the data quality matching percentage for each cost type. This percentage is essentially a measure of how well patient-level data sources – such as ward time, theatre time and drugs – are allocated to individual patient episodes.
   - The template then weights the financial resources used by each cost type to account for the quality of allocation method and data quality matching percentage (for relevant direct costs).
   - Follow the same process for indirect and overhead costs but with no matching adjustment.
   - The weighted financial amount for each cost type is divided by the total unweighted financial amount for all cost types to give that cost type’s contribution to the overall MAQ score.
   - An overall MAQ score is then calculated by adding up all the contributions from all the different direct cost types, the indirect costs and the overheads.
   - The template also calculates a MAQ score for each cost pool group (and for indirect costs and overheads at an aggregate level). At a glance, this enables organisations to compare the costing process in different parts of the organisation.
Comment

In 2014/15 the payment by results data assurance framework will be known as the payment and tariff assurance framework. It is being managed by Capita on behalf of Monitor. Under the Health and Social Care Act 2012, Monitor took over the responsibility for the assurance framework on 1 April 2014. Monitor will use this year’s audit programme to discharge its responsibilities of tariff enforcement and compliance.

The national benchmarker is freely available to the NHS as part of the payment by results data assurance framework. For more information and to request a login, go to www.chks.co.uk/national-benchmarker

Standard 10

Review and audit of cost information

A: STANDARD

Costing information and processes should be reviewed regularly to ensure that:

- The apportionment methods used in costing are appropriate
- The data that informs costing is correct
- Costing outputs are materially accurate
- The clinical costing standards have been followed
- Processes exist to ensure that cost data is robust.

B: PURPOSE

Evidence suggests that conducting audits of costing systems, processes and outputs results in improved data quality and procedures. It provides vital information on areas for improvement, supports board and senior sign-off and ensures confidence in the data presented.

Costing leads and other staff involved in the costing process should build regular checks on cost data into the ongoing costing process and ensure there are adequate checks undertaken on any national cost submissions.

C: GUIDELINES

Checks

The payment by results data assurance framework covers reference costs, as well as coding and wider data used to underpin payment in the NHS. In 2013/14 and 2014/15 reviews of costing process and the reference cost submissions will have been undertaken at the majority of acute trusts. These audits were undertaken in conjunction with costing experts from the NHS.

Findings from the audit programme showed that high-performing organisations treated costing as an ongoing process and carried out checks as far as possible throughout the year. These included:

- Activity levels, reconciled in-year to identify issues early
- Costs and cost allocations, shared and discussed with service representatives
- Inputs such as job plans and floor areas
- Non-PAS data, to provide assurance where provided directly from the service
- The previous year’s costs, benchmarked to identify outliers
- This year’s costs compared with previous years.

Organisations that had robust checks in place did not just rely on the costing team but used all appropriate colleagues to undertake these checks. Divisional accountants engaged with service managers and clinicians to check individual unit costs. Information leads reconciled activity against other data sources. Finance managers reviewed the cost quantum and exclusions. Where there was joint ownership of cost information within an organisation, its quality improved.

Costing leads should benchmark their cost information to identify areas of cost variation that may be caused by poor data quality or costing methodologies. Tools contained within the payment by results national benchmarker enable trusts to identify outlier costs compared with the national average to help target further investigations. For trusts that participated in Monitor’s voluntary patient-level cost submission, benchmarking information was provided as feedback to this process.
Audit

The costing process covers many areas where assurance can be sought. Trusts should use any audit reports generated from the payment by results assurance framework to provide evidence of assurance of the accuracy of costing information. For trusts that use patient-level costing to produce the reference cost submission, these audits will provide external assurance around processes for patient-level cost as well as reference costs.

The payment by results assurance costing covers the whole costing process, although there are many individual areas where trusts can seek internal or external assurance such as:

- Assessing the organisation’s internal arrangements for reviewing and self-assessing the key component areas of costing data
- Focused and specific work on any risk areas identified – for example, the accuracy of devices information
- Other data collections not covered by routine data quality audits
- Assessing compliance with clinical costing standards
- Reviewing the process for clinical engagement in the trust
- Obtaining executive and board-level sign off of data.

Working with internal audit will allow organisations to improve the robustness and quality of the information produced. Trusts implementing systems should obtain internal assurances over controls, processes and outputs. Assurance should cover all aspects of activity that underpin costs data, including all non-admitted data sets. It should also cover other feeder information used in the costing process, such as pharmacy, staff costs, floor area, bloods, prosthetics and other consumables.

