Healthcare costing standards for England
Development version 2
Delivering better healthcare by inspiring and supporting everyone we work with, and challenging ourselves and others to help improve outcomes for all.
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allocation methods
Introduction

Costing begins with good quality source data. The **two information requirement standards** describe the activity information required to implement the other costing standards and how costing teams can work with informatics and service departments to obtain good quality data for costing.

The **five costing process standards** apply to all services provided by your organisation. They cover the costing process from the general ledger through to the final patient unit cost and reconciliation to audited accounts.

The **10 costing method standards** cover the costing of high volume and high value areas within an organisation. They supplement the five costing process standards.

The **four costing approach standards** give guidance on difficult-to-cost areas. Analysis of cost collections has shown reported costs vary in part because of the complexity of the service. These standards are designed to help you identify all the relevant costs in these areas, and to work with informatics and service departments to obtain the information required for costing.

The **three education and training (E&T) standards** provide guidance on costing E&T in the NHS. They are based on current Department of Health guidance on costing E&T.

Implementation of these standards should start with the information requirements, followed by the costing purposes, costing methods, costing applications and finally the E&T standards. Each type of standard should be implemented in numerical order, and in conjunction with the technical guidance where appropriate.

**To note:**

- these standards supersede earlier versions
- standard paragraphs are of equal importance
- the materiality threshold applies to all standards
- the examples given are hypothetical.
Intended audience:

- informatics professionals and data managers within departments (information requirement standards only)
- costing practitioners
- costing software suppliers
- general management teams
- education leads (E&T standards only).

Reviewed by:

- acute technical focus group and roadmap partners
- Collection and Costing Advisory Group (C-CAG).

We have incorporated feedback and are grateful to all those who have taken time to comment.
Information requirements

IR1: Collecting information for costing purposes
IR2: Management of information for costing
IR1:
Collecting information for costing purposes

**Purpose:** To set out the minimum information requirements for patient-level costing.

**Objective**

1. To ensure all providers collect the same information for costing, benchmarking and collection purposes, and for the full range of services they deliver.

2. To improve consistency by supporting the allocation of the correct quantum of costs to the correct activity using the prescribed cost allocation method.

3. To support accurate matching of costed activities to the correct patient episode, attendance or contact.

4. To support reporting of cost information by activity in the organisation’s dashboards.

**Scope**

5. This standard specifies the minimum requirement for the patient-level activity feeds.

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1. Not all feeds are at the patient level. This is a generic description for the collection of feeds required for the costing process.
Overview

6. The information feeds provide the following information required for costing:
   • activities which have occurred – for example, the pathology feed will itemise all the tests that are performed and this information tells the costing system which activities to include in the costing process; not every pathology test will be performed in every cost period
   • the cost driver to use to allocate costs, eg theatre minutes
   • the information to use to weight costs, eg the drug cost included in the pharmacy feed
   • information about the clinical care pathway.

7. Spreadsheet IR1.1 in the technical guidance lists the patient-level activity feeds required for costing.

8. Listed patient-level activity feeds must be collected for activities that cost more than a materiality threshold of 0.05% of the organisation’s operating expenditure or more than 5% of a specialty's overall costs.

9. You are not required to collect an activity feed if your organisation does not provide that activity, eg a provider with no emergency department is not required to collect the A&E attendances feed.

10. Spreadsheets IR1.1 and IR1.2 in the technical guidance describe the level of detail and the data fields required for each feed. Data fields which are mandatory in other national collections are highlighted, as are the fields required for matching, costing or collection.

11. The standards prescribe the information to be collected, but not how it is collected. So, if you collect several of the specified feeds in one data source, you should continue to do so, as long as the information required is captured.

12. If you use multiple feeds, take care not to duplicate information between data sources.

2. As reported in Foundation trust annual reporting manual 2016/17: draft for consultation: https://improvement.nhs.uk/resources/annual-reporting-manual-foundation-trusts-201617/
13. You are not required to collect duplicate information such as date of birth in the individual feeds unless this is needed for matching purposes or data quality checking.

14. Your informatics department is best placed to obtain the data required from the most appropriate source.

Approach

Patient-level information for the matching process

15. All patient-level activity feeds need to contain information that can be used to match the separate events, such as the unique episode ID, hospital patient identifier number, event date, point of delivery, specialty or healthcare professional.

16. For matching purposes the feeds are categorised as follows:
   - **master feeds**: the core patient-level activity feeds that the other feeds are matched to, eg the admitted patient care (APC), non-admitted patient care (NAPC) and A&E feeds
   - **auxiliary feeds**: the patient-level activity feeds that are matched to the master feeds, eg the radiology and pathology feeds
   - **standalone feeds**: the patient-level activity feeds that are not matched to any episode of care but are reported at service-line level in the organisation’s reporting process, eg the cancer multidisciplinary teams (MDTs).

Feed 1: Admitted patient care (APC)

Collection source

17. This data may come from the nationally collected APC commissioning dataset (CDS).

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3. Spreadsheet IR1.1 in the technical guidance gives examples of the data fields used to match each costed activity to the correct patient episode, attendance or contact.

4. Although critical care is an auxiliary feed, other auxiliary feeds can be matched to it.
Feed scope

18. All admitted patient episodes within the costing period, including all patients discharged in the costing period and patients still in a bed at midnight on the last day of the costing period.\(^5\)

19. Including patients who have not been discharged reduces the amount of unmatched activity and ensures that discharged patients are not allocated costs that relate to patients who have yet to be discharged. We recognise that much patient-level information, such as diagnosis codes and procedure codes, is not available until after a patient is discharged. But information regarding ward stays and named healthcare professionals will be available and can be used in the costing process.

20. Feeds such as theatres and pathology will contain all the patient-level activity that has taken place in a month, regardless of whether or not the patient has been discharged. All these activities can now be costed and matched to the correct patient whether or not they have been discharged.

21. Patients who have yet to be discharged need to be flagged in your reporting system. Incomplete episodes will not have income assigned to them as income is received on discharge.

Feed 2: A&E attendances (A&E)

Collection source

22. This data may come from the nationally collected A&E CDS.

Feed scope

23. All A&E attendances within the costing period.

Feed 3: Non-admitted patient care (NAPC)

Collection source

24. This data may come from the nationally collected outpatient CDS.

5. Regular day or night admissions also form part of the dataset.
Feed scope

25. All patients who had an attendance or contact within the costing period.

26. This feed is designed to be a ‘catch all’ activity feed. It captures activity recorded on the patient administration system (PAS) but not reported in the other master feeds, including:
   • outpatient attendances
   • outpatient procedures
   • telephone calls
   • contacts
   • ward attenders.

27. Work with your informatics department and other departments providing data to understand the different types of activity in this feed and ensure costs are allocated correctly to activity, and that activity is reported correctly in your patient-level reporting dashboard.

28. We recognise that not all NAPC activity is captured in the PAS. You need to work with your informatics department and the department responsible for the data to get the relevant activity information.

Feed 4: Ward stay (WS)

Collection source

29. This data may come from the nationally collected APC CDS.

Feed scope

30. All patients admitted within the costing period, both those discharged and not discharged.

31. This feed should be at patient level.

32. Although this feed contains more detailed information than the APC feed, the two should match 100%.

6. This activity is defined in Standard CM3: Outpatients.
33. As most providers produce the WS feed from their PAS, it will contain the episode ID so this should be used as the default matching criterion. If it does not, you need to use other patient-identifiable information for matching.

34. As you will collect critical care patient-level information in a separate feed, you need to exclude the critical care ward-stay information from the WS feed to avoid costing critical care twice.

35. The WS feed is required to be collected at the hour level. However, if you currently cost in minutes, continue to do that.

36. The WS feed captures the costs known to be incurred by those patients who have not been discharged, allowing you to allocate ward costs and those of the healthcare professional.

Feed 5: Non-admitted patient care – did not attend (DNA)

Collection source

37. This data may come from the nationally collected outpatient CDS.

Feed scope

38. All patients who did not attend or, in the case of children, were not brought to their outpatient appointment within the costing period.

39. This feed is for guidance and should be used only if you are costing ‘did not attends’.

Feeds 6a, 6b and 6c: Adult, paediatric and neonatal critical care

Collection source

40. This data may come from the nationally collected:
   - critical care minimum dataset (CCMDS)
   - paediatric critical care minimum dataset (PCCMDS)
   - neonatal critical care minimum dataset (NCCMDS).
41. We know that some providers open a new episode of care when a patient is transferred to a critical care unit, whereas others do not. The standards do not advocate one approach over the other. However, if you do not open a new episode, you need to ensure the costed critical care stay is matched to the correct episode.

**Feed scope**

42. All patients who had a critical care stay within the costing period.

**Feed 7: Supporting contacts**

**Collection source**

43. This data needs to be collected locally.

**Feed scope**

44. All patients who had contacts from anyone other than the principle healthcare professional within the costing period.

45. The supporting contacts feed contains the activities provided by supporting services for patients on the APC or NAPC feed, eg physiotherapists working with burns patients on the wards.

46. A patient often receives multiprofessional services during their episode. The supporting contacts feed is designed to reflect the multiprofessional nature of the patient’s pathway and costs associated with it. It collects the costs of all the interventions and activities performed by someone other than the principle healthcare professional during each episode of care. The detail and accuracy of the final cost output are increased by including these activities in the costing process.

47. Staff who may perform supporting contacts are listed in **Spreadsheet IR1.3** in the technical guidance, but this is not an exhaustive list.
Feed 8: Pathology

Collection source

48. This data needs to be collected locally.

Feed scope

49. All types of pathology tests undertaken by the organisation within the costing period.

Feed 9: Blood products

Collection source

50. This data needs to be collected locally.

Feed scope

51. Units of all blood and blood products used in blood transfusions within the costing period.

Feed 10: Drugs dispensed

Collection source

52. This data needs to be collected locally.

Feed scope

53. All drugs dispensed to a ward or patient within the costing period.

54. We recognise that pharmacy activity can be complex and difficult to capture. Pharmacy drug dispenses can be divided between those to be included and those not to be included in the feed, as shown in Table IR1.1.
### Table IR1.1: Pharmacy drug dispenses included and not included in the drugs dispensed feed

<table>
<thead>
<tr>
<th>Included</th>
<th>Not included</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inpatient drugs dispensed to and recalled from the patient including high cost drugs</td>
<td>FP10s – a prescription is written at a provider but is issued by a local pharmacy</td>
</tr>
<tr>
<td>Chemotherapy drugs dispensed to inpatients</td>
<td></td>
</tr>
<tr>
<td>Drugs dispensed to outpatients including high cost drugs and chemotherapy</td>
<td></td>
</tr>
<tr>
<td>Drugs dispensed to the wards (drugs ward stock)</td>
<td></td>
</tr>
</tbody>
</table>

### Feed 11: Clinical photography

#### Collection source

55. This data needs to be collected locally.

#### Feed scope

56. All clinical photography performed within the costing period.

57. You need to apply the materiality principle for clinical photography if you do not already have a feed for this that you include in your costing process.

58. Clinical photography services can be used to chart a patient’s progress during treatment, eg for cleft palate, and to document evidence in the case of suspected non-accidental injury to a child. They may also provide non-clinical medical illustration services for providers and external parties.

59. This feed is a good example of how the different types of services provided by one department need to be treated differently in the costing process. The flowchart shown in Figure IR1.1 should be followed when applying costs for departments that provide different types of services.
Feed 12: Diagnostic imaging

Collection source

60. This data needs to be collected locally.

Feed scope

61. All diagnostic imaging performed within the costing period.

62. This feed needs to record the national interim clinical imaging procedure (NICIP) code. If your dataset contains SNOMED codes, a mapping for these is available from NHS Digital.7

Feed 13: Theatres

Collection source

63. This data needs to be collected locally.

Feed scope

64. All procedures performed in theatres within the costing period.

65. This feed should be at procedure level, not operation level, to capture activity performed by different surgeons, possibly from different specialties, within a patient’s single trip to theatre.

Feed 14: Cancer multidisciplinary team (MDT) meetings

Collection source

66. This data needs to be collected locally, and may come from your cancer outcomes and services dataset (COSD).

Feed scope

67. All cancer MDT meetings held within the costing period.

68. This standalone feed is not matched to patient level, but is used to report the associated costs as a reconciling item for collection.

Feed 15: Prostheses and other high cost devices

Collection source

69. This data needs to be collected locally.

70. The national joint registry may be a good initial source of information for orthopaedic prostheses if you do not have a local one.

Feed scope

71. All prostheses or devices provided to patients within the costing period.

Feed 16: Chemotherapy

Collection source

72. This data may come from the nationally collected national cancer intelligence network dataset.
Feed scope

73. Information on chemotherapy regimens and cycles for patients treated within the costing period.

74. We recognise that further work is needed on this dataset; this will be a priority for the next development version of these standards.

Additional patient-level activity feeds and fields

75. If your organisation collects additional patient-level and other information feeds, continue to collect these and use them in the costing process. Record these additional feeds in your costing manual.

76. If you use fields additional to those specified for local reporting or more detailed costing, continue to use these and log them in your costing manual.

Identifying hidden activity

77. Take care to identify any ‘hidden’ activity within your organisation. This is activity that takes place but is not recorded on any of your organisation’s main systems such as PAS.

78. In some organisations, teams report only part of their activity on the main system such as PAS. For example, a department may report its admitted patient care activity on PAS but not its community activity. If this is the case, you should work with the informatics department and the department responsible for the data to obtain a feed containing 100% of the activity undertaken by the department.

79. Capturing ‘hidden’ activity is important to ensure that:
   • any costs incurred for this hidden activity are not incorrectly allocated to recorded activity, thus inflating its reported cost
   • costs incurred are allocated over all activity, not just activity reported on the provider’s main system such as PAS
   • income received is allocated to the correct activities.
Information for direct access and provider-to-provider activity

Direct access activity

80. You need to be able to identify the direct access activity in the patient-level activity feeds, eg in the pathology and diagnostics feeds. Ensure this activity is not incorrectly matched to patient episodes, attendances or contacts. You need to report this activity with the corresponding income in your reporting dashboard.

Provider-to-provider activity

81. If your organisation receives income for services delivered to another provider, such as pathology, this should not be used to offset costs. The activity should be costed exactly as for own-patient activity, but the costs should be identified as relating to external work and not matched to your organisation’s own activity.

82. Flag this activity in your data feed as it needs to be reported separately.

Other data considerations

83. Information from specific areas of the patient-level feeds is required as specified for the allocation of support costs as well as for patient-facing costs.

84. Spreadsheet IR1.2 in the technical guidance contains the required data fields for the specific patient-level feeds. These fields have various functions, such as costing, matching or reporting. You may add fields for local purposes.

85. The patient-level feeds do not contain any income information. You may decide to include the income for the feeds at patient level to enhance the value of your organisation’s reporting dashboard.

86. The feeds do not include description fields. You may ask for feeds to include description fields; otherwise you will need to maintain code and description look-up tables for each feed so you can understand the cost data supplied. There should be a process for mapping and regularly (at least annually) revalidating the codes and descriptions with each service.

8. Standard CM8: Other activities gives further detail on how to deal with these services.
87. Locally generated specialty codes may be used to allow specialist activity to be reported internally. For example, epidermolysis bullosa will be reported under the dermatology treatment function code (TFC), but the provider may decide to assign a local specialty code so this specialist activity is clearly reported.

88. If local specialty codes are used, they should be included in the patient-level feeds and in the costing process. The costs and income attributed to these specialist areas need to be allocated correctly. You need to maintain a table mapping the local specialty codes to the TFCs. This needs to be consistent with the information submitted nationally to ensure activity can be reconciled.

PLICS collection requirements

89. The master datasets of APC, OP and A&E form the basis of the cost collection. See Section 2 of the 2016/17 PLICS cost collection guidance for the scope of the collection.
IR2: Management of information for costing

**Purpose:** To assess the availability of the information specified in Standard IR1: Collecting information for costing purposes.

**Objective**
1. To assess the availability of the information specified in [Standard IR1: Collecting information for costing purposes](#) and suggest what processes to follow when this information is not available.

**Scope**
2. All information required for the costing process.

**Overview**
3. Most data should be held in your organisation’s information systems, but availability will vary due to differences in how information is managed and your IT capacity.

4. You should work with informatics colleagues and the relevant services to assess data availability against [Standard IR1: Collecting information for costing purposes](#) and to streamline processes for extracting what is required.

5. **Costing teams are not responsible for the quality and coverage of information in your organisation.**
6. Information availability can be grouped as follows:
   - **as part of national data collections** – for 10 of the patient-level feeds, national data collections capture the data, e.g., the admitted patient care commissioning dataset (CDS)
   - **in department-specific systems** – you should obtain data from the informatics department or direct from the department or specialty for three patient-level feeds: pathology, pharmacy and theatres
   - **currently unavailable at patient level** – depending on your organisation’s patient-level data collection arrangements, data may not be available for four patient-level feeds: supporting contacts, blood products, clinical photography and prostheses.

7. Spreadsheet IR2.1 in the technical guidance lists the data sources for the national collections relevant to each patient-level feed. We advise costing teams to work with their informatics department to make information available for costing.

8. Providers have departmental systems for three patient-level feeds – pathology, pharmacy and theatres – where information may be available at the level of detail required.

9. You may be able to obtain these feeds from informatics or directly from the department. If these services are outsourced you need to obtain patient-level information from the supplier.

10. Agree with informatics colleagues the format of information, frequency of patient-level activity feeds and any specific data quality checks for costing purposes.

11. In addition, access locally held information for allocating support costs, such as headcount information for corporate costs.

12. Providers may not currently collect information for four patient-level feeds – supporting contacts, blood products, clinical photography and prostheses – in which case it will be unavailable to the costing team.
Approach

When information is not available for costing

13. Information for costing may be unavailable because:
   - it is not collected at an individual patient level
   - data is not provided to the costing team
   - data is not in a usable format for costing.

14. Figure IR2.1 shows a flowchart you can follow to identify why patient-level activity information may not be available and the action you need to take to make it available.