Once systems are implemented, ongoing and regular internal review and scrutiny of the key information components (financial, activity and patient information data) should be completed on a quarterly basis. These should be reviewed, as a minimum standard, on an annual basis by internal or external auditors.

The outcomes from other related audit and assurance processes – for example, internal and external audit and inspection reviews, the information governance toolkit, and clinical and coding audits within the payment by results data assurance framework – may provide assurance on wider activity data used for costing. Where coding error rates are in the upper quartile nationally, consideration should be given as to the whether the quality of patient activity is robust enough to generate accurate costing.
Appendix A

Points of delivery and service lines

‘Points of delivery’ is a term widely used in the NHS to describe the location or manner of care given to patients and service users. For example, the acute sector may have inpatient elective or non-elective points of delivery, outpatient points of delivery or community contacts.

These have been defined over a number of years, and to date the payment by results reimbursement system has been built around them, with different tariff rates for elective and non-elective admissions, accident and emergency attendances and outpatient attendances and procedures.

Service line reporting information (profitability analysis) is a major driver for the development of patient level costing and for improvements in costing (and income) processes. Comments in the 2011 HFMA clinical costing standards survey noted that there was some confusion between service lines and cost pool groups.

Service lines are discrete business units that can be reported separately in terms of activity, expenditure and income, often – but not exclusively – in conjunction with the organisation’s performance management. Monitor defines service lines as specialist clinical areas that are managed as distinct operational units. In most cases they should have a discrete patient group, discrete finances (profit and loss), discrete staffing group, compatible infrastructure requirements and the ability largely to operate independently.

Service lines may show a fully absorbed cost when reported at levels of total expenditure. Contribution to overheads may be used as a preferred reporting level, rather than fully absorbed profitability, where the organisation wishes to focus on costs that are controllable by the clinical service leaders.

But service lines may also be reported, using components of differing clinical costing standards, including:

- Cost pool groups; as direct, indirect and overhead costs; variable, semi-fixed and fixed costs; and may have subsets of service line by point of delivery.

For example, the service line of a specialty (treatment function code) will include:

- Cost pool groups of medical staff, ward costs, drugs and so on
- Direct costs (clinical staff, drugs), indirect (ward linen, catering) and overhead (HR, finance, trust board)
- Variable costs for drugs, semi-fixed costs of nursing, with the variable element relating to special observation
- Nursing, and fixed costs of medical staff (and overhead support)
- Points of delivery
## Appendix B

### Options to allocate theatre costs

<table>
<thead>
<tr>
<th>Cost type</th>
<th>Baseline</th>
<th>Bronze</th>
<th>Silver</th>
<th>Gold</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theatre pay – nursing and other staff (where there is no split between surgical and anaesthetic support) Maps to operating theatres – nursing and other clinical staff salaries in the MAQS</td>
<td>Number of theatre lists by specialty and a standard weighting (from an outside source) of <strong>theatre time</strong> used to allocate costs to patients on the basis of surgical OPCS code</td>
<td>Actual <strong>theatre time</strong> by patient</td>
<td>Actual <strong>theatre time</strong> by patient with one of the following weights:</td>
<td>Actual <strong>theatre time</strong> by patient weighted by the cost of the session. We recommend that a weighting is developed by the trust for each session to incorporate the expected costs of the staff in theatre for that session, which will therefore take account of any premiums, such as the session taking place at a weekend. We also recommend any unused minutes in a theatre session are allocated as an overhead to the used minutes in that session</td>
</tr>
<tr>
<td>Theatre pay – ODPs and surgical practitioners Maps to operating theatres – nursing and other clinical staff salaries in the MAQS</td>
<td>Number of theatre lists by specialty and a standard weighting (from an outside source) of <strong>cut time</strong> used to allocate costs to patients by surgical OPCS code</td>
<td>Number of theatre lists by specialty and a standard weighting developed by the organisation to allocate costs to patients by <strong>cut time</strong> by surgical OPCS code</td>
<td>Actual <strong>cut time</strong> by patient</td>
<td>Actual <strong>cut time</strong> by patient weighted by the cost of the session as described above</td>
</tr>
<tr>
<td>Theatre pay – ODPs and anaesthetic practitioners Maps to operating theatres – nursing and other clinical staff salaries in the MAQS</td>
<td>Number of theatre lists by specialty and a standard weighting (from an outside source) of <strong>anaesthetic time</strong> used to allocate costs to patients by surgical OPCS code</td>
<td>Number of theatre lists by specialty and a standard weighting developed by the organisation to allocate costs to patients by <strong>anaesthetic time</strong> by surgical OPCS code</td>
<td>Actual <strong>anaesthetic time</strong> by patient</td>
<td>Actual <strong>anaesthetic time</strong> by patient weighted by the cost of the session as described above</td>
</tr>
<tr>
<td>Recovery unit – pay and non-pay Maps to operating theatres – recovery rooms in the MAQS</td>
<td>Allocate over the number of patients treated in the recovery unit</td>
<td>Allocate over all patients in the recovery unit on the basis of their length of stay in hours</td>
<td>Actual <strong>recovery time</strong> by patient</td>
<td>Recovery time by patient weighted by patient acuity. We recommend that a weighting is developed using the patient’s ASA score – this should be available in the theatre information system</td>
</tr>
</tbody>
</table>

continued overleaf
# Appendix B
## Options to allocate theatre costs (continued)

<table>
<thead>
<tr>
<th>Cost type</th>
<th>Baseline</th>
<th>Bronze</th>
<th>Silver</th>
<th>Gold</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prosthetics/devices/implants</td>
<td>Standard weighting from an outside source used to allocate costs to patients on the basis of their surgical OPCS code</td>
<td>Standard cost developed by the trust by type of prosthesis/implant and device and allocated to patients by surgical OPCS code</td>
<td>Average cost (calculated by type of prosthesis from the trust's procurement system) allocated to patients on the basis of their OPCS code</td>
<td>Actual cost of the prosthesis/implant or device by patient</td>
</tr>
<tr>
<td>Maps to prosthesis/implants/devices in the MAQS</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medical/surgical equipment and dressings</td>
<td>Standard weighting from an outside source used to allocate costs to patients on the basis of their OPCS code or theatre time</td>
<td>Local standard for MSE by surgical OPCS code</td>
<td>Average cost (calculated by type of equipment/dressing from the trust's procurement system) allocated to patients on the basis of their OPCS code</td>
<td>Actual cost of MSE by patient</td>
</tr>
<tr>
<td>Maps to operating theatres – non-pay in the MAQS</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anaesthetic drugs</td>
<td>All patients who have been into theatre</td>
<td>Actual theatre time by patient</td>
<td>Local standard for anaesthetic drugs and equipment weighted by anaesthetic type and surgical OPCS code</td>
<td>Actual cost of anaesthetic drugs and equipment by patient</td>
</tr>
<tr>
<td>Maps to inpatient drugs in the MAQS</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other non-pay</td>
<td>All patients who have been into theatre</td>
<td>All patients who have been into theatres but costs captured separately for different theatres and allocated only to those patients who were operated on in those theatres</td>
<td>Costs captured by specialty and allocated to all patients who have been operated on under each specialty</td>
<td>Actual theatre time by patient</td>
</tr>
<tr>
<td>Maps to operating theatres – non-pay in the MAQS</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: The cost types in the MAQS for theatres have been aggregated in order to support the usability of the template. This table shows where each of the cost types listed should be reported in the MAQS template. The HFMA will continue to monitor costing in this area and as more organisations are able to break down and allocate costs to the levels set out in this table, the MAQS categories will be updated accordingly in future updates.
# Appendix C