15. Until the data becomes available, you need to continue to use your current methods and document these in your costing manual. Follow the transition path in Appendix 1 of *How to implement the healthcare costing standards for England*. 
Figure IR2.1: Making data available for costing

Does your organisation deliver this service?  
Yes  
No need for the patient-level feed  
No  
Does the department collect all required patient-level information?  
Yes  
Department starts collecting all the patient-level information  
No  
Work with the department to collect it  
No  
Is it provided to the costing team?  
Yes  
Information provided to the costing team  
No  
Work with the department and the informatics team to make it available to the costing team  
Yes  
Is it in a usable format?  
Yes  
Information in a usable format  
No  
Work with the department and the informatics team to make the format usable  
Yes  
Is it in the costing system?  
Yes  
Data loaded into the costing system  
No  
Amend the format/structure of the data to fit the costing system  
Identify resources and activities for the feed, identify costing methods and input into the costing system to check outputs  
Data for the patient-level costing available

Using the information in costing

16. Costing is a continuous process, not a one-off exercise for a national collection.

17. **If your organisation has its own cost data for internal decision-making, you may only need to run our patient-level costing once a year for the national PLICS Costing Transformation Programme (CTP) collection.**

18. If your organisation has no other form of cost data, run our process quarterly as a minimum, although we consider monthly to be best practice.
19. The benefits of frequent calculation of costs are:
   • effects of changes in practice or demand are seen and you can respond to them while they are still relevant
   • internal reporting remains up to date
   • mistakes can be identified and rectified early.

20. A first cut of the patient-level activity feeds (APC, A&E, NAPC and supporting contacts) will generally be available for costing by the secondary uses service (SUS) reconciliation inclusion date (referred to as day 5 in Spreadsheet IR2.2 in the technical guidance). If you report monthly, use this information in the costing process so you can meet the reporting timetable.

21. All other patient-level feeds should be submitted to the costing team by the SUS reconciliation inclusion date so the costing process can begin promptly. You may need to be flexible about when some departments provide their patient-level feed – but late submission should be the exception rather than the rule. This should be agreed with the service and informatics departments, and clearly documented to support good governance.

22. A second cut of the patient-level activity feeds (APC, A&E, NAPC and supporting contacts) will generally be available for costing by the SUS post-reconciliation inclusion date (referred to as day 20 in Spreadsheet IR2.2 in the technical guidance). You should load these patient-level feeds into your costing system the following month, overwriting the SUS reconciliation inclusion date feeds.

23. The benefits of doing this are:
   • any activity recorded in PAS that missed the SUS reconciliation inclusion cut-off date will be included in the SUS post-reconciliation inclusion patient-level activity feeds and the costing process
   • less unmatched activity.

24. It is important that the costing system is configured to recognise whether a load is in-month or year-to-date, or it may not load some of the activity. To ensure the costing system is loading everything it should, we recommend you check the number of lines in the feed against the number of lines loaded into the costing system.
25. Bespoke databases, such as theatres, use the descriptions and codes provided when they were set up. Over time these codes and descriptions may change, become obsolete or be added to. We recommend you map all the descriptions and codes used in auxiliary feeds to the codes and descriptions in the master feeds to ensure the costing allocation methods are applied correctly. For example, feed A may record a specialty as haematology and feed B as clinical haematology; if these are the same department, this needs to be identified and recorded in a mapping table.

26. Keep a log of patient-level activity feeds that details:
   - the feed’s source system, data table name, department, named person and a deputy responsible for providing the data source to you
   - whether the feed is in-month or year-to-date
   - period covered by the feed – for example, all activities undertaken and patients discharged in the calendar month
   - format of information to be loaded into the costing system: SQL script, Excel spreadsheet or text file (CSV)
   - the working day when the costing team will receive the feed
   - any known quality issue with the data source
   - number of records on the feed.

27. Note the difference between a refresh and a year-to-date feed. A year-to-date feed is an accumulation of in-month reports (unless the informatics team has specified otherwise). A refresh is a rerun of queries or reports by the providing department to pick up any late inputs. The refreshed dataset includes all the original data records plus late entries.

28. You need to refresh the data because services will continue to record activity on systems after the official closing dates. Although these entries may be too late for payment purposes, they still need to be costed. The refreshed information picks up these late entries, which may be numerous.

29. Get a refresh of all the patient-level activity feeds:
   - six-monthly – refresh all the data feeds for the previous six months (April to September)

9. Spreadsheet IR2.2 in the technical guidance shows an example log of patient-level feeds.
10. We recommend you do the six-monthly refresh in November to refresh data feeds from April to September.
• annually – after the informatics department has finished refreshing the annual hospital episode statistics (HES), usually in May, refresh all the data feeds for the previous financial year (April to March).

30. A challenge for costing teams is that changes as a result of the refreshes can alter the comparative figures in service-line reports. With the help of the relevant services’ management accountant leads, you need to explain significant changes to users of the service-line reports, highlighting the impact of late inputs to the department providing the patient-level activity feed.

31. The episodes which began in the previous year should be flagged to highlight that while the full income is shown, the full cost is not.

32. You need to specify in the costing system whether or not values in the patient-level feeds can be used in calculations. If inconsistent measures are used across the records – eg number of tablets, number of boxes or millilitres dispensed are recorded in different records in a pharmacy feed’s quantity column – the costing system will need to ignore these in the feed.

33. If the costing system needs to calculate durations, eg length of stay in hours, it needs to know which columns to use in the calculation. If the durations have already been calculated and included in the feed, the costing system needs to know which column to use in allocating costs.

34. Some patient-level feeds – such as the drugs feed – include the cost in the feed. You need to instruct the costing system to use this cost as a relative weight value unit (RVU) in the costing process.

35. Once you decide the method of calculation, we advise you to keep a record of this for each patient feed. Spreadsheet IR2.3 in the technical guidance shows an example of a log recording important details of the patient-level activity feeds.

36. **Duration caps** moderate outlier values by rounding them up or down to bring them within accepted perimeters. Review the feeds to decide where to apply duration caps and build them into the costing system.

37. You can apply a cap to reduce outliers, eg an outpatient attendance that has not been closed. Applying duration caps removes the distraction of unreasonable unit costs when sharing costing information.
38. Capped data needs to be reported as part of the data quality check. The caps need to be clinically appropriate and signed off by the relevant service.

39. Example duration caps which should be used as the default in the absence of better local assumptions are shown in Table IR2.2.

40. While the effect of caps is to moderate or even remove outlier values, it is the study of these outliers (ie unexpected deviations) that is informative from a quality assurance point of view. You should record the caps used and work with the informatics department and the department responsible for the data feed to improve the data quality and reduce the need for duration caps over time.

Table IR2.2: Examples of duration caps

<table>
<thead>
<tr>
<th>Feeds</th>
<th>Duration (minutes)</th>
<th>Replace with (minutes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-admitted patient care</td>
<td>≤4</td>
<td>5</td>
</tr>
<tr>
<td>Non-admitted patient care</td>
<td>&gt;180</td>
<td>180</td>
</tr>
<tr>
<td>Supporting contacts</td>
<td>≤4</td>
<td>5</td>
</tr>
<tr>
<td>Supporting contacts</td>
<td>&gt;180</td>
<td>180</td>
</tr>
<tr>
<td>Theatres – procedure time for surgeons</td>
<td>≤4</td>
<td>5</td>
</tr>
<tr>
<td>Theatres – procedure time for surgeons</td>
<td>&gt;720</td>
<td>720</td>
</tr>
<tr>
<td>Theatres – theatre time for anaesthetic and theatre staffing</td>
<td>≤4</td>
<td>5</td>
</tr>
<tr>
<td>Theatres – theatre time for anaesthetic and theatre staffing</td>
<td>&gt;720</td>
<td>720</td>
</tr>
<tr>
<td>Theatres – recovery time</td>
<td>≤4</td>
<td>5</td>
</tr>
</tbody>
</table>

41. Take care with patient-level activity feeds that contain negative values due to products being returned to the department, eg a pharmacy feed containing both the dispensations and the recalls for a patient’s drug. These dispensations and recalls are not always netted off within the department’s database, so both the dispensations and the recalls will appear in the feed. If this is the case, you need to net off manually the quantities and costs to ensure only what is used is costed.
Acute

42. Bear in mind the costs on the pharmacy feed are used as a weighting, not actual cost, so all negative costs need to be removed. The recalls are not a reconciling item. Be aware that partial recalls may take place and you need to calculate the drug cost that should remain in the feed. Also, the recall unit cost may be different from the dispensing unit cost and you need to calculate the appropriate value for partial recalls.

43. If a dispensation is made in one month (month 1), but recalled the following month (month 2), remove the negative value from the feed and remove the issue from the previous month. However, if you are reporting monthly, the cost of the drug recalled in month 2 will have already been allocated to the patient in month 1. You do not need to adjust for this as it falls under the materiality principle.

Data quality check

44. You need to quality check costing data by following a three-step process:

1. **Review the source data:** identify any deficiencies in the feed, including file format, incomplete data, missing values, incorrect values, insufficient detail, inconsistent values, outliers and duplicates.

2. **Cleanse the source data:** remedy/fix the identified deficiencies. Take care when cleansing data to follow consistent rules and log your alterations. Create a ‘before’ and ‘after’ copy of the data feed. Applying the duration caps is part of this step. Always report data quality issues to the department supplying the source data so they can be addressed for future processes. Keep data amendments to the minimum, only making them when fully justified and documenting them clearly.

3. **Validate the source data:** you need a system that checks that the cleansed and correct data are suitable for loading into the costing system. This may be part of the costing system itself. Check that the cleansing measures have resolved or minimised the data quality issues identified in step 1, and if they have not, then either repeat step 2 or request higher quality data from the informatics team.
45. Consider automating the quality check to reduce human errors and varied formats. Automatic validation – either via an ETL (extract, transform, load) function of the costing software or self-built processes – can save time. But take care that the process tolerates differences in input data and if not, that this data is consistent. Without this precaution you risk spending disproportionate time fixing the automation.

46. Your organisation should be able to demonstrate an iterative improvement in data quality for audit purposes. You should request changes to the data feeds via the source department or informatics team, then review the revised data again for areas to improve. Set up a formal process to guide these data quality improvement measures and ensure those most useful to the costing process are prioritised. Figure IR2.2 shows a flowchart of the process.

Figure IR2.2: Data quality check flow
Costing processes

CP1: Role of the general ledger in costing
CP2: Clearly identifiable costs
CP3: Appropriate cost allocation methods
CP4: Matching costed activities to patients
CP5: Reconciliation
CP1:
Role of the general ledger in costing

Purpose: To set out how the general ledger is used for costing, and to highlight the areas which require review to support accurate costing.

Objective

1. To ensure the correct quantum of cost is available for costing.

Scope

2. This standard should be applied to all lines of the general ledger.

Overview

3. You need the income and expenditure for costing. We refer to this as the ‘general ledger output’. This output needs to be at cost centre and subjective code level, and is a snapshot of the general ledger. You do not require balance sheet items for costing.

4. The general ledger is closed down at the end of the period, after which it cannot be revised. For example, if in March you discover an error in the previous January’s ledger that needs to be corrected, you can only make the correction in March’s ledger. Doing so will correct the year-to-date position, even though the January and March figures do not represent the true cost at those times, as one will be overstated and the other understated.
5. The timing of when some costs are reported in the general ledger may pose a challenge for costing. For example, overtime pay for a particular month may be posted in the general ledger in the month it was paid, not the month the overtime was worked. This highlights a limitation in the time-reporting and expense payment system. We recognise this limitation, but are not currently proposing a work-around for it.

6. Discuss the general ledger’s layout and structure with the finance team so that you understand it. This will help you understand the composition of the costing output.

Approach

7. The finance team should tell you when the general ledger has been closed for the period and give you details of any off-ledger adjustments for the period. You need to put these adjustments into your cost ledger, especially if they are included in your organisation’s report of its financial position, as you will need to reconcile to this.

8. Keep a record of all these adjustments, to reconcile back to the general ledger output. Take care to ensure that any manual adjustments are mapped to the correct line of the cost ledger.

9. You must include all expenditure and income in the general ledger output, which must reconcile with the financial position reported by your board and in the final audited accounts.

10. See Spreadsheet CP1.1 in the technical guidance for what the extract of the general ledger output must include.¹

11. Ensure the process for extracting the general ledger output is documented. You should extract this once the finance team has told you it has closed the general ledger for the period.

12. The finance team should tell you when it has set up new cost centres and subjective codes in the general ledger, and when there are material movements in costs or income between subjective codes or cost centres.

¹ Include either monthly or year-to-date depending on whether you take an in-month or cumulative approach respectively.
13. As best practice, **finance teams should not rename, merge or use existing cost centres for something else** as this causes problems for costing if you are not informed. Finance teams should close a cost centre and set up a new one rather than renaming it. If this is not possible, you should be informed of any changes.

14. The new general ledger cost centres and subjective codes need to be mapped to the cost ledger. You then need to reflect these changes in the costing system.

15. Take part in approving all new cost centres and subjective codes so you are aware of where the codes will be used and for what purpose. Cross-team approval increases the different teams’ understanding of how any changes affect them.

16. ‘Dump’ ledger codes need to be addressed so that all costs can be assigned to patients accurately. Work with your finance colleagues to determine what these ‘dump’ codes contain so they are mapped to the correct lines of the cost ledger.
CP2:
Clearly identifiable costs

**Purpose:** To ensure costs are in the correct starting position for costing.

**Objective**
1. To ensure costs are clearly identifiable for costing.

**Scope**
2. This standard should be applied to all lines of the general ledger.

**Overview**
3. You should use the standardised cost ledger structure in Spreadsheet CP2.1 in the technical guidance.

4. The standardised cost ledger classifies costs at the costing account code\(^2\) level, according to whether they are patient facing or support:
   - **Patient-facing costs** are those that relate directly to delivering patient care and are driven by patient activity. They should have a clear activity-based allocation method, and will be both pay and non-pay.
   - **Support costs** do not directly relate to delivering patient care. Many relate to running the organisation (eg board costs, HR, finance, estates) and you need to apportion them to patient activity using the appropriate information. Other support costs may be service-level support costs such as ward clerks and service management costs.

2. The costing account code is a combination of the cost centre and subjective code.
5. The general ledger is often set up to meet the provider’s financial management needs rather than those of costing, so some costs included in it will have to be transferred to other ledger codes, or aggregated or disaggregated in the cost ledger to ensure the costs are in the right starting position for costing.

6. The nature of the cost determines the classification, not the allocation method. Some providers may have sophisticated data systems allowing them to allocate support costs at patient level – such as a recording system for patients accessing interpreting services – but this does not make them patient-facing costs.

7. If you have some expenditure that is not covered in this version of the standardised ledger, continue to use your current methods for those costs and record them in your costing manual, eg additional subjective codes on a ward.

8. The general ledger must be transformed into the cost ledger **within the costing system** to ensure that any changes can be traced and reconciled to the provider’s general ledger.

9. Setting up the cost ledger in your costing system is a one-off exercise. Once all the rules have been determined and included in your costing system you only need to get the general ledger output for the period from the finance team, load it into your costing system and run the cost calculation process.

10. Review all mapping regularly, at least annually. You should also review the mapping if the structure of the general ledger changes.

**Approach**

**Setting up the cost ledger in your costing system**

**Step 1: Map your general ledger to the standardised ledger**

11. Map the lines of your general ledger to the standardised ledger\(^3\) in *Spreadsheet CP2.1* in the technical guidance. This step may involve aggregation and disaggregation of costs from the general ledger to the cost ledger.

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\(^3\) The chart of accounts in *Spreadsheet CP2.1* is based on the NHS Shared Business Services chart of accounts and the NHS Digital occupational code manual.
12. You only need to use those categories in the standardised ledger that apply to your organisation.

13. You will not be able to analyse each line of the general ledger in depth the first time you do this exercise, but over time – with good communication between you and your finance colleagues – this can be refined, starting with where the largest values are involved.

14. The required movements of costs between the general ledger and the standardised ledger then need to be incorporated into your costing system.

**Step 2: Moving support costs to patient-facing cost centres**

15. Within your costing system support costs need to be moved into patient-facing cost centres in the costing system based on actual usage if known, or using statistic allocation tables as specified in Spreadsheet CP2.2 in the technical guidance.

16. If your support costs are already devolved to the patient-facing cost centres and can be mapped straight across from the general ledger to the cost ledger, there is no need to repeat this step providing the prescribed costing allocation method has been used.

17. Some support costs, such as clinical coding or interpreting, do not need to be apportioned to patient-facing cost areas, as these have specific activity-driven allocation methods as specified in Spreadsheet CP3.3 in the technical guidance or are a holding resource, e.g., research and development.

18. The allocation methods prescribed in this version of the standards in most cases do not include a weighting for acuity or intensity. If you are using a weighting for acuity or intensity with the prescribed allocation method, continue to do this and record it in your costing manual.

19. This step includes the reallocation of support costs between each other. You should do this using a **reciprocal** allocation method, which allows all corporate support service costs to be allocated to, and received from, other corporate support services.
20. Reciprocal costing must take place within the costing system.

21. Support costs should not be allocated using a hierarchical method as this only allows cost to be allocated in one direction between corporate support services.

22. A reciprocal allocation method accurately reflects the interactions between supporting departments and therefore provides more accurate full-cost results than a hierarchical approach. An example of the reciprocal allocation method is given at the end of this standard.

23. You may not be able to do this immediately but we require you to adopt the standard cost allocation methods before the implementation of the costing standards becomes mandatory as we intend.

Step 3: Apportioning support costs to patient-facing costs

24. Within the costing system, apportion support costs within the cost centre using an appropriate weighting selected from those in Table CP2.1.

Table CP2.1: Weightings for apportioning support costs

<table>
<thead>
<tr>
<th>Weighting</th>
<th>Example types of support costs to allocate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actual expenditure of the patient-facing costs</td>
<td>IT, finance, chief executive, procurement</td>
</tr>
<tr>
<td>Head count of the patient-facing costs</td>
<td>Human resource-related costs</td>
</tr>
<tr>
<td>An activity-based allocation, eg using length of stay or time in theatre, depending on the area</td>
<td>Space-based support costs, eg estates, cleaning, depreciation, rent and rates</td>
</tr>
</tbody>
</table>

25. Under an expenditure-based allocation method, some areas of the ledger may get a larger proportion of the allocated support costs because of specific high cost items, such as drugs or prostheses. If this is the case, the support cost allocation method should be investigated and a more appropriate one used.
26. For support costs with activity-driven allocations that are not moved to patient-facing cost centres in step 2, this step is not needed, as you will have a fully absorbed support cost.

**Step 4: Disaggregating the fully absorbed patient-facing costs in the correct proportion in readiness for allocation to the activities that consumed them**

27. Disaggregate the fully absorbed patient-facing costs in the cost ledger based on the activity they do, using Spreadsheets CP2.3 and CP3.3 in the technical guidance.

28. As a single fully absorbed patient-facing cost may need to be apportioned to a number of activities, you need to determine what percentage of the cost to apportion to the activities, from discussions with relevant clinicians and managers, supported by documented evidence where available (eg medical job plans). As an example, a division for medical staffing costs is shown in Figure CP2.1.

Figure CP2.1: Identifying the correct quantum of cost to apportion to activities

<table>
<thead>
<tr>
<th>Fully absorbed costs</th>
<th>Quantum of cost to be apportioned to activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consultant £100,000</td>
<td>Ward care £30,000</td>
</tr>
<tr>
<td></td>
<td>Theatre - surgical care £30,000</td>
</tr>
<tr>
<td></td>
<td>Cancer multidisciplinary meeting £20,000</td>
</tr>
<tr>
<td></td>
<td>Outpatient care £20,000</td>
</tr>
</tbody>
</table>

Discussion with service

- Ward rounds 30%
- Theatre 30%
- Cancer MDTs 20%
- Outpatients 20%
29. **Do not apportion costs equally to all activities without clear evidence that they are used in this way and do not apportion costs indiscriminately to activities.**

30. Use a relative weight value unit (RVU) unless there is a local reason for applying a fixed cost.

31. The flowchart in Figure CP2.2 shows the process of transforming your general ledger into your cost ledger:

**Figure CP2.2: Transforming the general ledger into the cost ledger**

**Outside the costing software**

- General ledger (GL) → Work with financial management to understand your GL (CP1) → Map your GL to the standardised ledger using the guidance provided → Identify which support costs need to be devolved to patient-facing cost ledger (CL) cost centres → Identify the appropriate allocation method to devolve support costs to patient-facing CL cost centres → Identify where costs need to be disaggregated based on the activity they do.

**Inside the costing software**

- Build these rules into your costing system so all the movements take place within the system → Obtain the GL output from the finance team → Load into the system to generate your standardised CL.

**Other considerations**

**Negative costs**

32. Negative costs arise for various reasons, such as a journal moving more cost than is actually in the subjective code. You should include all costs, including negative costs, in the costing process to enable a full reconciliation to the organisation's accounts.

4. See **Standard CP3: Appropriate cost allocation methods** for more information on RVUs.
33. You, with the wider finance team, need to consider the materiality of the negative costs of each cost centre and subjective code combination. If the negative value is sufficiently material, you may want to treat it as a reconciling item, depending on the materiality and timing of the negative costs. The main questions to ask before deciding are:

- What negative costs are there?
- Are they distorting the real costs of providing a service?
- Are they material?
- Do they relate to commercial activities?

34. You need to investigate with the wider finance team why negative cost balances have arisen. Several issues can cause negative values in the general ledger to be carried into the cost ledger. We describe these below, with suggested solutions.

- **Miscoding**: Actual expenditure and accruals costs are not matched to the same cost centre and subjective code combination. Ideally, the responsible finance team rectifies such anomalies to give the costing team a clean general ledger output; if not, you should make these adjustments in the cost ledger.

- **Value of journal exceeds value in the cost centre**: If the value transferred from the cost centre exceeds the value in the cost centre, this will create a negative cost. Again ideally, the responsible finance team rectifies such anomalies, but if not, you should make these adjustments in the cost ledger.

- **Timing of accrual release**: An inaccurate accrual release can result in a negative cost value. When this happens, you must consider whether the negative cost is material and whether its timing creates an issue. You may need to report some negative costs caused by timing issues as a reconciliation item.

35. Where the accrual is posted in the last month of the financial year and released in the first month of the current year, this can result in an overstatement in the previous year and understatement in the current year. To resolve this, you may need to report the net over-accrual as a reconciliation item to avoid understating the current-year costs. The same is true with an equivalent misstatement for income.
36. Negative costs can be an issue because of **traceable costs**.\(^5\) If a particular cost per patient or unit is known and allocated to an activity rather than used as a weighting, and the total of the actual cost multiplied by the number of activities is greater than the cost sitting in the costing accounting code, it will create a negative cost.

37. Traceable costs should be used as a weighting. The only exception is where the traceable cost is of a material value and using the actual cost as a weighting will distort the final patient unit cost.

38. Negative costs may also be found in the cost ledger if, during the required ledger movements, more cost is moved than is actually in the subjective code. To avoid this, you should use weightings or percentages to move costs rather than actual values.

39. Costs need to be reported in your dashboard in a way that allows the clinical support services to see their own costs, as well as those for the specialties. Specialties need to see all costs incurred in treating their patients, while clinical support services need to see all costs incurred in delivering their service at a specialty level. This information at specialty level is crucial as it allows clinical support services to identify which specialties are their biggest consumers. Changes to demand within the specialties will affect the activity of the clinical support services and will impact on their costs.

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5. For more information on traceable costs see **Standard CP3: Appropriate cost allocation methods**.
Example: Reciprocal support cost allocation

There are five cost centres:

- two patient-facing cost centres: ward (W) and pathology (P)
- three support cost centres: finance (F), human resources (HR) and estates (E).

In the cost ledger the expenditure balances are:

Table CP2.2: Overhead cost centre balances

<table>
<thead>
<tr>
<th>Cost centre</th>
<th>Expenditure (£)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finance (F)</td>
<td>13,000</td>
</tr>
<tr>
<td>HR (H)</td>
<td>18,000</td>
</tr>
<tr>
<td>Estates (E)</td>
<td>22,000</td>
</tr>
<tr>
<td>Ward (W)</td>
<td>31,000</td>
</tr>
<tr>
<td>Pathology (P)</td>
<td>16,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100,000</strong></td>
</tr>
</tbody>
</table>

For each support cost centre there are apportionment statistics based on the appropriate cost allocation method, which are summarised in percentage terms:

Table CP2.3: Apportionment statistics

<table>
<thead>
<tr>
<th>Cost centre</th>
<th>Finance</th>
<th>HR</th>
<th>Estates</th>
<th>Ward</th>
<th>Pathology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finance (F)</td>
<td>10%</td>
<td>25%</td>
<td>40%</td>
<td>15%</td>
<td>10%</td>
</tr>
<tr>
<td>HR (H)</td>
<td>30%</td>
<td>10%</td>
<td>20%</td>
<td>10%</td>
<td>30%</td>
</tr>
<tr>
<td>Estates (E)</td>
<td>15%</td>
<td>10%</td>
<td>10%</td>
<td>30%</td>
<td>35%</td>
</tr>
</tbody>
</table>
For the finance department, 25% of costs are apportioned to HR, 40% to estates, 15% to ward and 10% to pathology. Finance in turn is apportioned costs from estates and HR.

Costs for each support cost centre can be apportioned to and received from the other support cost centres. This is referred to as ‘reciprocal apportionment’.

Two possible methods for resolving such a reciprocal apportionment are:
- repeated distribution
- algebraic.

**Whichever method is chosen, reciprocal allocation must be calculated within the costing system.**

**Repeated distribution**

This method applies the apportionment statistics to each expenditure balance and involves making a number of passes or iterations to apportion costs backwards and forwards.

After the first pass the expenditure values apportioned to each cost centre are:

Table CP2.4: First pass

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th>Finance</th>
<th>HR</th>
<th>Estates</th>
<th>Ward</th>
<th>Pathology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finance (F)</td>
<td>13,000</td>
<td>1,300</td>
<td>3,250</td>
<td>5,200</td>
<td>1,950</td>
<td>1,300</td>
</tr>
<tr>
<td>HR (H)</td>
<td>18,000</td>
<td>5,400</td>
<td>1,800</td>
<td>3,600</td>
<td>1,800</td>
<td>5,400</td>
</tr>
<tr>
<td>Estates (E)</td>
<td>22,000</td>
<td>3,300</td>
<td>2,200</td>
<td>2,200</td>
<td>6,600</td>
<td>7,700</td>
</tr>
<tr>
<td>Ward (W)</td>
<td>31,000</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Pathology (P)</td>
<td>16,000</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100,000</strong></td>
<td><strong>10,000</strong></td>
<td><strong>7,250</strong></td>
<td><strong>11,000</strong></td>
<td><strong>10,350</strong></td>
<td><strong>14,400</strong></td>
</tr>
</tbody>
</table>

6. We do not recommend one method over the other as the outcome for both will be the same.
After the second pass the values are:

Table CP2.5: Second pass

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th>Finance</th>
<th>HR</th>
<th>Estates</th>
<th>Ward</th>
<th>Pathology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finance (F)</td>
<td>10,000</td>
<td>1,000</td>
<td>2,500</td>
<td>4,000</td>
<td>1,500</td>
<td>1,000</td>
</tr>
<tr>
<td>HR (H)</td>
<td>7,250</td>
<td>2,175</td>
<td>725</td>
<td>1,450</td>
<td>725</td>
<td>2,175</td>
</tr>
<tr>
<td>Estates (E)</td>
<td>11,000</td>
<td>1,650</td>
<td>1,100</td>
<td>1,100</td>
<td>3,300</td>
<td>3,850</td>
</tr>
<tr>
<td>Ward (W)</td>
<td>41,350</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Pathology (P)</td>
<td>30,400</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100,000</strong></td>
<td>4,825</td>
<td>4,325</td>
<td>6,550</td>
<td>5,525</td>
<td>7,025</td>
</tr>
</tbody>
</table>

As the expenditure on the patient-facing cost centres is not apportioned to any other cost centres, the balance for these cost centres keeps growing until the total for the direct cost centres is equal to the £100,000 total starting balance. The process of reapportionment is continued until, after the 10th pass, most of the expenditure appears against the patient-facing cost centres.

Table CP2.6: Tenth pass

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th>Finance</th>
<th>HR</th>
<th>Estates</th>
<th>Ward</th>
<th>Pathology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finance (F)</td>
<td>72</td>
<td>7</td>
<td>18</td>
<td>29</td>
<td>11</td>
<td>7</td>
</tr>
<tr>
<td>HR (H)</td>
<td>61</td>
<td>18</td>
<td>6</td>
<td>12</td>
<td>6</td>
<td>18</td>
</tr>
<tr>
<td>Estates (E)</td>
<td>92</td>
<td>14</td>
<td>9</td>
<td>9</td>
<td>28</td>
<td>32</td>
</tr>
<tr>
<td>Ward (W)</td>
<td>53,604</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Pathology (P)</td>
<td>46,171</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100,000</strong></td>
<td>39</td>
<td>33</td>
<td>50</td>
<td>45</td>
<td>58</td>
</tr>
</tbody>
</table>
After multiple passes the balances left for support cost centres are sufficiently small to be allocated on a pro rata basis to the direct cost centres without a material difference to the result.

**Algebraic**

The algebraic approach expresses the reciprocal apportionments as a set of simultaneous equations. Each equation shows that the value of the cost centre is based on the original ledger amount plus the apportionments from each of the support cost centres.

Table CP2.7: Simultaneous equations

<table>
<thead>
<tr>
<th>Cost centre</th>
<th>Total</th>
<th>Finance</th>
<th>HR</th>
<th>Estates</th>
</tr>
</thead>
<tbody>
<tr>
<td>F</td>
<td>13,000</td>
<td>+0.1F</td>
<td>+0.3H</td>
<td>+0.15E</td>
</tr>
<tr>
<td>H</td>
<td>18,000</td>
<td>+0.25F</td>
<td>+0.1H</td>
<td>+0.1E</td>
</tr>
<tr>
<td>E</td>
<td>22,000</td>
<td>+0.4F</td>
<td>+0.2H</td>
<td>+0.1E</td>
</tr>
<tr>
<td>W</td>
<td>31,000</td>
<td>+0.15F</td>
<td>+0.1H</td>
<td>+0.3E</td>
</tr>
<tr>
<td>P</td>
<td>16,000</td>
<td>+0.1F</td>
<td>+0.3H</td>
<td>+0.35E</td>
</tr>
</tbody>
</table>

Only one value for each of the cost centres – finance, HR, estates, ward and pathology – allows all of the above equations to be simultaneously true.

The simultaneous equations may be solved using a converging algorithm or a mathematical approach. The mathematical approach will produce an exact solution to the problem of reciprocal apportionment:
The mathematical approach also serves to answer questions about where the costs have come from – for example, the costs of pathology are based on the patient-facing ledger expenditure plus the values apportioned from the support cost centres:

\[ P = 16,000 + 0.1F + 0.3H + 0.35E \]

Since the values of F, H and E are now known, costs for pathology are broken down as follows:

### Table CP2.9: Pathology cost breakdown

<table>
<thead>
<tr>
<th>Classification</th>
<th>Cost centres</th>
<th>£</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient facing</td>
<td>Pathology</td>
<td>16,000.00</td>
</tr>
<tr>
<td>Support costs</td>
<td>Finance</td>
<td>3,385.96</td>
</tr>
<tr>
<td>Support costs</td>
<td>Human resources</td>
<td>10,394.74</td>
</tr>
<tr>
<td>Support costs</td>
<td>Estates</td>
<td>16,517.54</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>46,298.24</strong></td>
</tr>
</tbody>
</table>

This total value is the same as the solution for the value of the pathology cost centre that allows all the equations to be simultaneously true.
CP3: 

Appropriate cost allocation methods

**Purpose:** To ensure that the correct quantum of costs is allocated to the correct activity using the most appropriate cost allocation method.

**Objective**

1. To ensure all providers allocate costs to activities using a single appropriate method, ensuring consistency and comparability in collecting and reporting cost information, and minimising subjectivity.

2. To ensure costs are allocated to activities in a way that reflects how care is delivered to the patient.

3. To ensure relative weight value units (RVUs) reflect how costs are incurred.

**Scope**

4. All costs reported in the cost ledger and all activities undertaken by the organisation.

5. This standard covers RVUs and how to identify and use traceable costs in the organisation.

**Overview**

6. The standardised costing process using resources and activities aims to capture cost information by reflecting the causality of costs. This is based on the principle that every cost in the general ledger has ‘a cause’ – that is, something happened for that cost to be incurred.
7. The costing process is designed to answer these main questions:
   • Why are the costs being incurred?
   • Who is incurring them?
   • By doing what?
   • And ultimately for whom?

8. Resources are a collection of costs used to deliver an activity. The costs within a resource may have different information sources and cost drivers. Once these costs have been calculated they can be aggregated to whatever level the resources have been set at, and you can be confident the resource unit cost is accurate because it is underpinned by this costing process.

9. Activities are the ‘things’ the provider does, such as a procedure in theatre or a pathology test.

10. Together resources and activities form a two-dimensional view of what costs have been incurred to deliver what activity.

11. Two resource lists are provided in Spreadsheet CP2.1 and two activity lists in Spreadsheet CP3.2 in the technical guidance:
   • **Local grouping of resources and activities.** These lists are for guidance only. They can be used to understand the flow of costs from the standardised cost ledger to the collection resources. They can also be used for reporting at a local level.
   • **Collection resources and activities.** Use these to complete your annual NHS Improvement cost collection return.

**Approach**

12. For the costing process, depending on your costing system, the level you drive the costs at may be the costing account code (the cost centre plus the expense code), a local resource or a two-dimensional resource including the cost area, eg ward nursing.

13. Continue to use your current approach in the costing system for costing purposes, checking you are using the prescribed information sources, the cost ledger and the prescribed costing methods in the technical guidance.
14. You need to identify all the activities your organisation performs from the list of local activities in Spreadsheet CP3.2 in the technical guidance.

15. The cost ledger will already have the local and collection resource and activity combinations mapped to the cost ledger. When you have mapped your general ledger to the cost ledger you will know which resources your organisation is using to deliver which activities.

16. You need to use these identified resource and activity combinations in the costing system.

17. You can ignore the resource and activity combinations in the technical guidance for activities your organisation does not provide.

18. You must allocate your costs to the activities using the methods prescribed in Spreadsheet CP3.3 in the technical guidance.

19. Costs need to be allocated to activities in the correct proportion. There are two ways to do this:
   • based on actual time or costs\(^7\) from the relevant feed
   • using weightings based on RVUs created in partnership with the relevant departments.

20. Where the same cost driver is used for several calculations in the costing system and providing the costs can be disaggregated after calculation, you can aggregate the calculations in your costing system to reduce calculation time. For example, if numerous costs on a ward use the driver length of stay, you can add them together for the cost calculation.

21. If you have a more sophisticated cost allocation method:
   • keep using it
   • document it in your costing manual
   • tell us about it.

22. We will not accept some cost allocation methods as superior to the prescribed methods. These include using income or national averages to weight costs or allocating costs equally to activities.

---

\(^7\) The costs should be used as a weighting rather than a fixed cost.
23. The patient-level feeds will inform the costing methods, providing key cost drivers, such as length of stay. The patient-level feeds will also provide information for weightings to be used in the costing process, such as drug costs in the pharmacy feed.

24. If you do not have the information available as prescribed in the information requirement standards for a particular activity:
   - cost as best as you can using the available information
   - document the methods you have used in your costing manual
   - follow the flowchart in Figure IR2.1 in Standard IR2: Management of information for costing to obtain the information you need, taking into account materiality.

25. Investigate any costs not driven to an activity, or any activities that have not received a cost, and correct this.

**Traceable costs**

26. Where actual costs\(^8\) of items are known, use these in the costing process as a weighting\(^9\) to allocate them to the activities (see Table CP3.1).

27. Items for which a traceable cost may be available include:
   - drugs, including high cost drugs
   - patient appliances
   - pacemakers and other cardiac devices
   - hearing aids – bone-anchored, digital
   - theatre consumables
   - prostheses
   - blood products.

---

8. These actual unit costs are known as traceable costs.

9. If an actual cost is applied, it is likely that costs will be over or under-recovered in the costing system, so actual traceable costs should be used as a weighting to allocate the costs.
Table CP3.1: Using traceable costs as a weighting

<table>
<thead>
<tr>
<th>No of prostheses</th>
<th>Expected cost</th>
<th>Expected spend</th>
<th>Actual spend</th>
<th>Weighted spend (expected spend/ total expected spend) x actual spend</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prosthesis A</td>
<td>5</td>
<td>1,000</td>
<td>5,000</td>
<td>4,091</td>
</tr>
<tr>
<td>Prosthesis B</td>
<td>12</td>
<td>500</td>
<td>6,000</td>
<td>4,909</td>
</tr>
<tr>
<td></td>
<td></td>
<td>11,000</td>
<td>9,000</td>
<td>9,000</td>
</tr>
</tbody>
</table>

28. If the value of the item is material to the cost of the patient and you want to use the actual cost, you must ensure the value matches the ledger cost. If there is under or over-recovery you must use the cost as a weighting, as outlined above.