## Glossary

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allocation</td>
<td>Allocating costs involves spreading costs from one to many based on a predetermined methodology – for example, the number and cost of each test.</td>
</tr>
<tr>
<td>Apportionment</td>
<td>Apportioning costs involves spreading cost from one to many based on a predetermined percentage. For example, board costs might be apportioned across service departments on the basis of the proportion of total pay expenditure.</td>
</tr>
<tr>
<td>Corporate income</td>
<td>Also known as overhead income, this income does not relate to the organisation’s own patient activity, and does not fall under the definitions of direct and indirect income. It will include rental income and income from corporate services that the organisation runs on behalf of other organisations.</td>
</tr>
<tr>
<td>Cost driver</td>
<td>The activity that causes a cost to be incurred.</td>
</tr>
<tr>
<td>Cost pool</td>
<td>A sub-section of a cost pool group. For instance, individual wards might make up individual cost pools within the wards cost pool group.</td>
</tr>
<tr>
<td>Cost pool groups</td>
<td>All service costs (including direct, indirect and overhead costs) are grouped into cost pool groups to enable analysis.</td>
</tr>
<tr>
<td>Cost weight</td>
<td>This is a weighting to reflect resource usage. For example, each individual pathology test needs to be assigned a cost weight because different tests will use different levels of resources in terms of staff time and consumables.</td>
</tr>
<tr>
<td>Data quality</td>
<td>Data quality is the degree of completeness, consistency, timeliness and accuracy that makes the data appropriate for a specific use.</td>
</tr>
<tr>
<td>Direct costs</td>
<td>Costs that directly relate to the delivery of patient care. Examples include medical costs and nursing staff costs.</td>
</tr>
<tr>
<td>Direct income</td>
<td>Income relating directly to the organisation’s own patients, including all national and local tariff clinical income as well as private patient income.</td>
</tr>
<tr>
<td>Feeder system</td>
<td>A system that feeds into the costing system. For example, a theatre’s system may provide important data about the time and resources consumed by different patients in theatre.</td>
</tr>
<tr>
<td>Finished consultant episode (FCE)</td>
<td>A consultant episode (an episode of treatment under one consultant) that has finished.</td>
</tr>
<tr>
<td>Fixed costs</td>
<td>Fixed costs are not affected by in-year changes in activity such as rent and rates.</td>
</tr>
<tr>
<td>Healthcare resource group (HRG)</td>
<td>Healthcare resource groups band together procedures and diagnoses that are clinically similar and consume similar levels of resources. HRGs provide a currency for contracting healthcare services, used in the national tariff for acute services.</td>
</tr>
<tr>
<td>Indirect costs</td>
<td>Costs that are indirectly related to the delivery of patient care. They are not directly determined by the number of patients or patient mix but costs can be allocated on an activity basis to service costs</td>
</tr>
<tr>
<td>Indirect income</td>
<td>Indirect income relates to patient care services but not directly to the care of the organisation’s own patients.</td>
</tr>
<tr>
<td>Matched patient records</td>
<td>Matched patient records record the proportion of patients whose patient administration system (PAS) records match to a recorded event such as theatres, pathology or pharmacy issues.</td>
</tr>
<tr>
<td>Materiality</td>
<td>Information is material if its omission or mis-statement could influence the economic decision taken on the basis of the financial information. Materiality depends on the size of the item, judged in the particular circumstances of its omission or mis-statement.</td>
</tr>
</tbody>
</table>
## Appendix C

### Glossary (continued)

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Materiality and quality score (MAQS)</td>
<td>A score that indicates the accuracy or quality of the costing process. The calculation takes account of the actual level of financial resources within each cost pool, the quality of the allocation method and number of records matched to patient level.</td>
</tr>
<tr>
<td>Market forces factor (MFF)</td>
<td>The MFF adjusts national tariff prices to compensate for the unavoidable cost differences associated with working in a particular geographic area.</td>
</tr>
<tr>
<td>Overhead costs</td>
<td>Costs that are not driven by the level of patient activity and which have to be apportioned to service costs as there is no clear activity-based allocation method. An example would be the chief executive’s salary.</td>
</tr>
<tr>
<td>Patient resource</td>
<td>Patient resources are different types of resource within a cost pool. For instance, within a ward cost pool, you might identify staff costs, consumables and other non-pay costs as three distinct types of patient resource. Each resource could have a different cost driver – nursing time would be driven by time spent on ward but consumables would be driven by the actual consumables used by a patient.</td>
</tr>
<tr>
<td>Reference costs</td>
<td>NHS organisations are required to submit a schedule of costs at healthcare resource group level to allow direct comparison of the relative costs of different providers. The national average costs for HRGs are used as the starting point for the national tariff prices.</td>
</tr>
<tr>
<td>Semi-fixed costs</td>
<td>Semi-fixed costs are fixed for a given level of activity but change in steps when activity levels exceed or fall below these given levels. Nursing costs are an example.</td>
</tr>
<tr>
<td>Service costs</td>
<td>The fully absorbed costs for a service, including all direct costs plus a share of indirect and overhead costs.</td>
</tr>
<tr>
<td>Service weight</td>
<td>Service weights are used to allocate costs across a wide group of patients or products. For example, pharmacy costs may be allocated across all healthcare resource groups, with each HRG receiving a service weight.</td>
</tr>
<tr>
<td>Spell</td>
<td>The period from patient admission to discharge within a single healthcare provider. A spell may comprise more than one finished consultant episode (FCE).</td>
</tr>
<tr>
<td>Standard cost</td>
<td>A standard cost is the estimated or predetermined cost of performing an operation or producing a good or service, under normal conditions. Standard costs can be used as target costs (or as a basis for comparison with the actual costs) or to calculate cost weights. They are developed from historical data analysis or from time and motion studies. They are likely to differ from actual costs and may be different from average costs, which are calculated by dividing the total recorded cost by activity.</td>
</tr>
<tr>
<td>Variable costs</td>
<td>Costs that vary with changes in activity – for example, drugs.</td>
</tr>
<tr>
<td>Work in progress</td>
<td>Patient care that has been delivered, incurring costs, but where the patient episode has not yet completed enabling a finished consultant episode to be assigned.</td>
</tr>
</tbody>
</table>
Appendix D