29. Some departments may have local databases, e.g., a cardiac department, which record material cost components, such as valves, against the individual patients who received them. These values can be used in the costing process as a weighting to allocate the costs.

Relative weight value units

30. Relative weight units are values or statistics used to allocate costs in proportion to the total cost incurred. They are an agreed weighting of an item to allocate costs to a patient event.

31. **Income values and national cost averages should not be used as relative weight values.**

32. RVUs are used to allocate costs when other drivers are not available or appropriate. They need to be developed and agreed with the relevant service managers and clinicians to ascertain all aspects of the costs involved and ensure these are as accurate as possible.
33. Different costs will require different approaches to derive appropriate RVUs to support their allocation to patients. For example, a scan requires RVUs for:
   • consultant time per scan
   • radiographer time per scan by band.

34. You should allocate all costs to patients based on actual usage or consumption. Only in exceptional circumstances where you cannot do this should you use an RVU to allocate costs to a patient.

35. The approach should not be high level, i.e., it should not be the average time to carry out a test or investigation. Instead, the measure should be tailored to the particular activity. To do this you need to break down the activity into its component costs and measure the drivers of these individual costs.

36. RVUs should be reviewed regularly, at least annually or when a significant change occurs in the relevant department.

37. When developing RVUs you should consider the materiality principle to inform where to concentrate your efforts to see the biggest improvements to your costing.

**RVUs for patient-level feeds: Pathology and radiology**

38. The radiology and pathology feeds include the count of the number of tests undertaken, but for costing purposes an RVU table needs to be developed to understand the resources used by each type of test. Spreadsheets CP3.4 and CP3.5 in the technical guidance specify the RVUs you need to develop with the departments to support the radiology and pathology feeds.

39. The RVUs for pathology and radiology require information on staff banding, the time it takes to complete a test, and costs of associated supplies and equipment.
40. Some supplies and equipment costs require additional specific information for them to be calculated:
   • equipment maintenance per test is calculated as the total equipment maintenance cost for each machine divided by the number and type of tests it performs
   • equipment depreciation per test is calculated in the same way as equipment maintenance, with the costs taken from the fixed asset register
   • costs for a ‘sent away’ pathology test are ascertained from invoices on the general ledger, with additional carriage costs, eg for dry ice, also taken into account; management accounts and the supplies department will need to use identifiable ledger codes for these tests.

41. If you have already undertaken a costing exercise in which you have calculated the RVUs to be used in costing radiology or pathology, you do not need to repeat this exercise.

42. Once the RVU is calculated, it should be used in the costing system to allocate the costs in the cost ledger based on the type of tests on the patient-level feed (Figure CP3.1).

Figure CP3.1: Allocating the costs in the cost ledger for pathology using RVUs

Cost ledger
Pathology £10,000

Statistic allocation table
RVUs applied to allocate cost ledger value to the tests on the patient-level feed

Patient-level feed
Test A × 20
Test B × 10

Costed pathology tests to be matched to the correct episode, attendance or contact

43. If your organisation contracts out radiology or pathology this approach will not be required, provided the supplier can provide the unit cost per test rather than a block amount.
RVUs for patient-level feeds: Admitted patient care ward rounds

44. The ward stay feed contains information on patient length of stay on each ward, but not how much time a consultant or other medical staff spend on ward rounds or the number of ward rounds they undertake.

45. An RVU\(^{10}\) is required for costing if a consultant:\(^{11}\)
   - does more than one ward round a day
   - spends more time with one cohort of patients than others during ward rounds due to their specific specialty type, age or complexities and co-morbidities.

46. There is no need to calculate an RVU for consultant ward rounds that do not meet either of the above criteria.

47. As a starting point, we recommend you identify consultants who care for patients with different treatment function codes. Then ascertain if their ward rounds are longer for particular cohorts of patients, taking into account the materiality of the cost.

48. Consultants may want to refine the calculation of RVUs further, eg by primary diagnosis or procedure. Work with clinicians to derive RVUs that ensure the costing is accepted by them.

RVUs for support costs

49. To allocate support costs in the correct proportion, RVUs or statistic allocation tables may need to be identified by obtaining the relevant information from the departments.

50. An example of a statistic allocation table for staff whole time equivalent (WTE) is given in Table CP3.2; this could be further weighted to derive an RVU. The same approach for allocating support costs could apply to, for example, staff headcount, floor area and number of computers.

---

10. Spreadsheet CP3.6 in the technical guidance gives a template of the required RVU information.
11. Or group of consultants if costing is at specialty not individual level.
Table CP3.2: Whole-time equivalent statistic allocation table

<table>
<thead>
<tr>
<th>Department</th>
<th>WTE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Critical care unit</td>
<td>15</td>
</tr>
<tr>
<td>General ward</td>
<td>8</td>
</tr>
<tr>
<td>Main theatre</td>
<td>20</td>
</tr>
<tr>
<td>Clinic reception</td>
<td>2</td>
</tr>
<tr>
<td>Emergency department</td>
<td>30</td>
</tr>
<tr>
<td>Finance office</td>
<td>25</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>
Example: Using a pathology RVU

A simplified derivation of an RVU for pathology tests and how it is used is given below. In reality other factors would need to be built into the weighting, as shown in Spreadsheet CP3.4 in the technical guidance.

Table CP3.3: Information on resources required for selected tests

<table>
<thead>
<tr>
<th></th>
<th>Albumin: creatine ratio</th>
<th>Alcohol (ethanol)</th>
<th>Aldosterone</th>
<th>Alkaline phosphate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time (min) (x)</td>
<td>6</td>
<td>15</td>
<td>18</td>
<td>6.5</td>
</tr>
<tr>
<td>No of staff required (y)</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Weighted time (x*y)</td>
<td>12</td>
<td>15</td>
<td>18</td>
<td>13</td>
</tr>
<tr>
<td>RVU</td>
<td>1.2:1.5:1.8:1.3</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table CP3.4: Pathology tests with a derived RVU

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>RVU</th>
<th>No of tests</th>
<th>Resource name</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACR</td>
<td>Albumin:creatin ratio</td>
<td>1.2</td>
<td>250,000</td>
<td>Biochemistry</td>
</tr>
<tr>
<td>ALC</td>
<td>Alcohol (ethanol)</td>
<td>1.5</td>
<td>125,000</td>
<td>Biochemistry</td>
</tr>
<tr>
<td>ALD</td>
<td>Aldosterone</td>
<td>1.8</td>
<td>300,000</td>
<td>Biochemistry</td>
</tr>
<tr>
<td>ALP</td>
<td>Alkaline phosphate</td>
<td>1.3</td>
<td>160,000</td>
<td>Biochemistry</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>835,000</td>
<td></td>
</tr>
</tbody>
</table>

The total resource value of £1,200,000 is allocated to the tests in proportion to their individual RVU as follows:
Step 1: Derive the weighted activity for each test

Table CP3.5: Weighted activity calculation

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>RVU</th>
<th>No of tests</th>
<th>Weighted activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACR</td>
<td>Albumin:creatinine ratio</td>
<td>1.2</td>
<td>250,000</td>
<td>300,000</td>
</tr>
<tr>
<td>ALC</td>
<td>Alcohol (ethanol)</td>
<td>1.5</td>
<td>125,000</td>
<td>187,500</td>
</tr>
<tr>
<td>ALD</td>
<td>Aldosterone</td>
<td>1.8</td>
<td>300,000</td>
<td>540,000</td>
</tr>
<tr>
<td>ALP</td>
<td>Alkaline phosphate</td>
<td>1.3</td>
<td>160,000</td>
<td>208,000</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td></td>
<td>835,000</td>
<td>1,235,500</td>
</tr>
</tbody>
</table>

Step 2: Calculate the weighted resource unit cost (WRUC)

WRUC = total weighted activity/total resource value

£1,200,000/1,235,000 = £0.97

Step 3: Calculate the unit cost of each type of test

Multiplying the WRUC by each RVU gives the estimated unit cost for each test.

Table CP3.6: Unit cost calculation

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>RVU</th>
<th>WRUC</th>
<th>Unit cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACR</td>
<td>Albumin:creatinine ratio</td>
<td>1.2</td>
<td>0.97</td>
<td>1.17</td>
</tr>
<tr>
<td>ALC</td>
<td>Alcohol (ethanol)</td>
<td>1.5</td>
<td>0.97</td>
<td>1.46</td>
</tr>
<tr>
<td>ALD</td>
<td>Aldosterone</td>
<td>1.8</td>
<td>0.97</td>
<td>1.75</td>
</tr>
<tr>
<td>ALP</td>
<td>Alkaline phosphate</td>
<td>1.3</td>
<td>0.97</td>
<td>1.26</td>
</tr>
</tbody>
</table>
Step 4: Checking the result

The result can be checked by multiplying the number of tests by the unit costs. The total should equal the total resource value.

Table CP3.7: Checking the result

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Unit cost</th>
<th>Activity</th>
<th>Total cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACR</td>
<td>Albumin:creatin ratio</td>
<td>1.17</td>
<td>250,000</td>
<td>£291,380</td>
</tr>
<tr>
<td>ALC</td>
<td>Alcohol (ethanol)</td>
<td>1.46</td>
<td>125,000</td>
<td>£182,113</td>
</tr>
<tr>
<td>ALD</td>
<td>Aldosterone</td>
<td>1.75</td>
<td>300,000</td>
<td>£524,484</td>
</tr>
<tr>
<td>ALP</td>
<td>Alkaline phosphate</td>
<td>1.26</td>
<td>160,000</td>
<td>£202,023</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td><strong>835,000</strong></td>
<td><strong>£1,200,000</strong></td>
</tr>
</tbody>
</table>

The method outlined in this example can also be used if traceable costs are used as RVUs.
CP4: Matching costed activities to patients

**Purpose:** To achieve consistency across organisations in assigning costed activities to the correct patient episode, attendance or contact.

**Objective**

1. To ensure all organisations use the prescribed matching rules for consistency.
2. To assign costed activities to the correct patient episode, attendance or contact.
3. To highlight and report source data quality issues that hinder accurate matching.

**Scope**

4. This standard should be applied to all costed activities for the organisation’s own-patient care.

**Overview**

5. Matching ensures the relevant auxiliary data feeds can be attached to the correct patient encounter.
6. Matching is integral to accurate patient-level costing. For an accurate final patient unit cost, the costed activities need to be matched to the patient episode, attendance or contact in which they occurred.
7. Matching rules need to be hierarchical and strict enough to maximise matching accuracy, but not so strict that any matching is impossible. Matching rules that are too lax risk ‘false-positive’ matches occurring – that is, activity is matched to the wrong patient episode, attendance or contact.

8. The matching hierarchy in the prescribed matching rules dictates which master patient administration system (PAS) datasets the non-integrated auxiliary feed is matched against, and in what order.

9. If a data feed contains the patient’s point of delivery (POD) or location and the data field is considered robust, use this to determine which core PAS patient dataset to match against. For example, if a patient is classed as an outpatient in the data feed, this patient’s activity is first matched against the master outpatient dataset. If the data field is considered robust, records should only be matched to the outpatient dataset to avoid the risk of ‘false-positive’ matches.

10. As data feeds have different matching patterns associated with their activities, each has a distinct set of matching rules. Matching rules may differ in their hierarchies, date parameters or additional data fields used in the matching criteria.

11. The rules are designed to match iteratively by using the strictest matching rules first and then relaxing these if a match is not achieved. These rules are designed to achieve a balance between the number of false positives being matched and the number of records remaining unmatched.

**Approach**

12. **The episode/attendance/contact ID always generates the best match.**

13. If your auxiliary data feeds are obtained from the PAS and you can include the episode or attendance ID in the feeds, you should use this to match to the master feeds.

14. If your auxiliary feeds do not include the episode or attendance ID, you should use the prescribed matching rules in Spreadsheet CP4.1 in the technical guidance.

15. If your matching rules are more sophisticated than the prescribed matching rules and improve the accuracy of your matching, continue to use them and record them in your costing manual.
16. Activities from the non-integrated systems need to be matched to these groups of patients:
   - patients discharged during the costing period
   - patients not discharged and still in a bed at midnight on the last day of the costing period
   - non-admitted patient care
   - A&E attendances.

17. Some activities from non-integrated systems should **not** be matched:
   - those for patients not in the provider’s care, including direct access activity and activity conducted on behalf of other providers; however, there may be instances where such activities should be matched, eg diagnostic radiology for direct access physiotherapy
   - items such as replacement orthotics, healthcare at home or blood products for which there is no corresponding episode, attendance or contact (although the organisation provides these, they are sent directly to the patient’s home); these items should be recorded as reconciliation items.

18. Direct access activity must be correctly identified to avoid it being incorrectly matched to other episodes or attendances for that patient. For example, if all direct access patients are given a hospital identifier this risks this non-provider activity being incorrectly matched to an episode, attendance or contact with the same hospital identifier.

19. Also, an incorrect match could be made if a patient has previously been a patient at the organisation and their hospital identifier is applied to the direct access activity. You must have a clear and consistent method of identifying direct access activity to ensure it is not included in the matching-to-provider activity unless appropriate.

20. Develop a list of ‘never scenarios’ to be included in the matching rules for your organisation to ensure that costs for some activities are not assigned to episodes incorrectly. For example, drugs that are never used by certain specialties should never be assigned to episodes within those specialties, even if other matching criteria are fulfilled. Engagement with clinicians and other staff will help you identify these ‘never scenarios’.
21. Your costing system should produce a report of the matching criteria used in the system and you should review this at regular intervals. Review is necessary because costed activities may be being matched on the least stringent criteria, and work is needed to improve data quality so that activity can be matched more accurately. You should review this annually.

Other considerations

22. Some costed activities will inevitably not match because either the activity took place too long before the episode/attendance, or the quality of the information in the activity feed is so poor that an appropriate match cannot be found.

23. Organisations have traditionally treated the cost of this unmatched activity in different ways. Most commonly, it was absorbed by matched activity, which could have a material impact on the cost of matched activity, particularly when reviewing the cost at an individual patient level for benchmarking and tariff calculation.

24. For local reporting purposes we recommend you do not assign unmatched activity to other patient episodes, attendances or contacts.

25. To achieve consistent and comparable costing outputs, unmatched activity should be treated consistently across organisations. We suggest applying these rules for any unmatched activity:
   - If the specialty that ordered the item can be identified but the item cannot be matched to a patient episode, attendance or contact, the cost sits in the specialty under unmatched items. It should not be matched to the other patients within that specialty.
   - If the specialty that ordered the item cannot be identified, the cost sits in the providing department under unmatched items. For example, if a pathology test cannot be matched to a patient episode, attendance or contact and the requesting specialty (eg cardiology) cannot be identified, the unmatched activity is reported under the pathology service line as this is the department that provided the service.
26. If reported unmatched activity forms a material proportion of an organisation’s expenditure, this is likely to be due to poor source data. As this issue will deflate the patient unit cost, it needs to be identified and steps taken to improve the quality of the source data, rather than artificially inflating the patient unit cost by allocating unmatched activity.\(^\text{12}\)

**PLICS cost collection requirements**

27. Unmatched cost should not be reported separately. All unmatched costs should be allocated to patient episodes, attendances and contacts using matched activity. Unmatched activity should be excluded from allocation methods so costs are allocated to matched activity only, with the exception of the activities from the non-integrated systems outlined above. You need to be able to flag unmatched activity and cost in your costing system to complete the costing assessment tool.

12. See *Standard CM2: Incomplete patient events* for guidance on matching auxiliary feeds to incomplete patient events and how to treat diagnostics that occur in a different costing year.
Example: Matching pathology tests

This example shows sample data from the feeds you may require to match pathology tests. The associated notes describe how the patient matching rules are applied to link the tests to the relevant episodes, contacts and attendances.

Table CP4.1: Outpatient attendances

<table>
<thead>
<tr>
<th>Patient ID</th>
<th>Patient type code</th>
<th>Attendance ID</th>
<th>Appointment start date and time</th>
<th>Appointment end date and time</th>
<th>TFC</th>
<th>Point of delivery</th>
<th>HRG</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>03</td>
<td>OP 45667</td>
<td>29/05/2016 10:00</td>
<td>29/05/2016 10:20</td>
<td>107</td>
<td>FAMPFF</td>
<td>WF02B</td>
</tr>
<tr>
<td>1</td>
<td>03</td>
<td>OP 45668</td>
<td>29/05/2016 15:10</td>
<td>29/05/2016 15:30</td>
<td>107</td>
<td>FUSPNFF</td>
<td>WF01A</td>
</tr>
</tbody>
</table>

Table CP4.2: Inpatient episodes

| Patient ID | Spell ID | Episode ID | Episode no | Episode start date and time | Episode end date and time | Ward code | Point of delivery | TFC | |
|------------|----------|------------|------------|------------------------------|---------------------------|-----------|------------------|-----||
| 1          | 12345    | IP 45687   | 1          | 30/05/2016 07:40             | 02/06/2016 10:44          | WRD12     | NEL              | 101 | |
| 1          | 12345    | IP 45688   | 2          | 02/06/2016 10:44             |                            | WRD12     | NEL              | 430 | |

Table CP4.3: Pathology tests

<table>
<thead>
<tr>
<th>Pat ID</th>
<th>Pat type code</th>
<th>Date and time</th>
<th>Date and time of request</th>
<th>Investigation code</th>
<th>Requesting location code</th>
<th>TFC</th>
<th>Note</th>
<th>Matched episode/OP/DA ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>01</td>
<td>05/06/2016 12:55</td>
<td>30/05/2016 10:45</td>
<td>ACR</td>
<td>Ward 12</td>
<td>101</td>
<td>1</td>
<td>IP 45687</td>
</tr>
<tr>
<td>1</td>
<td>01</td>
<td>07/06/2016 10:05</td>
<td>03/06/2016 13:30</td>
<td>ALD</td>
<td>Ward 12</td>
<td>430</td>
<td>2</td>
<td>IP 45688</td>
</tr>
<tr>
<td>1</td>
<td>03</td>
<td>01/06/2016 10:12</td>
<td>30/05/2016 09:00</td>
<td>ALP</td>
<td>Op clinic</td>
<td>101</td>
<td>3</td>
<td>OP 45667</td>
</tr>
<tr>
<td>1</td>
<td>04</td>
<td>02/06/2016 15:30</td>
<td>28/05/2016 13:43</td>
<td>ACR</td>
<td>GP</td>
<td>101</td>
<td>4</td>
<td>Direct access</td>
</tr>
<tr>
<td>1</td>
<td>01</td>
<td>01/05/2016 12:46</td>
<td>30/04/2016 10:05</td>
<td>ALP</td>
<td>Ward 10</td>
<td>430</td>
<td>5</td>
<td>No match</td>
</tr>
</tbody>
</table>
**Notes**

1. The test is matched based on these conditions:
   - it matches the patient ID of the episode
   - the request date falls between the start and end date and time of the episode
   - the treatment function code (TFC) of the test matches the TFC of the episode.

2. The test is matched based on these conditions:
   - it matches the patient ID of the episode
   - the request date falls between the start date and time of the episode and costing period end date
   - the TFC of the test matches the TFC of the episode.

3. The test is matched based on these conditions:
   - it matches the patient ID of the episode
   - the request date and time falls between the start date and time of the appointment and the end date and time plus 720 hours
   - the TFC of the test matches the TFC of the outpatient attendance
   - the activity type of the attendance is not ‘non face-to-face’.

4. The test is matched based on this condition:
   - the requesting healthcare professional code is GP or self-referral; therefore, the test is classed and coded as direct access (DA).

5. The test is not matched for these reasons:
   - while the patient ID of the test matches the patient ID of outpatient attendances and episodes, it does not meet any of the date and time range criteria
   - the request location is not GP so it is not to be classed as a DA test
   - In accordance with the rules the test will be reported as Spec 430 and ‘unmatched’.
General assumptions

- The example only includes the fields relevant to patient matching.
- Matching rules are based on a hierarchy of rules starting with the strictest and progressing in stages to the least restrictive.

The matching rules applicable to the example above are:

**Admitted patient care:** patient ID is matching; Requesting Specialty is matching; ‘Date & Time of Request’ on feed falls in range of: Episode start date & time and Episode end date & time.

**Non-admitted patient care:** patient ID is matching; Requesting Specialty is matching; ‘Date & Time of Request’ on feed falls in range of: Appointment end date & time and (Appointment end date & time + 720 hours); Activity type is NOT ‘Non Face to Face’

**Action if unmatched:** allocate to ‘unmatched’; and take TFC from pathology feed.
CP5: Reconciliation

Purpose: Process for reconciling costs and income to the organisation’s accounts and to reconcile the activity counts reported by the organisation.

Objective

1. To ensure the cost and income outputs from the costing system reconcile to the organisation’s accounts.

2. To ensure the activity outputs from the costing system reconcile to what the organisation is reporting elsewhere.

Scope

3. This standard covers all costs, income and activity included in the costing process.

Overview

4. All outputs of the costing process must reconcile to the information reported to the board, and in the final audited accounts. This ensures a clear link between these outputs and the costs and activity information captured in the source data.

Approach

Reconciliation of costs and income

5. The costs and income outputs must reconcile to the main sources of this information, with the general ledger output and the organisation’s reported financial position.¹³

¹³ See Standard CP2: Clearly identifiable costs for guidance on where adjustments may be made between the general ledger output and the cost ledger, to be included in your reconciliation.
6. To demonstrate that the outputs of the costing process reconcile to the main sources of information, the information to enable the reports detailed in Spreadsheet CP5.1 in the technical guidance for the cost reconciliation process must be available from the costing system.

7. To support reconciliation, once the costing model is fully processed the costs associated with patients and other cost objects should be classified into the five cost groups listed in Table CP5.1.

Table CP5.1: Cost groups

<table>
<thead>
<tr>
<th>Cost group</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Own-patient care</td>
<td>Costs relating to the organisation’s own-patient activity</td>
</tr>
<tr>
<td>Education and training (E&amp;T)</td>
<td>Costs relating to E&amp;T at the organisation</td>
</tr>
<tr>
<td>Research</td>
<td>Future versions of the standards will cover this; until then, set your own allocation method for these costs</td>
</tr>
<tr>
<td>Other activities</td>
<td>Includes the costs related to the organisation’s:</td>
</tr>
<tr>
<td></td>
<td>• commercial activities, such as pathology services for another provider</td>
</tr>
<tr>
<td></td>
<td>• direct access services, where the patient is referred from primary or community care for diagnostics or treatment</td>
</tr>
<tr>
<td>Cost reconciliation items</td>
<td>Includes costs for which there is no corresponding activity, such as in these circumstances:</td>
</tr>
<tr>
<td></td>
<td>• a provider has an agreement to provide resources to an external body with no responsibility for delivering a service to a commissioner, eg a provider-to-provider service-level agreement</td>
</tr>
<tr>
<td></td>
<td>• a staff member such as a youth worker is employed by a provider for activity undertaken by the local council and that the provider is unable to include in the costing system</td>
</tr>
</tbody>
</table>
8. Where your organisation is commissioned to provide an activity but this activity occurs outside your organisation and is recorded by an external body, you should obtain this information and include it with your organisation’s costing data. If you cannot obtain the activity data, report the cost in reconciliation items.

9. Cost reconciliation items have these benefits:
   - patient unit costs reflect the true cost of treatment undistorted by provider-incurred costs that are not patient-related
   - the true cost is more appropriate for benchmarking between providers as non patient-related costs can significantly affect cost reporting by different providers.

Reconciliation of activity

10. The activity outputs must reconcile to what your organisation reports. For example, if your organisation reports XX day cases in any costing period, your activity costing outputs should reconcile to this. To avoid any reconciliation differences due to timing, we emphasise that patient-level feeds used in the costing process and those reported by the organisation are created at the same time. Departments often continue to input data into the feeder system after the official end date.

11. To demonstrate that the outputs of the costing system reconcile to the main sources of activity information, the activity reconciliation reports detailed in Spreadsheet CP5.2 of the technical guidance must be available from the costing system.

12. You should also reconcile the activity outputs to the activity in the source datasets to ensure all the activity you entered into your costing system has been costed and then included in the costing output.

13. If possible, you should avoid generating proxy patient attendance records within the costing system as this can lead to double counting of activity outputs. Your organisation may use proxy patient attendance records for departments such as radiology, where it is not uncommon for an MRI scan or X-ray to be requested in advance of a booked outpatient appointment so that the scans can be discussed
at the outpatient attendance. If the patient attends the radiology department for a scan before the planned outpatient attendance, a proxy appointment may be created for this attendance to link this activity and its associated costs to the outpatient attendance. Take care to avoid double counting if you use this approach.

14. The costing team must be clear about the purposes of proxy activity and treat it appropriately – including it in the activity reconciliation.

15. In your costing process do not include activity which is recorded in your data feeds but whose incurred costs sit in another organisation. Report this activity in reconciliation items.

16. To reconcile the activity used in the system to that actually carried out by the department/service, the activity count must be correct in the information feeds. For example, if each line on the pathology feed is a test, a straight count of activity is adequate. If three separate lines on the feed represent a single test, the reconciliation report needs to aggregate these lines to give an accurate activity count.

PLICS collection requirements

17. For collection, the provider’s PLICS quantum must reconcile to its final audited accounts. See Section 8 of the 2016/17 PLICS cost collection guidance for more information.

18. Reported episodes, attendances and contacts must reconcile to your secondary uses service (SUS) submissions, with variances explained.

19. An additional cost group is required to identify services that are out of scope of the patient-level collection extracts. See Section 2 of the 2016/17 PLICS acute cost collection guidance for a list of these services.
Costing methods

CM1: Medical staffing
CM2: Incomplete patient events
CM3: Outpatients
CM4: Accident and emergency attendances
CM5: Theatres
CM6: Critical care
CM7: Private patients and NHS patients living outside England
CM8: Other activities
CM9: Cancer MDT meetings
CM10: The income ledger
CM1: Medical staffing

**Purpose:** To ensure medical staffing costs are allocated to the activities they deliver.

**Objective**

1. To ensure medical staffing costs are allocated in the correct proportion to the activities they deliver, using an appropriate cost allocation method.

**Scope**

2. All medical staffing costs in the cost ledger.

**Overview**

3. Medical staff account for a large proportion of your organisation’s costs and deliver most patient-facing activities. If clinicians are to use patient-level costing effectively to improve services, they need to be confident their activity is costed appropriately.

4. To cost medical staff activities accurately you need to understand where medical staff work in your organisation, eg in A&E and pathology departments.

5. You also need to understand the patient-facing and other activities (such as research and education and training) medical staff deliver, and in what settings (such as theatres and outpatients).

**Approach**

6. Before mapping costs to the cost ledger, review the prescribed list of activities in Spreadsheet CP3.2 in the technical guidance and identify which activities your medical staff deliver.
7. Map your medical staffing costs from the general ledger to the appropriate line in the cost ledger. The cost ledger is at resource/activity level. You need to map the consultant and other medical staff costs to the correct resource/activity line in the cost ledger. You can do this now you know from your review exercise what activities your medical staff perform.

8. Identify the correct quantum of cost to be allocated to these activities. Do this in two steps:

**Step 1**

9. Map your medical staffing costs to the cost ledger at specialty level. If you can allocate the individual medical staffing costs to their named activity, continue to do this; otherwise you need to allocate an average medical staffing cost by department.

**Step 2**

10. Identify the quantum of medical staffing costs to allocate to each type of activity using a percentage split of medical staffing costs by activity type. You can find this out by talking to medical staff, using job plans or other sensible means, such as theatre planning systems, outpatient clinic set-ups, live job diary recording or electronic clinical notes (see Figure CM1.1).

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1. Do not use consultant job plans to allocate other medical staffing costs such as those for junior doctors or consultant nurses.
11. An example template for gathering this information is included in Spreadsheet CM1.1 in the technical guidance.

12. For some medical staff, the percentage split may be divided further for specific groups of patients.

13. Do not apportion the same percentage split to all activity types unless evidence suggests that is appropriate. You must document in your costing manual the rationale for the percentage split used.

14. The apportionment should take place in your costing system to give you the quantum of cost for each activity type.

15. The information and cost drivers to use are in the patient-level feeds. If you do not currently have the information, use the best method you can and document this in your costing manual.

16. In addition to the patient-level feeds there is a statistic allocation table for ward rounds. This allows you to develop relative weight value units (RVUs) for patient groups that require longer ward rounds, or weightings for weekend ward rounds.
17. If any medical staff in your organisation care for patients with different treatment function codes (TFCs), or other specific characteristics, and ward rounds vary in duration because of this, find out from discussions with medical staff what the average duration of a ward round is for the different patient groups.

18. Use this average as a weighting alongside length of stay to allocate ward round costs that better reflect the time medical staff spend with patients.

**Other considerations**

19. It is important to understand which medical staff are involved in multidisciplinary clinics to ensure they are all included in the costing of these clinics.

20. Similarly, the theatres patient-level feed is at procedure level, so from this you can identify the specialties of the medical staff performing procedures as part of an operation. You must include the cost for all medical staff in the total cost for the operation.

21. Where medical staff review patients managed under a different specialty from their own – for example, a cardiac patient with asthma is reviewed by a respiratory consultant – this can be recorded on the supporting contacts feed so that the contact is costed and included in the final patient unit cost. We consider this best practice and encourage recording of this activity on the patient administration system (PAS) so it can be costed. However, this is an aim rather than a requirement for this version of the standards.

22. Where medical staffing activities such as administration or research are not covered by the standards, continue with your current methods for costing these.

23. The aim for medical staffing is to allocate the individual medical staff costs to the patients they cared for, weighted by the actual time they spent with the patients.

24. No weighting for medical acuity is proposed in this version of the standards.
CM2: Incomplete patient events

Purpose: To cost incomplete patient events to ensure in-year costs are allocated to in-year activity.

Objective

1. To ensure consistent costing of:
   • episodes started but not completed in the current reporting period
   • episodes started in a previous reporting period and completed in the current reporting period
   • episodes started in a previous reporting period that remain incomplete at the end of the current reporting period.

2. To address other issues relating to incomplete patient events – for example, where a diagnostic test is carried out in a reporting period different from the one in which the outpatient attendance to which it relates occurs.

Scope

3. This standard should be applied to all activity.

Overview

4. An incomplete patient event is defined as one where the patient has not been discharged at the end of the reporting period, or whose care started in an earlier reporting period, or where a diagnostic test or other activity is carried out before or after the end of the reporting period.

3. These are often known as ‘work in progress’. Our change in terminology acknowledges that as the NHS is a service organisation it is not appropriate to use manufacturing terminology.
5. At the moment, all costs in the current reporting period are allocated to discharged patients only. This means that any event started before this reporting period will be under-costed, and the costs of completed events will be inflated by costs absorbed from events not completed in this reporting period.

**Approach**

6. To accurately cost your organisation’s activities it is important that only resources consumed in delivering the event are allocated to the event. To achieve this, costs need to be allocated to all patient events regardless of whether they are complete or incomplete at the end of the reporting period.

7. While incomplete patient events may not be material for some providers, for those that provide specialist long-term physical or mental healthcare, such as spinal units, they can be significant.

8. We know that ‘work in progress’ is included in the financial accounts. Organisations are required to follow the principles of IAS18 in relation to revenue recognition; income relating to partially completed spells at the financial year-end should be apportioned across the financial years on a pro-rata basis. Costs of treatment are then expensed as they are incurred.

9. This means that the costs of incomplete events are included in the cost ledger, and as such this standard covers the cost of incomplete patient events at the beginning and end of the reporting period. Given the timing of the completion of the final accounts and cost accounts, the two values in the accounts will be different and there is no requirement to reconcile them, though the cost account calculation may help future assessments of income due for annual accounts purposes.

10. You need to cost incomplete events at the episode, not the spell, level to increase the accuracy of costing incomplete events.
Month or quarter-end incomplete events

11. Incomplete events need to be calculated each time you run your costing model to derive patient-level costs. Standard IR2: Management of information for costing states that you should run your costs quarterly at the minimum and that monthly is best practice.⁴

12. To calculate incomplete events for admitted patient care (APC) for an in-year cost period, use the APC and ward stay (WS) feeds.⁵

13. These feeds contain information relating to patients still in a bed at midnight on the day on which the reporting period ends. Although the WS feed will not contain all the information required for costing, there is enough to cost ward stays and ward rounds.

14. Those patients not discharged on the APC feed will also be included in the matching process. This means costed activities such as theatres and diagnostics for those patients can be matched to incomplete episodes.

15. This means for local reporting purposes an end user of the patient-level costs should see:

<table>
<thead>
<tr>
<th>Specialty X</th>
<th>Cost (£)</th>
<th>Income (£)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients discharged</td>
<td>100</td>
<td>90</td>
</tr>
<tr>
<td>Patients not discharged</td>
<td>60</td>
<td></td>
</tr>
</tbody>
</table>

Total costs spent in month on delivering patient care 160

Year-end incomplete events

16. Figure CM2.1 shows which part of an episode should be costed in the collection year.

⁴ If your organisation has its own monthly cost information, you do not need to run the national process more often than annually.

⁵ See Standard IR1: Collecting information for costing purposes for more information on these feeds.
17. Four types of event are shown in Figure CM2.1:
   - all episodes begun in a previous year (over start period); for these episodes you need to calculate in your costing system what proportion of the episode in days fell in-year, to correctly allocate the right proportion of costs, eg ward costs
   - all episodes that are incomplete at year-end (over end period)
   - all episodes that started and finished in the period (in period) do not require a specific calculation at year-end
   - all episodes begun in a previous year and incomplete at year-end (ongoing throughout period); to cost these long-stay patients, count the number of in-year days to ensure the in-year costs are only allocated to in-year activity.

18. Where diagnostics and other activities take place in a different year from the inpatient episode,\(^6\) outpatient attendance or contact to which they relate, this costed activity shows up in the costing system as unmatched. However, this is not a true unmatched activity, rather it cannot be matched because matching is not done across years. If all activities take place in the same year as the episode, the matching rules outlined in Standard CP4: Matching costed activities to patients would be likely to make a positive match.

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\(^6\) This only applies where diagnostic tests are done before the episode starts or after it ends.
19. Review all activity that is unmatched at year-end to identify why it is unmatched. See Standard CP4: Matching costed activities to patients for more information on this.

20. Where you identify that costed activity is unmatched because the episode, attendance or contact to which it relates is in a different costing year, we recommend you flag this as ‘unmatched – incomplete patient event’. This should then be reported under incomplete patient events rather than under unmatched. The time spent doing this should be proportional to the value of the unmatched activity for your organisation, in line with the costing principles.

21. Where an expensive prosthesis is used in a cross-year episode, you need to find out the timestamp for when the prosthesis was used and allocate this cost to the correct part of the episode. For example, if the episode spans 26 March to 6 April, and the prosthesis was inserted on 26 March, the prosthesis cost should be assigned to the part of the episode that falls in year 1.

22. Incomplete patient events should be flagged in the costing system.

23. The benefits of this method of allocating in-year costs to in-year activity are:
   - full reconciliation to the audited accounts
   - cost of completed events is not inflated by the costs of the incomplete events
   - when the multi-year events are completed their full costs can be derived.

24. We recognise that costing systems are not set up to hold multi-year data in one model. Where events span more than one reporting period, you must link the costs of a patient event across years using the episode or spell identifier in each costing model for the years they appear. This can be done outside the costing system, perhaps in the provider’s costing reporting dashboard as these dashboards often contain multi-year cost information. This enables the full cost of the patient event to be derived and used in the provider’s local reporting dashboard.

25. While we currently only collect in-year costs and activity, in future this data will be linked to help us to understand the true cost of these patients, particularly those whose care spans a number of periods and is likely to be complex or addressing specialist needs.
CM3: Outpatients

**Purpose:** To ensure all types of outpatient activity are costed consistently.

**Objective**

1. To ensure outpatient activity is costed based on the staff present and on the duration of the patient contact.

**Scope**

2. This standard applies to all outpatient activity.

**Overview**

3. Outpatient activity should be costed based on which staff are in the clinics and how long the attendance is (in minutes). If your organisation does not record the minutes of attendance for outpatients, continue with your current method for costing outpatient activity and record it in your costing manual.

4. You must ensure the outpatient department costs are allocated to all activity that takes place in the department, using the appropriate cost allocation method.

5. Outpatient procedures may take place in the outpatient clinic or in a specialist treatment room. You need to ensure the correct department costs are allocated to the procedure.

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7. The term ‘outpatients’ in this standard refers to the point of delivery.
8. This does not include staff present for education and training.
6. Many procedures are carried out in outpatients, so the materiality principle applies when developing cost allocation methods for outpatient procedures. We recommend you identify the top five outpatient procedures for your organisation and develop methods for these in the first instance. You can expand this list later.