HFMA Acute Costing Practitioner Group

Work to update the 2015/16 version of the acute clinical costing standards has been led by Helen Strain, HFMA costing lead, and Scott Hodgson, HFMA costing standards lead. It has been informed by a survey of practitioners in NHS organisations and has involved considerable debate and discussion with the Acute Costing Practitioner Group and its associate members. The HFMA would like to thank all of those individuals and their teams who have been involved in the acute costing practitioner group, and relevant subgroups. This group includes:

John Graham (chair) Royal Liverpool and Broadgreen University Hospitals NHS Trust
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### Appendix E

#### Classification of fixed, semi-fixed and variable costs

**FIXED**

| Subjective description       | Early retirement payments | Electricity | Employment screening CRB etc | Energy management contracts | Engineering contracts | Executive director | External consultancy fees | Fleet operating licence | Fixed asset impairments | Gas | Grounds and gardens expenses | Healthcare from local authorities | Healthcare from non-English NHS | Heating oil | Hospital car services | Insurance costs | Interest expense on finance lease non-PFI NHSFT | Interest expense on PFI finance lease NHSFT | Interest payable | Interest payable under prompt payment act | Interest receivable | Internal recharge: provided | Laundry equipment | Legal fees | Loss of stores | Loss on disposal | Losses/negligence provisions | Lump sum payments | Net bank charges | NHS financing facility (NHSFT) | Non-healthcare services from NHS England |
|------------------------------|---------------------------|-------------|-------------------------------|-------------------------------|--------------------------|--------------------|---------------------------|------------------------|-------------------------|-----|--------------------------|---------------------------------|-------------------------------------|-------------|-------------------------|----------------|---------------------------------|---------------------------------|----------------|----------------------------|----------------|--------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|

**SEMI-FIXED**

Appendix E

Classification of fixed, semi-fixed and variable costs (continued)
Appendix E

Classification of fixed, semi-fixed and variable costs (continued)