7. Non face-to-face contacts are increasing and it is important you include them in costing.

**Approach**

8. Obtain the patient-level feeds for all outpatient activity.

9. You need to understand the activities delivered in outpatients. Most outpatient departments have a coding pro forma completed by the clinical staff. This details the main procedures performed in outpatients. You should obtain a copy of this pro forma and use it to guide discussions with clinical and service leads.

10. Map information on the patient-level feeds to the activities on the prescribed activity list in Spreadsheet CP3.2 in the technical guidance.

**Outpatient attendances and procedures**

**Medical and non-medical staff**

11. In the costing system a cost per clinic needs to be calculated using information obtained about which staff attend which clinics in your organisation.

12. Calculate the correct quantum of medical staffing cost to be allocated to outpatients based on Standard CM1: Medical staffing.

13. The staff's individual costs can be identified from a payroll data source and used in the costing system to calculate the total staff cost per clinic.

14. If you do not have the payroll information from which to calculate the costs of the actual staff present, set up a statistic allocation table that includes all appropriate staff and use a weighting to calculate an average cost per clinic minute for staffing.

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9. Including multidisciplinary clinics.

10. This version of the standards does not specify a payroll feed as a minimum requirement.
15. The total staff cost for the clinic is then allocated to all patients seen within that clinic based on the duration of their attendance.

16. We recognise that using actual cost is difficult currently for most providers, but it is the aim for the future.

17. Some outpatient procedures may require input from a healthcare professional who is not among the normal clinic staff. Their cost needs to be included for the relevant patient based on the duration of the attendance.

18. Also consider how you allocate clinician time to ward attenders. For example, if they are seen during ward rounds, costs should be identified and allocated from ward round costs, not outpatient care costs.  

Consumables

19. Consumables can be divided into two categories for costing:
   - low-value kits which are to hand in the outpatient clinic for simple investigations and treatments that might be done as part of a standard attendance
   - more expensive equipment which may be required for more complex procedures.

20. Allocate cost of low-value kits across all outpatient procedures based on duration of the attendance.

21. Identify which outpatient healthcare resource groups (HRGs) use more expensive equipment and set up a statistic allocation table so that traceable costs can be used as a weighting to allocate the costs of this equipment to the correct outpatient procedure.

Telephone calls

22. A telephone contact should only be costed if it has been made in line with the definition in the NHS data dictionary for non face-to-face activity.

12. If you know that outpatient attendances use low-value kits, these should also be included.
23. Only non face-to-face contacts that directly support diagnosis and care planning, and replace a face-to-face contact should be included in the collection. While telephone calls to tell patients about test results, to have an informal follow-up or to provide reassurance should **not** be included, we recognise these types of call may take significant time and are valuable; the cost of this activity is absorbed by the healthcare professional’s recorded activity.

24. For costing, telephone calls that are classified as clinical in nature are classified as clinical in nature are costed in the same way as an outpatient attendance.

**Costing telephone calls**

25. Include eligible telephone calls in the non-admitted patient care feed. If services record their telephone calls on a separate database to the PAS, you need a patient-level feed that includes all important identifiable information.

26. You need to find out if the time recorded for a telephone call is the actual call duration or if it includes preparation and write-up time. **Only the duration of the phone call should be costed** for consistency with costing outpatient attendances, with the additional cost being absorbed. Preparation is likely to form part of administration time, not clinic time.

**Outpatient DNAs**

27. ‘Did not attend’ (DNA) is the designation providers use to record that a patient did not attend their scheduled appointment in an outpatient clinic.

28. This section is for **guidance only**. You are not required to cost DNAs for this version of the standards or the cost collection, but this is our recommended approach if required for local purposes.

29. We recognise that costs associated with DNAs may seem immaterial to some providers, particularly those that over-book outpatient clinics to allow for some patients not attending. However, costing these separately can establish the true cost of DNAs to the organisation and the sector. Ignoring these costs means the true cost of all other patients attending appointments will be overstated, as they will absorb the full costs of the clinic.
30. The important DNA cost is the cost of any action required if a patient does not attend or, in the case of a child, is not brought to clinic. For example, at the end of the clinic a consultant may review the notes and decide whether to send the patient another appointment or refer them back to their GP. You need to find out if your organisation has a DNA policy; if it does, this tells you what action is taken when a patient does not attend. The cost of this action should be included in the cost of a DNA.

31. A patient not attending or not being brought to clinic may indicate a safeguarding issue, so the provider will follow a course of action as part of its safeguarding policy. This action incurs a cost that needs to be calculated.

**Costing DNAs**

32. Obtain the DNA patient-level feed.

33. Review the provider’s DNA policy to identify the DNA pathway. A high level example of a DNA pathway may be:
   - patient does not attend
   - consultant reviews the notes and decides to send another appointment – five minutes
   - medical secretary produces and sends an appointment letter – five minutes
   - associated support costs are allocated.

34. Set up a statistic allocation table for costing DNAs based on the information collected above. The weighting will apply to all DNAs irrespective of the reason given for the DNA.

35. As the DNA feed does not include a named healthcare professional, you should use an average consultant cost and extend this principle to any other costs.

36. Document in your costing manual your review of the provider’s DNA policy and the decisions you make on the costing approach.

**PLICS collection requirements**

37. DNAs should not be costed for the national cost collection. The costs need to form part of your outpatient attendances.
Example: DNAs and telephone contacts

Example resources required for DNAs and telephone contacts and their associated costs are:

Table CM3.1: Resources and associated costs

<table>
<thead>
<tr>
<th>Code</th>
<th>Cost type</th>
<th>Cost (£)</th>
</tr>
</thead>
<tbody>
<tr>
<td>M</td>
<td>Consultant – 340 Respiratory medicine</td>
<td>600</td>
</tr>
<tr>
<td>A</td>
<td>Admin and clerical</td>
<td>400</td>
</tr>
<tr>
<td>SN</td>
<td>Specialist nurse – Asthma and respiratory nursing/liaison</td>
<td>60</td>
</tr>
<tr>
<td>O</td>
<td>Other patient consumables and supplies</td>
<td>100</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>1,160</strong></td>
</tr>
</tbody>
</table>

The time-based weighting of the costs for DNAs and non-admitted patient care activity for specialty 340 is shown in Tables CM3.2 and CM3.3 below.
### Table CM3.2: Non-admitted patient care activity feed linked to resources

<table>
<thead>
<tr>
<th>PatID</th>
<th>Attendance ID</th>
<th>App start date and time</th>
<th>App end date and time</th>
<th>Duration (min)</th>
<th>First att flag</th>
<th>Multi-professional flag</th>
<th>M</th>
<th>A</th>
<th>SN</th>
<th>O</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>OP 45667</td>
<td>29/05/2016 10:00</td>
<td>29/05/2016 10:20</td>
<td>40</td>
<td>FAFF</td>
<td>MP</td>
<td>40</td>
<td>10</td>
<td>40</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>OP 45668</td>
<td>29/05/2016 15:10</td>
<td>29/05/2016 15:30</td>
<td>20</td>
<td>FUNFF</td>
<td>SP</td>
<td>20</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>OP 45669</td>
<td>29/05/2016 09:20</td>
<td>29/05/2016 09:45</td>
<td>40</td>
<td>FANFF</td>
<td>SP</td>
<td>40</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>OP 45670</td>
<td>30/05/2016 09:45</td>
<td>30/05/2016 10:17</td>
<td>35</td>
<td>FAFF</td>
<td>SP</td>
<td>35</td>
<td>10</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>OP 45671</td>
<td>30/05/2016 10:25</td>
<td>30/05/2016 10:37</td>
<td>25</td>
<td>FUFF</td>
<td>SP</td>
<td>25</td>
<td>10</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>6</td>
<td>OP 45672</td>
<td>30/05/2016 11:40</td>
<td>30/05/2016 12:10</td>
<td>30</td>
<td>FUNFF</td>
<td>SP</td>
<td>30</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>OP 45673</td>
<td>30/05/2016 14:00</td>
<td>30/05/2016 14:22</td>
<td>22</td>
<td>FUNFF</td>
<td>SP</td>
<td>22</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>OP 45674</td>
<td>30/05/2016 14:30</td>
<td>30/05/2016 14:48</td>
<td>18</td>
<td>FUNFF</td>
<td>SP</td>
<td>18</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

13. For non-admitted patient activity this data is just a sample of the available fields from the non-admitted patient-level feed.
Table CM3.3: DNA activity feed linked to resources

<table>
<thead>
<tr>
<th>Patient ID</th>
<th>Date and time DNA</th>
<th>Clinic code</th>
<th>Contracted out flag</th>
<th>Provider code</th>
<th>M</th>
<th>A</th>
<th>SN</th>
<th>O</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>28/05/2016 10:10</td>
<td>OPC003</td>
<td>FALSE</td>
<td>RXX</td>
<td>5</td>
<td>25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>29/05/2016 11:00</td>
<td>OPC003</td>
<td>FALSE</td>
<td>RXX</td>
<td>5</td>
<td>25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>30/05/2016 14:10</td>
<td>OPC003</td>
<td>FALSE</td>
<td>RXX</td>
<td>5</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>30/05/2016 15:30</td>
<td>OPC003</td>
<td>FALSE</td>
<td>RXX</td>
<td>5</td>
<td>5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table CM3.4: Total weighting per cost type

<table>
<thead>
<tr>
<th>Pat ID</th>
<th>M</th>
<th>A</th>
<th>SN</th>
<th>O</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weighting</td>
<td>250</td>
<td>90</td>
<td>40</td>
<td>3</td>
</tr>
</tbody>
</table>

**DNA input**
- Consultant reviews the DNA patient’s notes and books them another appointment – five minutes.
- Medical secretary produces and sends a new appointment letter – five minutes.
- Safeguarding policy actions apply to patients who do not attend morning appointments as these tend to be given to children and young people (actions that give rise to admin and clerical costs) – 20 minutes.

**Non-admitted patient care input**
- Specialist nurses are present for multiprofessional attendances.
- For medical staff and specialist nurses the resource weighting is the same as the contact duration.
- Admin and clerical staff input is not material for telephone contacts and is ignored.
- For the purposes of this example, matched activity feeds such as radiology, pathology and pharmacy are ignored.

Using this data, the cost per patient is calculated by **dividing** the patient weighting per cost type by the total weighting for that cost type, and then **multiplying** by the cost (see Table CM3.5).
Table CM3.5: Cost per patient

<table>
<thead>
<tr>
<th>Patient ID</th>
<th>Cost – M</th>
<th>Cost – A</th>
<th>Cost – SN</th>
<th>Cost – O</th>
<th>Total cost (£)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>96.00</td>
<td>44.44</td>
<td>60.00</td>
<td>33.33</td>
<td>233.78</td>
</tr>
<tr>
<td>2 (telephone)</td>
<td>48.00</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>48.00</td>
</tr>
<tr>
<td>3 (telephone)</td>
<td>96.00</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>96.00</td>
</tr>
<tr>
<td>4</td>
<td>84.00</td>
<td>44.44</td>
<td>–</td>
<td>33.33</td>
<td>161.78</td>
</tr>
<tr>
<td>5</td>
<td>60.00</td>
<td>44.44</td>
<td>–</td>
<td>33.33</td>
<td>137.78</td>
</tr>
<tr>
<td>6 (telephone)</td>
<td>72.00</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>72.00</td>
</tr>
<tr>
<td>7 (telephone)</td>
<td>52.80</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>52.80</td>
</tr>
<tr>
<td>8 (telephone)</td>
<td>43.20</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>43.20</td>
</tr>
<tr>
<td>9 (DNA)</td>
<td>12.00</td>
<td>111.11</td>
<td>–</td>
<td>–</td>
<td>123.11</td>
</tr>
<tr>
<td>10 (DNA)</td>
<td>12.00</td>
<td>111.11</td>
<td>–</td>
<td>–</td>
<td>123.11</td>
</tr>
<tr>
<td>11 (DNA)</td>
<td>12.00</td>
<td>22.22</td>
<td>–</td>
<td>–</td>
<td>34.22</td>
</tr>
<tr>
<td>12 (DNA)</td>
<td>12.00</td>
<td>22.22</td>
<td>–</td>
<td>–</td>
<td>34.22</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1,160</td>
</tr>
</tbody>
</table>

The costs for both DNA and telephone activity are then identifiable for reporting:

- **DNA**: £314.67 for four DNAs
- **telephone**: £312 for five activities.
Purpose: To ensure all A&E attendances are costed in a consistent way.

Objective

1. To ensure all A&E attendances are costed according to the treatment procedures the patient receives.

Scope

2. This standard covers A&E attendances reported under the treatment function code (TFC) 180 only. Attendances may be to adult, paediatric and mixed A&E departments.

3. This standard does not cover other A&E activity, such as ophthalmology A&E, that is not reported under TFC 180. This standard also does not cover ambulatory care given in areas associated with emergency care such as the clinical decisions unit.

4. A&E departments may carry out several types of activity that are all reported under TFC 180.

5. Table CM4.1 summarises the A&E activity that this standard applies to.
Table CM4.1: A&E activity covered

<table>
<thead>
<tr>
<th>Activity</th>
<th>Information source</th>
<th>Covered in this standard?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emergency attendances</td>
<td>A&amp;E feed</td>
<td>Yes</td>
</tr>
<tr>
<td>Clinical decisions unit/</td>
<td>Admitted patient care feed or A&amp;E</td>
<td>No – costed as a ward or</td>
</tr>
<tr>
<td>acute admissions unit</td>
<td>feed</td>
<td>as an A&amp;E attendance</td>
</tr>
<tr>
<td></td>
<td></td>
<td>depending on which feed it</td>
</tr>
<tr>
<td></td>
<td></td>
<td>is reported in</td>
</tr>
<tr>
<td>Outpatient attendances</td>
<td>Non-admitted patient care feed</td>
<td>No – costed as an outpatient attendance</td>
</tr>
<tr>
<td>Trauma centre</td>
<td>A&amp;E feed</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Overview

6. We recognise that the time a patient spends in A&E from arrival to departure is not a good proxy for weighting their costs, as someone with a relatively minor injury is likely to spend a disproportionate time in A&E waiting to be seen.

7. **Instead, you should cost A&E attendances by allocating costs weighted by the treatment procedures the patient receives.**

Approach

8. Obtain a patient-level feed for all A&E attendances.

9. You need to understand all the activities your emergency department delivers to ensure the correct costing method is applied.

10. Get this understanding through discussion with service managers and clinical leads staff covering different activities: for example, consultant A works:
    - 50% of their time in A&E, so 50% of their costs should be allocated to activities on the A&E feed

14. A new A&E commissioning dataset, using SNOMED codes, will be introduced from October 2017. You should consider this when prioritising changes.

15. *Spreadsheet IR1.2* in the technical guidance gives the information requirements for A&E attendances.
• 50% of their time on A&E wards, so 50% of their costs should be allocated to activities on the admitted patient care and admitted patient care – not discharged feeds.

11. Set up a statistic allocation table for each procedure type to use as a relative weight value unit (RVU) in the costing process, as shown in Table CM4.2.

Table CM4.2: Statistic allocation table per treatment

<table>
<thead>
<tr>
<th>Treatment procedure code</th>
<th>Label</th>
<th>Nursing qualified ED (min)</th>
<th>Healthcare assistant ED (min)</th>
<th>Med staff (consultant) – 180 A&amp;E (min)</th>
<th>Med staff (training grade) – A&amp;E (min)</th>
<th>Patient consumable (£)</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>Removal foreign body</td>
<td>60</td>
<td>30</td>
<td>10</td>
<td>20</td>
<td>10</td>
</tr>
<tr>
<td>11</td>
<td>Dressing minor wound/burn/eye</td>
<td>60</td>
<td>30</td>
<td>5</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>12</td>
<td>Dressing minor wound/burn/eye</td>
<td>60</td>
<td>30</td>
<td>5</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>51</td>
<td>Removal plaster of Paris</td>
<td>60</td>
<td>30</td>
<td>10</td>
<td>20</td>
<td>0</td>
</tr>
</tbody>
</table>

12. **Treat major trauma patients in the same way as above;** they pick up their own costs depending on the treatment procedures they receive. Be aware that major trauma patients may have a separate funding source, so they need to be flagged in the A&E feed to allow you to correctly allocate the income received.

13. Major trauma patients may have critical care input while in A&E. **Standard CM6: Critical care** provides guidance on how to identify these costs. **These costs should be included in the costs of the A&E attendance.**
Example

An extract from the A&E activity feed is shown in Table CM4.3.

Table CM4.3: A&E activity data feed

<table>
<thead>
<tr>
<th>Patient ID</th>
<th>Age</th>
<th>Arrival date and time</th>
<th>Departure date and time</th>
<th>Time (h)</th>
<th>Treatment 1</th>
<th>Treatment 2</th>
<th>Treatment 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>12</td>
<td>05/06/2016 17:40</td>
<td>05/06/2016 21:00</td>
<td>3.33</td>
<td>04</td>
<td>03</td>
<td>05</td>
</tr>
<tr>
<td>2</td>
<td>48</td>
<td>17/06/2016 01:40</td>
<td>17/06/2016 06:00</td>
<td>4.33</td>
<td>08</td>
<td>20</td>
<td>11</td>
</tr>
<tr>
<td>3</td>
<td>86</td>
<td>27/06/2016 18:35</td>
<td>27/06/2016 22:32</td>
<td>3.95</td>
<td>19</td>
<td>16</td>
<td>21</td>
</tr>
</tbody>
</table>

Example resources required for A&E and their associated costs are shown in Table CM4.4.

Table CM4.4: Example A&E costs

<table>
<thead>
<tr>
<th>Cost type</th>
<th>Costs (£)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Admin and clerical (A&amp;C)</td>
<td>50</td>
</tr>
<tr>
<td>Advanced nurse practitioner – A&amp;E (ANP)</td>
<td>60</td>
</tr>
<tr>
<td>Drugs (Stock A&amp;E)</td>
<td>50</td>
</tr>
<tr>
<td>Consultant</td>
<td>100</td>
</tr>
<tr>
<td>Non-consultant grade medic</td>
<td>60</td>
</tr>
<tr>
<td>Nurse</td>
<td>30</td>
</tr>
<tr>
<td>Orthopaedic technician</td>
<td>40</td>
</tr>
<tr>
<td>Other clinical supplies</td>
<td>40</td>
</tr>
<tr>
<td>Other non-pay</td>
<td>40</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>470</strong></td>
</tr>
</tbody>
</table>

16. The sample activity includes only the fields relevant to this illustrative costing example.
A bottom-up costing exercise carried out in A&E derived the average times and weightings for each of the treatment types shown in Table CM4.5. Note that the time in department does not drive any of the costs; instead cost allocation is based on the treatments provided.