Catering equipment – leases
Catering equipment – maintenance
Catering equipment – purchase
Cleaning equipment
Clinical asst
Clinical fellows
CMO
Computer hardware purchases
Computer maintenance
Computer network costs
Computer software/license fees
Conferences and seminars
Consultant
Contract: grounds and gardens
Contract: hygiene and sanitary
Contract: pest control
Contract: photocopying rental and charges
Contract: supply and fix
Creche expenses
CT1
CT2
CT3
Data lines
Dental assoc spec
Dental clinical assist
Dental consultant
Dental ho
Dental officer
Dental practitioners
Dental sho
Dental spec reg
Design costs
Endowment contributions to revenue
Excess mileage
External contracts – HR services
External contracts: catering
External contracts: domestics
External contracts: laundry
External contracts: other hotel services
External contracts: window cleaning
External contracts: financial services
External data contracts
FH01 foundation programme dentists
FH01 foundation programme doctors
FH02 foundation programme dentists
FH02 foundation programme doctors
FM computer contracts
FTSTRA fixed-term specialty dental registrar appointments
FTSTRA fixed term specialty registrar appointments
Furniture and fittings
General losses and special payments
GP sessions/staff fund
Gross redundancy payments
HO
Hardware and crockery
Healthcare from foundation trusts
Healthcare from NHS trusts
Hospital pract
Hospitality
Information tech security costs
Interpreting services
Interview expenses
Junior medical training
Laboratory equipment
Laboratory equipment – maintenance
Laundry maintenance
Lease rents
Leased cars: contract
Leased cars: private deductions
Leases (other clinical supplies)
Lecture fees
Local authority staff
Locum assoc spec
Locum clinical asst
Locum consultant
Locum SCMO
Locum SHO/FH02
Locum spec registrar
Locum staff grade pract
Med surg eqpt hire
Med surg eqpt leasing
Med surg eqpt MTCE contracts
Med surg eqpt repairs
Microfilming and dit
Miscellaneous expenditure
Mobile phones
National QC and accreditation fees
Non-healthcare services from CCGs
Non-healthcare services from foundation trusts
Non-healthcare services from NHS trusts
Non-healthcare services from PCTs
Nurse bank (qualified)
Nurse bank (unqualified)
Office equipment and materials: hire
Office equipment and materials: purchase
Office equipment and materials: repairs
Other general provisions
Other transport costs
Packing and storage
Pams bank staff
Patients appliances: lease
Payments in lieu of notice
Photographic materials
Postage and carriage
Prof & tech bank staff
Public relations expenses
Radio communications
Regular car user allowance
Removal expenses
SCMO
SHO
Sen lecturer
Senior dental officer
Services from local authorities
Social worker – qualified
Social worker – unqualified
Spec registrar
Specially doctors
ST1/lower
ST2/upper
Staff grade dentist
Staff grade pract
Staff lease cars
Staff uniforms and clothing
Support staff bank
Taxi and other vehicle hire
Training expenses
Training travel and subsistence
Travel and subsistence
Trust scale (A&C)
Trust scale (Ambulance)
Trust scale (Fund)
Trust scale (medical)
### Appendix E

**Classification of fixed, semi-fixed and variable costs (continued)**

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>Healthcare service or item</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALAC: special cushions</td>
<td>Laboratory quality control</td>
</tr>
<tr>
<td>ALAC: special seating</td>
<td>Laboratory radio-isotopes</td>
</tr>
<tr>
<td>ALAC: storage</td>
<td>Laboratory reagents</td>
</tr>
<tr>
<td>ALAC: war pensioners</td>
<td>Laboratory test kits</td>
</tr>
<tr>
<td>ALAC: wheelchairs</td>
<td>Laundry materials</td>
</tr>
<tr>
<td>Anaes: accessories and equipment</td>
<td>Local authority agency staff</td>
</tr>
<tr>
<td>Locum CMO</td>
<td>Labournum dental career grade</td>
</tr>
<tr>
<td>B1 bank social care worker</td>
<td>Locum dental consultant</td>
</tr>
<tr>
<td>B1 qldf bank nurse</td>
<td>Locum dental spec reg</td>
</tr>
<tr>
<td>B2 agency nursing</td>
<td>Locum GP</td>
</tr>
<tr>
<td>B2 bank social care worker</td>
<td>Locum HO/FH01</td>
</tr>
<tr>
<td>B2 qldf bank nurse</td>
<td>Locum hospital prct</td>
</tr>
<tr>
<td>B3 agency nursing</td>
<td>Locum specialty doctors</td>
</tr>
<tr>
<td>B3 bank social care worker</td>
<td>Low visual appliances</td>
</tr>
<tr>
<td>B3 qldf bank nurse</td>
<td>Materials – building</td>
</tr>
<tr>
<td>B4 agency nursing</td>
<td>Materials – electrical</td>
</tr>
<tr>
<td>B4 bank social care worker</td>
<td>Materials – mechanical</td>
</tr>
<tr>
<td>B4 qldf bank nurse</td>
<td>Maxillo facial implants</td>
</tr>
<tr>
<td>B5 bank social care worker</td>
<td>Med surg eqpt disposable</td>
</tr>
<tr>
<td>B5 qldf bank nurse</td>
<td>Med surg eqpt general</td>
</tr>
<tr>
<td>B6 agency nursing</td>
<td>Medical gases</td>
</tr>
<tr>
<td>B6 bank social care worker</td>
<td>Minor works</td>
</tr>
<tr>
<td>B6 qldf bank nurse</td>
<td>Non-healthcare services from other NHS bodies</td>
</tr>
<tr>
<td>B7 agency nursing</td>
<td>Non-pay savings target</td>
</tr>
<tr>
<td>B7 bank social care worker</td>
<td>Ophthalmic implants</td>
</tr>
<tr>
<td>B7 bank social worker</td>
<td>Orthopaedic implants – other</td>
</tr>
<tr>
<td>Laboratory culture media</td>
<td>Orthopaedic implants – hips</td>
</tr>
<tr>
<td>Laboratory external tests</td>
<td>Orthopaedic implants – knees</td>
</tr>
<tr>
<td>Laboratory quality control</td>
<td>Other agency staff</td>
</tr>
<tr>
<td>Laboratory radio-isotopes</td>
<td>Other clinical costs</td>
</tr>
<tr>
<td>Laboratory reagents</td>
<td>Other general supplies and services</td>
</tr>
<tr>
<td>Laboratory test kits</td>
<td>Other patients expenses</td>
</tr>
<tr>
<td>Laundry materials</td>
<td>Pacemakers</td>
</tr>
<tr>
<td>Local authority agency staff</td>
<td>Patients appliances: purchase</td>
</tr>
<tr>
<td>Labournum dental career grade</td>
<td>Patients clothing</td>
</tr>
<tr>
<td>Locum dental consultant</td>
<td>Patients travel exp/allowances</td>
</tr>
<tr>
<td>Locum dental spec reg</td>
<td>PBR excluded devices</td>
</tr>
<tr>
<td>Locum GP</td>
<td>PCT prescribing costs</td>
</tr>
<tr>
<td>Locum HO/FH01</td>
<td>Petty cash/ward purchasing card expenditure</td>
</tr>
<tr>
<td>Locum hospital prct</td>
<td>Printing costs</td>
</tr>
<tr>
<td>Locum specialty doctors</td>
<td>Protective clothing</td>
</tr>
<tr>
<td>Low visual appliances</td>
<td>Provisions</td>
</tr>
<tr>
<td>Materials – building</td>
<td>Renal fluids</td>
</tr>
<tr>
<td>Materials – electrical</td>
<td>Special needs children</td>
</tr>
<tr>
<td>Materials – mechanical</td>
<td>Spinal cord stimulators</td>
</tr>
<tr>
<td>Maxillo facial implants</td>
<td>Staff benefits expenses</td>
</tr>
<tr>
<td>Med surg eqpt disposable</td>
<td>Stationery</td>
</tr>
<tr>
<td>Med surg eqpt general</td>
<td>Stents</td>
</tr>
<tr>
<td>Medical gases</td>
<td>Sterile products</td>
</tr>
<tr>
<td>Minor works</td>
<td>Surgical instruments: disposable</td>
</tr>
<tr>
<td>Non-healthcare services from other NHS bodies</td>
<td>Surgical instruments: general</td>
</tr>
<tr>
<td>Non-pay savings target</td>
<td>Therapy equipment and materials</td>
</tr>
<tr>
<td>Ophthalmic implants</td>
<td>Vaccines</td>
</tr>
<tr>
<td>Orthopaedic implants – other</td>
<td>Vascular implants</td>
</tr>
<tr>
<td>Orthopaedic implants – hips</td>
<td>Vending machine supplies</td>
</tr>
<tr>
<td>Orthopaedic implants – knees</td>
<td>Voice prosthesis</td>
</tr>
<tr>
<td>Other agency staff</td>
<td>Welfare foods</td>
</tr>
<tr>
<td>Other clinical costs</td>
<td>X-ray film and chemicals: purchases</td>
</tr>
<tr>
<td>Other general supplies and services</td>
<td>Patients appliances: repairs</td>
</tr>
</tbody>
</table>
Appendix F

Work in progress levels

**Level 1**

- Previous years’ episodes for spells completed in year
- In-year episodes for spells completed within the financial year
- Incomplete spells

1 April

- Costed using in-year final audited accounts
- Not costed

31 March

**Level 2**

- Episodes that cross the financial year
- In-year episodes for spells completed within the financial year + completed episodes in open spells at year end
- Incomplete episodes of open spells

- Costed using in-year final audited accounts
- Not costed

**Level 3**

- In-year portion of cross financial year episodes for spells completed in year
- In-year episodes for spells completed within the financial year + completed episodes in open spells at year end
- Incomplete episodes of open spells

- Costed using in-year final audited accounts
Appendix G

Summary of the clinical costing process

See diagram overleaf.