Table CM4.5: Example treatment-based weightings

<table>
<thead>
<tr>
<th>Treatment code</th>
<th>Weighting currency</th>
<th>A&amp;C Attendance</th>
<th>ANP Min</th>
<th>Drugs (Stock A&amp;E) Cost</th>
<th>Cons Min</th>
<th>Non-cons-med staff Min</th>
<th>Nurse Min</th>
<th>Tech Min</th>
<th>Other clinical supplies Cost</th>
<th>Other non-pay Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>03 Sutures</td>
<td></td>
<td>1</td>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>04 Wound closure, other</td>
<td></td>
<td>1</td>
<td>5</td>
<td></td>
<td>5</td>
<td>20</td>
<td>20</td>
<td></td>
<td>5</td>
<td>15</td>
</tr>
<tr>
<td>05 Plaster of Paris</td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>30</td>
<td>20</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>08 Removal foreign body</td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 I&amp;D (incision and drainage)</td>
<td></td>
<td>1</td>
<td>8</td>
<td></td>
<td></td>
<td>35</td>
<td>35</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15 Intubation</td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16 Chest drain</td>
<td></td>
<td>1</td>
<td>20</td>
<td></td>
<td></td>
<td>7</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>17 Urinary catheter</td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19 Resuscitation</td>
<td></td>
<td>1</td>
<td>8</td>
<td></td>
<td></td>
<td>30</td>
<td>30</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20 Minor surgery</td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td>20</td>
<td>20</td>
<td>15</td>
<td>15</td>
<td>20</td>
</tr>
<tr>
<td>21 Observation</td>
<td></td>
<td>1</td>
<td>25</td>
<td></td>
<td></td>
<td>10</td>
<td>10</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

17. These weightings are not real and are for illustrative purposes only.
These weightings combine to give the patient profile shown in Table CM4.6.

Table CM4.6: Combined weightings

<table>
<thead>
<tr>
<th>Treatment code</th>
<th>A&amp;C</th>
<th>ANP</th>
<th>Drugs (Stock A&amp;E)</th>
<th>Cons</th>
<th>Non-cons med staff</th>
<th>Nurse</th>
<th>Tech</th>
<th>Other clinical supplies</th>
<th>Other non-pay</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>10</td>
<td>5</td>
<td>20</td>
<td>20</td>
<td></td>
<td>30</td>
<td>25</td>
<td>40</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td></td>
<td>13</td>
<td>55</td>
<td>55</td>
<td>15</td>
<td></td>
<td>15</td>
<td>20</td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td>45</td>
<td>15</td>
<td>70</td>
<td>70</td>
<td>30</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>3</td>
<td>55</td>
<td>33</td>
<td>145</td>
<td>145</td>
<td>45</td>
<td>30</td>
<td>40</td>
<td>60</td>
</tr>
</tbody>
</table>

To calculate the A&E cost per patient, the patient weighting per resource is divided by the total weighting for that resource, and then multiplied by the cost of that resource (see Table CM4.7).
Table CM4.7: A&E cost per patient

<table>
<thead>
<tr>
<th>Patient ID</th>
<th>A&amp;C</th>
<th>ANP</th>
<th>Drugs (Stock A&amp;E)</th>
<th>Med staff (Con)</th>
<th>Med staff (Train)</th>
<th>Nurse</th>
<th>Orthopaedic technician</th>
<th>Clinical supplies</th>
<th>Non-pay</th>
<th>Total cost per patient</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>16.67</td>
<td>10.91</td>
<td>7.58</td>
<td>13.79</td>
<td>8.28</td>
<td>0.00</td>
<td>40.00</td>
<td>25.00</td>
<td>26.67</td>
<td>148.89</td>
</tr>
<tr>
<td>2</td>
<td>16.67</td>
<td>0.00</td>
<td>19.70</td>
<td>37.93</td>
<td>22.76</td>
<td>10.00</td>
<td>0.00</td>
<td>15.00</td>
<td>13.33</td>
<td>135.39</td>
</tr>
<tr>
<td>3</td>
<td>16.67</td>
<td>49.09</td>
<td>22.73</td>
<td>48.28</td>
<td>28.97</td>
<td>20.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>185.73</td>
</tr>
<tr>
<td>Total</td>
<td>50</td>
<td>60</td>
<td>50</td>
<td>100</td>
<td>60</td>
<td>30</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>470</td>
</tr>
</tbody>
</table>

You should also weight these resources for any unsocial hours payments, depending on the time of attendance, which is not shown in the above example to aid simplicity.
CM5: Theatres

**Purpose:** To ensure all theatre activity is costed consistently.

**Objective**

1. To ensure sessional costing is used for theatre activity.

**Scope**

2. This standard applies to theatres, excluding specialist procedure suites.

**Overview**

3. Theatre session costs must include all appropriate out-of-hours and waiting-list costs.

4. You should cost theatres at a sessional level by deriving total planned minutes for the individual session.

5. Create a used/unused driver to allocate the costs of the downtime to individual patients.

6. Only allocate costs to patients who have had surgery during the session.

7. Allocate the cost of used minutes directly to the patients in the session.

8. Allocate the costs of unused minutes to patients by using the most appropriate driver for the session, to ensure the correct patients or specialty incur the costs. This may not always involve allocation to all the patients in the session, depending on the information available regarding the downtime.
9. If you use payroll information to calculate the staffing cost per theatre minute, it may only provide part of the picture for non-medical staff costs in theatres; agency costs will not be recorded on payroll but will appear as a line on the general ledger.

**Approach**

10. Obtain the appropriate patient-level information,\(^1\) including the session information.

11. The theatre management system should capture information on the mix of staff working in individual theatre sessions.

12. You need to identify what theatres activity your organisation delivers and map this to the activities on the prescribed activity list in Spreadsheet CP3.2 in the technical guidance.

**Step 1: Non-medical staff in the theatre session**

13. Identify the non-medical staff in the theatre session from the patient-level information and calculate their individual costs in the costing system using their actual costs which may be identified from a payroll data source.\(^2\)

14. If you do not have the necessary payroll information to calculate the costs of the actual non-medical staff, set up a statistic allocation table that includes all appropriate staff to use as a weighting to calculate an average cost per theatre minute for non-medical staffing.

15. Then use the number of staff present in the patient-level feed to allocate this average cost per theatre minute.

16. We recognise that using actual cost currently is difficult for most providers but this is something we are aiming for.

---

**Notes:**

\(^1\) The theatres feed is given in Spreadsheet IR1.2 in the technical guidance.

\(^2\) This version of the standards does not specify a payroll feed as a minimum requirement.
Step 2: Medical staff in the theatre session

17. Calculate the correct quantum of medical staffing cost to be allocated to theatres based on Standard CM1: Medical staffing.

18. Identify the medical staff in the theatre session from the patient-level information, and calculate their individual costs in the costing system using their actual costs from a payroll data source.

19. If you cannot use the actual costs of medical staff, an average medical staff cost by minute at specialty level needs to be calculated in the costing system.

20. Costs should be allocated based on the medical staffing apportionment method in the technical guidance, including different allocations for surgical and anaesthetics medical staff.

21. There may be instances where an anaesthetist is shared by two theatres at the same time. You should consider this in your allocations.

22. ‘Procedure start and end time’ allows you to capture where multiple procedures are carried out by different surgeons during one operation.

23. If this information is not available in the system, you may be able to apply a proportion based on type of procedure. For example, plastic surgeons often come into theatre to complete a procedure, so a weighting that only applies part of the full procedure time could be used.

24. If your organisation does not currently collect procedure start and end time, use ‘operation start and end time’. We recognise that procedure start and end time currently is not captured by most providers, but this is something we are aiming for.

Step 3: Prostheses and other consumables

25. High value consumables or prostheses, with serial numbers recorded on a traceable costs database, should be allocated directly to patients using the patient-level feed described in Spreadsheet IR1.2 in the technical guidance.
26. If your organisation is not currently collecting this information, you should produce relative weight value units (RVUs) by procedure code for use in costing. Develop these through discussion with the theatre team.

27. For all other consumables, including anaesthetics and sterilisation unit costs, follow the costing methods in the technical guidance.

### Step 4: Recovery

28. Recovery costs should be allocated based on the patient’s time between entering and leaving recovery in minutes.

### Other considerations

#### Costing out-of-hours and emergency theatre sessions

29. Out-of-hours theatre sessions can be for both scheduled and unplanned work. Both incur costs that are materially higher than in-hours work due to the enhanced salaries paid to staff working out of hours.

30. If the session is for unplanned emergency theatre activity, which often takes place out of hours, costs can be materially higher due to the lower utilisation of emergency theatre sessions. However, do not assume all costs relate to non-elective patients, as patients admitted electively may need to return to theatre out of hours. Wherever possible, use patient identifiers to allocate these additional costs.

31. You need to ensure the costs associated with emergency and out-of-hours theatre activities do not inflate other main theatres costs, in line with the materiality principle. Allocate these costs to the activities for patients who were operated on during emergency theatre or out of hours. If no activity took place during this time, these costs should be allocated as a support cost to all out-of-hours theatres.

32. You can also determine out-of-hours and weekend working costs by using the time in theatre and the day of the week. For enhanced costs, you can derive weighted minutes using RVUs, as covered in Standard CP3: Appropriate cost allocation methods.
33. This version of the standards does not provide guidance on how to treat cancelled sessions. You should continue to use your current method for this.

**High cost equipment**

34. You need to consider capital charges and high cost consumables specifically related to high cost equipment, eg robotics, and ensure these costs are only allocated to patients who were treated using them.
CM6: Critical care

**Purpose:** To ensure all critical care activity is costed in a consistent way.

**Objective**

1. To cost all critical care activity using the described acuity method.

**Scope**

2. This standard applies to adult intensive care, paediatric intensive care and neonatal intensive care.

3. The following are excluded in this version:
   - high dependency wards
   - high dependency beds within general wards
   - post-acute care enablement (PACE) team
   - coronary care units
   - critical care transport.

**Overview**

4. You need to consider these costs for critical care:
   - nursing
   - consultants and junior doctors
   - clinical support costs (eg pathology)
   - medical supplies and equipment
   - ECMO/ECLS.

---

20. If HDU and ITU are managed together, you need to consider relative weightings when allocating costs; see Table CM6.1.
5. You also need to consider:
   • major trauma patients
   • non-critical care patients
   • patients involved in research studies.

6. Additional factors you need to consider when costing critical care are:
   • the first day in critical care may incur more costs
   • a readmission to critical care within a short time may incur increased costs
   • lengthy stays in critical care may incur additional costs such as for therapies.

7. Discuss these factors with the critical care team so that you understand the issues and set costing rules accordingly. Document these rules in your costing manual.

**Approach**

8. Obtain the appropriate patient-level feed.

9. Critical care information needs to be collected at shift level so you can capture changes in acuity and cost appropriately.

10. You need to identify what critical care activity your organisation delivers and map this on the critical care feed to the activities on the prescribed activity list in Spreadsheet CP3.2 in the technical guidance.

**Step 1: Nursing**

11. Allocate critical care stay nursing costs to the critical care activities based on length of stay (LOS) in hours on the critical care feed.

12. This should be weighted based on nursing acuity, because how ill the patient is will determine the patient-to-nurse ratio both in terms of the number of nurses and their experience level.
13. To improve the accuracy of the nursing acuity costs nursing activity should be calculated at shift level. This is because a patient’s acuity needs can fluctuate during their critical care stay, and you need to reflect the varying nursing requirement cost accurately in the patient episode cost. We recognise that not all providers are collecting critical care activity at shift level but this is the aim for the future.

14. Work with the critical care nursing team to understand the average patient-to-nurse ratio for patients of different acuities, and develop a statistic allocation table to allocate nursing costs. Table CM6.1 below shows a hypothetical example.

Table CM6.1: Example of relative weight table for nursing

<table>
<thead>
<tr>
<th>Acuity/care level (locally determined)</th>
<th>Nursing experience (highly experienced) weighting ratio</th>
<th>Nursing experience (less experienced) weighting ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>HDU1</td>
<td>0.5</td>
<td>0.2</td>
</tr>
<tr>
<td>HDU2</td>
<td>0.5</td>
<td>0.2</td>
</tr>
<tr>
<td>IC1</td>
<td>1.0</td>
<td>0.5</td>
</tr>
<tr>
<td>IC2</td>
<td>1.0</td>
<td>0.5</td>
</tr>
<tr>
<td>IC3</td>
<td>1.5</td>
<td>1.0</td>
</tr>
<tr>
<td>IC4</td>
<td>2.0</td>
<td>1.5</td>
</tr>
<tr>
<td>IC5</td>
<td>2.5</td>
<td>2.0</td>
</tr>
<tr>
<td>ECMO/ECLS</td>
<td>3.0</td>
<td>2.5</td>
</tr>
</tbody>
</table>
### Step 2: Medical supplies and equipment

15. Obtain medical supplies and equipment costs for each of the elements of care and use these as an RVU when allocating non-pay costs. We recognise this may be difficult, so you should discuss the best way to allocate non-pay costs with your critical care team.

16. The minimum allocation is based on LOS. If there is a relationship between patient acuity and consumables, include this in the costing allocation method and keep a record of the basis of your decision for audit requirements.

17. Drugs for critical care stays will appear on the pharmacy drugs dispensed feed. These should be matched to the correct critical care stay as per the prescribed matching rules in *Spreadsheet CP4.1* in the technical guidance.

### Step 3: Consultants and junior doctor

18. These costs should be allocated across all patients based on LOS, without an acuity weighting.

### Step 4: Clinical support services

19. Costs such as pathology, therapies and diagnostic imaging will also be incurred in critical care, contained in the pathology, inpatient and radiology feeds respectively. Where these costs relate to the critical care stay, you need to ensure you correctly match them to the critical care stay, not the corresponding core inpatient episode.

20. To ensure accurate matching of clinical support costs, your matching rules and costing system need to allow matching of the clinical support feeds to the critical care feeds.
Other activities in critical care

21. Major trauma patients may have intensive care medical and nursing input while they are in A&E. These patients should be flagged in the A&E feed, and you need to discuss and agree the following with the critical care team:
   - how information is collected for major trauma patients who receive input from the critical care team
   - how this input is measured, i.e., who in the team provides the input
   - a scale to weight the input, i.e., how long does a member of the critical care team stay with the patient? This could be a sliding scale based on patient need.

22. Extracorporeal membrane oxygenation (ECMO) and extracorporeal life support (ECLS) use an artificial lung (membrane) located outside the body (extracorporeal) to infuse blood with oxygen (oxygenation) and continuously pump this blood into and around the body.

23. ECMO is used mainly to support a failing respiratory system, whereas ECLS is used mainly to support a failing heart.

24. Patients who do not require critical care may be placed in a critical care bed (non-critical care patients). Their costs are not as high as those for a critical care patient, and the weightings applied should be discussed and agreed with the critical care team. These patients should be flagged in the critical care feed, as specified in Spreadsheet IR1.2 of the technical guidance.
Example

This example ignores matched activities such as pathology, radiology and pharmacy.

A sample of patient data for critical care is shown in Table CM6.2.

Table CM6.2: Critical care patient data

<table>
<thead>
<tr>
<th>Patient ID</th>
<th>LOS (h)</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>67.83</td>
<td>23.5</td>
<td>81.3</td>
<td></td>
</tr>
<tr>
<td>Avg nurse dependency/acuity</td>
<td>1.74</td>
<td>1.5</td>
<td>2.45</td>
<td></td>
</tr>
<tr>
<td>LOS × acuity*</td>
<td>118.25</td>
<td>35.25</td>
<td>199.19</td>
<td></td>
</tr>
</tbody>
</table>

*Average nurse dependency is assumed to be equivalent to acuity for this example.

Example resources required for critical care and their associated costs are allocated to these patients using the appropriate driver, as shown in Table CM6.3.
### Table CM6.3: Example critical care costs allocated to patients

<table>
<thead>
<tr>
<th>Cost type</th>
<th>Costs £</th>
<th>Cost driver</th>
<th>Pat 1</th>
<th>Pat 2</th>
<th>Pat 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Admin &amp; clerical</td>
<td>900</td>
<td>Per critical care stay</td>
<td>300</td>
<td>300</td>
<td>300</td>
</tr>
<tr>
<td>Critical care scientist</td>
<td>700</td>
<td>LOS</td>
<td>275.04</td>
<td>95.29</td>
<td>329.66</td>
</tr>
<tr>
<td>Drugs (stock adult critical care)</td>
<td>500</td>
<td>LOS × acuity</td>
<td>167.64</td>
<td>49.97</td>
<td>282.39</td>
</tr>
<tr>
<td>Healthcare assistant (HCA)</td>
<td>400</td>
<td>LOS</td>
<td>157.17</td>
<td>54.45</td>
<td>188.38</td>
</tr>
<tr>
<td>Consultant – 190</td>
<td>1,200</td>
<td>LOS</td>
<td>471.51</td>
<td>163.36</td>
<td>565.14</td>
</tr>
<tr>
<td>Consultant – 192</td>
<td>2,100</td>
<td>LOS</td>
<td>825.13</td>
<td>285.87</td>
<td>988.99</td>
</tr>
<tr>
<td>Non cons med staff – 190</td>
<td>1,000</td>
<td>LOS</td>
<td>392.92</td>
<td>136.13</td>
<td>470.95</td>
</tr>
<tr>
<td>Non cons med staff – 192</td>
<td>800</td>
<td>LOS</td>
<td>314.34</td>
<td>108.90</td>
<td>376.76</td>
</tr>
<tr>
<td>Non cons med staff – Anaesthetics</td>
<td>600</td>
<td>LOS</td>
<td>235.75</td>
<td>81.68</td>
<td>282.57</td>
</tr>
<tr>
<td>Nurse</td>
<td>500</td>
<td>LOS × acuity</td>
<td>167.64</td>
<td>49.97</td>
<td>282.39</td>
</tr>
<tr>
<td>Other clinical supplies</td>
<td>300</td>
<td>LOS</td>
<td>117.88</td>
<td>40.84</td>
<td>141.28</td>
</tr>
<tr>
<td>Other non-pay</td>
<td>200</td>
<td>LOS</td>
<td>78.58</td>
<td>27.23</td>
<td>94.19</td>
</tr>
<tr>
<td>Patient appliances</td>
<td>300</td>
<td>LOS × acuity</td>
<td>100.58</td>
<td>29.98</td>
<td>169.43</td>
</tr>
<tr>
<td>Senior nurse</td>
<td>500</td>
<td>LOS × acuity</td>
<td>167.64</td>
<td>49.97</td>
<td>282.39</td>
</tr>
<tr>
<td>Senior physiotherapist</td>
<td>400</td>
<td>LOS</td>
<td>157.17</td>
<td>54.45</td>
<td>188.38</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>10,400</strong></td>
<td></td>
<td><strong>3,928.99</strong></td>
<td><strong>1,528.10</strong></td>
<td><strong>4,942.91</strong></td>
</tr>
</tbody>
</table>

For an individual patient, the nurse costs should be derived shift by shift as the level of acuity changes.
PLICS collection requirements

23. All critical care activity needs to be matched to a core episode in the APC feed for collection.
CM7: Private patients and NHS patients living outside England

**Purpose:** To ensure private patients and NHS patients from outside England are costed in a consistent way.

**Objective**

1. To ensure the costed activities relating to private patients and NHS patients living outside England and their associated income are correctly identified.