The first step in the costing process is to determine the costs in the general ledger directly driven by patient care (doctors’ time, administered drugs and prostheses) and those more loosely tied to patient activity. This means all cost centres in the ledger are assigned to a direct, indirect or overhead cost category (Standard 1).

However, some adjustments are needed. For example, many NHS organisations receive separate funding for clinical training and education. The costs incurred in delivering this training are not related to the treatment of patients. So to produce accurate costs for the treatment of individual patients, these costs – both the direct costs of time spent training and a proportion of indirect/overhead costs – need to be stripped out (Standard 7).

Similarly, costs may have been incurred delivering a corporate service for an external organisation. For instance, the trust may be paid to deliver payroll or other financial services for a neighbouring trust. It would not be appropriate for the costs of delivering these ‘additional’ services to be allocated to patients. Or, if they are allocated down to patients, then they should be clearly identifiable so that the costs relating to the delivery of patient care can be viewed separately. Non-material amounts of cost and income from ‘additional’ services can remain with the patient care costs.

Once these adjustments have been made, overhead costs need to be allocated or apportioned to the direct and indirect cost centres (Standard 3).

Organisations should classify costs into variable (those that flex with patient numbers), semi-fixed (costs that stay the same until a certain activity threshold is reached, at which point cost change) and fixed (those that remain fixed regardless of the number of patients treated) – Standard 4.

Once any adjustments have been made to establish the appropriate totality or quantum of costs, all the remaining costs can be assigned to a cost pool group (Standard 2). Cost pool groups provide an opportunity to analyse the key components of healthcare costs at patient or some higher level and provide a foundation for benchmarking with other providers.

Cost pool groups – such as for medical staff, wards or pathology – are not the same as cost centres as identified within general ledger accounting systems. For example, medical staff costs might be identified within various direct cost centres within the general ledger, but are collected in a dedicated cost pool group. Equally, drug costs might be identified in different direct cost centres within the ledger system, but are pulled together into their own cost pool group.

Within each cost pool group, costs may also be separately identified within individual cost pools. For example, ‘wards’ may be a cost pool group identifying costs across all wards but organisations may wish to identify the costs of each ward as a separate cost pool within that group. Once costs are gathered in cost pool groups, they can be allocated on to meet different requirements. For example, they could be allocated to patients – the process covered by these standards – or to serve lines/points of delivery.

Costs should be allocated on the basis of actual usage of resources or using an allocation method that most closely reflects actual usage (Standard 3). Different allocation methods will be appropriate for different types of cost. For instance, within a ward cost pool, nursing staff

Comment

Feedback suggests that clinical costing systems offer a range of flexible ways to allocate indirect costs, whether it is across direct cost centres or directly down to patients. Indirect costs must, however, be flagged for inclusion within the relevant cost pool group for reporting purposes.
Appendix G

Summary of the clinical costing process (continued)
Appendix G

Summary of the clinical costing process (continued)

costs could be allocated on the basis of time spent on ward, with an adjustment for acuity (more intensive care, either involving more nurses' time or a more senior or specialist nurse).

However, consumables used on a ward could be allocated on the basis of the actual consumables used for each specific patient and other non-pay costs could be assigned on the basis of time on ward with no adjustment for acuity.

Recognising the different cost drivers – rather than assigning all ward costs, for example, on the same basis – will produce more accurate patient specific costs. This ‘accuracy’ or quality of the costing information can be measured by calculating a materiality and quality score or MAQS (Standard 9).

Adjustments may also be needed to take account of work in progress. While costs start to be incurred as soon as a patient enters a hospital or clinic, income will only become due once that patient is discharged. Different approaches can be adopted to avoid these ‘work in progress’ costs being assigned to the wrong patients. A standard has been developed in this area setting out these options (Standard 5).

While the costing process is important in ensuring robust patient-level costs, the overall results will only be as good as the core data used in the process. This ranges from the simple accuracy of assigning the right clinical codes to patient episodes and the correct entry of the patient information through to the accurate linking of patient resources to patient records. Accurate costing is as much dependent on colleagues in IT, information and clinical coding as it is on costing teams (Standard 8). Audit also plays an important part in assuring and developing data accuracy and the robustness of the costing process (Standard 10).
Work to update the 2015/16 version of the acute clinical costing standards was led by Helen Strain, HFMA costing lead, and Scott Hodgson, HFMA costing standards lead. Minor amendments to the 2016/17 version have been made by Catherine Mitchell, HFMA head of costing and value.

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