**Scope**

2. This standard applies to activities relating to all private patients and NHS patients living outside England.

**Overview**

3. **These patients should be costed in the same way as patients funded by the English NHS,** with the addition of any specific administration or management costs that should be attributed solely to these patients.

4. The relevant episodes, attendances and contacts must be flagged in the costing system.

5. Costed activity for NHS patients living outside England should be reported along with the corresponding income.
6. We recognise that there may be issues with recording private patients. For example, if a patient has both an NHS episode and a private patient episode this may not be assigned correctly in the patient administration system (PAS). The information department should work with the relevant service to address this if it is an issue for your organisation.

**Approach**

7. Identify the activities relating to these patients and flag them in the costing system.

8. Identify patient episodes, attendances and contacts relating to the care of these patients from their commissioner codes.\(^\text{21}\)

**Private patients**

9. Do not include any costs in the costing process for private patients such as the surgeon’s or anaesthetist’s costs where they have invoiced the private patient or funder directly for their time.

10. Pathology, radiology and critical care consultant costs should be included in the costing process unless the private patient or funder has been invoiced separately for these costs.

11. Only allocate private patient management and finance costs to private patient activity.

12. If a private patient receives an additional service to an NHS-funded patient, these costs should be identified and allocated to the private patient, for example:
   - private room costs
   - additional catering costs
   - additional clinical treatments, tests and screening not normally available on the NHS patient pathway.

13. As some elements of a patient’s care may be provided by the NHS and some privately, it is important that the income from private work is allocated to private patient activity only.

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\(^\text{21}\) These are issued and maintained by NHS Digital.
CM8: Other activities

Purpose: To ensure all other activities are costed in a consistent way.

Objective

1. To ensure activities delivered by your organisation on another organisation’s behalf are costed in a consistent way, including direct access.

2. To ensure activities delivered on your organisation’s behalf by another organisation are costed in a consistent way.

Scope

3. This standard applies to all other activities delivered by your organisation on another organisation’s behalf, including direct access.

4. This standard applies to all activities undertaken by another organisation on your organisation’s behalf.

Overview

5. All other activities delivered by your organisation on another organisation’s behalf should be costed in the same way as your organisation’s own-patient activity.

6. All activities undertaken by another organisation on your organisation’s behalf should be costed using the breakdown provided by the other organisation.

7. Work with contract management and other finance colleagues to understand the basis of the service-level agreements as this helps you to identify the nature of these activities.

22. As defined in the costing glossary.
Acute

Approach

Costing activities delivered by your organisation on another organisation’s behalf, including direct access

8. You need to understand the different service users for departments that deliver other activities (see Figure CM8.1).

Figure CM8.1: Services with different service users

9. The patient-level activity feeds you obtain from the relevant departments need to contain each department’s entire activity, not just the activity for your organisation’s own patients.

10. Other activity needs to be flagged in the information feeds.

11. If it is unclear whether an activity is own-patient care or other activity, discuss this with the appropriate service manager to agree a split and document the decision in your costing manual.

12. For non-clinical services, if the department has a system for recording the proportion of costs that should be attributed to other activities, use this information. If the department does not have such a system, develop an alternative method with the service and the financial management team for use in the costing process.

13. Costed other activities are not matched to the provider’s own activity.
14. Costed other activities should be reported along with the corresponding income.

15. You do not need to calculate direct access tests at individual patient level or individual test level. From a system perspective, as long as the correct costs and activities are used there is no need to run multiple calculations. You are not required to record direct access patients on the patient administration system (PAS).

**Costing activities delivered by another organisation on your organisation’s behalf**

16. This activity should be costed where possible in the same way as for other activity, so you need to identify the costs and activity information relating to these activities.

17. The costs relating to this activity are in the form of invoices charged to the general ledger. You need to identify these costs in the cost ledger.

18. You need to obtain the information activity for these activities.

19. All contracted out activity should be flagged in the costing system.

20. Contracted out services may be:
   - the whole spell, to a private provider or neighbouring NHS provider
   - part of an episode, such as pathology or radiology
   - overhead services, such as payroll or shared services.

21. **If the activities provided on your organisation’s behalf by another organisation are recharged at a fixed value per patient or per treatment, use this as a weighting in the costing process.**

22. The fixed value will contain an element of support costs. You do not need to classify the fixed value between patient-facing and support costs as all of these are patient-facing costs to your organisation.

23. Any activities provided on your organisation’s behalf by another organisation need to be apportioned an element of your organisation’s own support costs for administering the contract. You need to identify which support costs to apply and in what proportion.

23. If you do calculate direct access at patient level, you should continue to do so.
Example: Costing an activity delivered by your organisation on another organisation’s behalf

The occupational health department provides services to staff and also operates a commercial arm to provide services to private companies.

The staff working for the external-facing commercial service are supplemented by professionals from other disciplines such as psychology, counselling, physiotherapy and dietetics.

As services are delivered off-site the allocation of support costs needs to be carefully considered to ensure it is relevant and accurate.

As with any service-based commercial activity, costing should be based on accurate time recording.

The whole time equivalents (WTEs) shown in Table CM8.1 are assumed to be aggregated from individual staff time allocations based on discussion with the service.

The support cost resources in this example are a small sample, but nevertheless illustrate the need to distinguish between relevant and non-relevant support costs.

Support costs allocated to the occupational health cost centre are apportioned to the commercial activity based on the most appropriate driver and relevance to the service being provided.
Table CM8.1: Costing commercial activity

<table>
<thead>
<tr>
<th>Cost type</th>
<th>Resource name</th>
<th>Relevant?</th>
<th>WTE</th>
<th>Cost (£)</th>
<th>Basis of split</th>
<th>Commercial activity (WTE)</th>
<th>Commercial activity costs (£)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient facing</td>
<td>Senior nurse</td>
<td>2</td>
<td>55,982</td>
<td>Discuss with the service to decide appropriate staff time allocation</td>
<td>0.56</td>
<td>15,675</td>
<td></td>
</tr>
<tr>
<td>Patient facing</td>
<td>Psychologist</td>
<td>1</td>
<td>38,150</td>
<td></td>
<td>0.22</td>
<td>8,393</td>
<td></td>
</tr>
<tr>
<td>Patient facing</td>
<td>Counsellor</td>
<td>1</td>
<td>13,541</td>
<td></td>
<td>0.34</td>
<td>4,604</td>
<td></td>
</tr>
<tr>
<td>Patient facing</td>
<td>Physiotherapist</td>
<td>2</td>
<td>77,317</td>
<td></td>
<td>0.12</td>
<td>4,639</td>
<td></td>
</tr>
<tr>
<td>Patient facing</td>
<td>Dietician</td>
<td>1</td>
<td>29,815</td>
<td></td>
<td>0.13</td>
<td>3,876</td>
<td></td>
</tr>
<tr>
<td>Support</td>
<td>Admin and clerical</td>
<td>1</td>
<td>23,633</td>
<td></td>
<td>1</td>
<td>23,633</td>
<td></td>
</tr>
<tr>
<td><strong>Sub-total</strong></td>
<td></td>
<td></td>
<td>8</td>
<td>238,438</td>
<td></td>
<td>2</td>
<td>60,820</td>
</tr>
<tr>
<td>Support</td>
<td>Health records</td>
<td>No</td>
<td>4,000</td>
<td>N/A</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Support</td>
<td>Finance</td>
<td>Yes</td>
<td>4,822</td>
<td>Cost</td>
<td></td>
<td>1,230</td>
<td></td>
</tr>
<tr>
<td>Support</td>
<td>HR</td>
<td>Yes</td>
<td>3,295</td>
<td>WTE</td>
<td></td>
<td>824</td>
<td></td>
</tr>
<tr>
<td>Support</td>
<td>Chief exec</td>
<td>Yes</td>
<td>358</td>
<td>WTE</td>
<td></td>
<td>90</td>
<td></td>
</tr>
<tr>
<td>Support</td>
<td>Board costs</td>
<td>Yes</td>
<td>527</td>
<td>WTE</td>
<td></td>
<td>132</td>
<td></td>
</tr>
<tr>
<td>Support</td>
<td>Estates</td>
<td>No</td>
<td>0</td>
<td>N/A</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Support</td>
<td>Others</td>
<td>Partially</td>
<td>79,008</td>
<td>Various</td>
<td></td>
<td>9,876</td>
<td></td>
</tr>
<tr>
<td><strong>Sub-total</strong></td>
<td></td>
<td></td>
<td>92,009</td>
<td></td>
<td></td>
<td></td>
<td>12,151</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td>8</td>
<td>330,447</td>
<td></td>
<td></td>
<td>72,971</td>
</tr>
</tbody>
</table>
PLICS cost collection requirements

24. Other activities relating to the providing organisation are out of scope for the collection and must be included in the cost collection reconciliation.

25. The provider receiving contracted out services must report their cost against the relevant episodes and attendances in the collection and report the costs in the collection reconciliation under own-patient care.
CM9: Cancer MDT meetings

**Purpose:** To ensure cancer multidisciplinary team (MDT) meetings are costed consistently.

**Objective**

1. To cost all cancer MDT meetings hosted by the organisation.

**Scope**

2. This standard should be applied to cancer MDT meetings only.

3. **This standard applies to all cancer MDT meetings hosted by your organisation, whether held locally or nationally,** at which the treatment of patients with cancer is reviewed. Review includes available treatment options and individual responses. Patients do not attend these meetings.

**Overview**

4. You need to know the types of cancer MDT meetings hosted by your organisation, eg breast, retinoblastoma, leukaemia, specialist palliative care.

5. Cancer MDT costs are not allocated to individual patients but are reported at meeting level.

6. Cancer MDT costs need to be reported alongside any corresponding income.
Approach

7. Obtain a feed from your organisation’s cancer MDT information database that contains the number of times each cancer MDT meeting is held during the calendar month or year.

8. Map activities on the cancer MDT feed to the activities on the prescribed activity list in Spreadsheet CP3.2 in the technical guidance.

9. Set up a statistic allocation table to calculate an average cost of a cancer MDT to be used in the costing process.

10. To set up this statistic allocation table you need to identify:
    - meeting members, including whether they are internal or external staff and the department they belong to
    - length of the meeting
    - number of meetings attended by each member over the last year to calculate the average number of attendances for each member for each type of meeting
    - preparation time for an MDT meeting, particularly the time spent by pathologists and radiologists reviewing test results.

11. The potential attendees of a cancer MDT whose input may need to be costed are included in Spreadsheet CM9.1 in the technical guidance.

12. Support costs such as room use, catering, heating, lighting, printing and secretarial costs need to be allocated appropriately.
Example

General assumptions

- For medical staff, each cancer MDT meeting is assumed to last one session from a total of 10 sessions of programmed activities per week.
- For other staff, the cost allocation is based on meeting duration plus 20% preparation/follow-up time.
- Example meeting duration: Oncology – 2.5 hours.

Allocating staff costs

Staff costs are determined for each staff member by identifying the proportion of their time spent attending a particular cancer MDT and applying this to their annual salary, as shown in Table CM9.1. This cost for each staff member can then be multiplied by the average number of the particular MDT meetings per month or year the staff member attends as required.

Allocating support costs

You need to determine the best method for allocating support costs to the cancer MDTs, with reference to Standard CP3: Appropriate cost allocation methods.
### Table CM9.1: Staff costs for a cancer MDT

<table>
<thead>
<tr>
<th>ID</th>
<th>Staff name</th>
<th>Designation</th>
<th>Payroll no</th>
<th>Staff grade</th>
<th>FY ledger cost (£)</th>
<th>Resource mapping</th>
<th>Proportion*</th>
<th>Costs (£)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>A</td>
<td>Medical oncologist</td>
<td>1000001</td>
<td>Consultant</td>
<td>103,899</td>
<td>Med staff (Consultant) – 370 Medical oncology</td>
<td>(1.2 \times \frac{1}{2}/(255 - 32))</td>
<td>280</td>
</tr>
<tr>
<td>2</td>
<td>D</td>
<td>Radiologist</td>
<td>1000004</td>
<td>Consultant</td>
<td>91,007</td>
<td>Med staff (Consultant) – Radiology</td>
<td>(1.2 \times \frac{1}{2}/(255 - 32))</td>
<td>245</td>
</tr>
<tr>
<td>3</td>
<td>E</td>
<td>Pathologist</td>
<td>1000005</td>
<td>Consultant</td>
<td>109,374</td>
<td>Med staff (Consultant) – 822 Chemical pathology</td>
<td>(1.2 \times \frac{1}{2}/(255 - 32))</td>
<td>294</td>
</tr>
<tr>
<td>4</td>
<td>H</td>
<td>MDT co-ordinator</td>
<td>1000008</td>
<td>AfC Band 7</td>
<td>39,061</td>
<td>MDT navigators</td>
<td>(1.2 \times \frac{duration}{(7.5 \times (255 - 29))})</td>
<td>69</td>
</tr>
<tr>
<td>5</td>
<td>I</td>
<td>Dietician</td>
<td>1000009</td>
<td>AfC Band 6</td>
<td>33,664</td>
<td>Dietician</td>
<td>(1.2 \times \frac{duration}{(7.5 \times (255 - 29))})</td>
<td>60</td>
</tr>
<tr>
<td>6</td>
<td>J</td>
<td>Speech therapist</td>
<td>1000010</td>
<td>AfC Band 7</td>
<td>35,676</td>
<td>Senior therapist – Speech &amp; language therapy</td>
<td>(1.2 \times \frac{duration}{(7.5 \times (255 - 29))})</td>
<td>63</td>
</tr>
<tr>
<td>7</td>
<td>K</td>
<td>Occupational therapist</td>
<td>1000011</td>
<td>AfC Band 7</td>
<td>40,198</td>
<td>Occupational therapist</td>
<td>(1.2 \times \frac{duration}{(7.5 \times (255 - 29))})</td>
<td>71</td>
</tr>
<tr>
<td>8</td>
<td>L</td>
<td>Gastroenterologist</td>
<td>1000012</td>
<td>Consultant</td>
<td>109,375</td>
<td>Med staff (Consultant) – 301 Gastroenterology</td>
<td>(1.2 \times \frac{1}{2}/(255 - 32))</td>
<td>294</td>
</tr>
<tr>
<td>9</td>
<td>P</td>
<td>Clinical oncologist</td>
<td>1000016</td>
<td>Consultant</td>
<td>105,927</td>
<td>Med staff (Consultant) – 800 Clinical oncology</td>
<td>(1.2 \times \frac{1}{2}/(255 - 32))</td>
<td>282</td>
</tr>
</tbody>
</table>

\* Proportion of annual salary cost for non-medical staff = meeting duration in hours/annual hours worked. Proportion of annual salary cost for medical staff = 1/annual number of sessions of programmed activities. Working days assumption: 365 days minus weekends (104) and public holidays (6) = 255. Annual leave assumption: medical staff (32 days), junior doctors (30 days), non-medical staff (29 days).
CM10: The income ledger

**Purpose:** To assign income to the correct costed activities in the correct proportion.

**Objective**

1. To ensure outputs from the costing system reconcile to the organisation’s accounts.
2. To ensure income is not netted off against costs.

**Scope**

3. This standard is for guidance only. There are no plans to collect income in the cost collection.
4. This standard applies to all the income your organisation receives.

**Overview**

5. All income your organisation receives needs to be aligned to all the costs incurred for the purposes of service-line reporting and management, so that it can be effectively used internally in decision-making.
6. You need to understand the different types of income recorded in the general ledger and what costs the income relates to, so that the outputs from the costing system can be reconciled to the accounts.
7. The corporate income cost centres and subjective codes in the general ledger are at an aggregated level. Several types of income for different activities may also be recorded on a single line in the general ledger.
8. The general ledger is not the only source of income information available to you. Other sources are more helpful in providing the detail that will improve the allocation method for income at both patient and specialty level.

9. For internal reporting, to calculate income at service-line level and to understand surplus and deficit positions at a patient level, you need to obtain patient-level income information from either the informatics or contracting departments. Private patient income, if held in a database at patient level, should also be loaded into the income ledger.

10. Where more detailed income information is unavailable, you need to identify this income in the general ledger and develop local allocation rules to allocate this income at the patient level.

11. To avoid duplicating income in the costing system, if more detailed income information is loaded into the income ledger from another source – for example, a block income feed from the contracting team – the costing system should exclude the corresponding income value loaded from the general ledger output.

12. You should maintain a clear audit trail of all sources of information loaded into the costing system, ensuring this reconciles with data reported in your organisation’s accounts.

**Approach**

13. To maintain transparency in the costing system, income should not be netted off from the costs. The only exceptions to this rule are:

   • Income received for clinical excellence awards can be netted off the consultant’s salary cost.

   • Where 100% of an individual healthcare professional’s costs are reported in the provider’s general ledger but they spend part of their time with patients at another provider. The income received for this activity at another provider can be netted off the pay costs of the healthcare professional to avoid inflating the cost per minute of the provider’s own-patient activity. It is important to determine whether the recharged value includes support costs recovery, as netting this additional support costs income off staff costs would understate the remaining resource cost.
• Where the materiality principle applies – so for very small value contracts or service-level agreements (SLAs) there is no need to determine the associated costs.

14. Although the activity relating to block contracts does not drive the income value, it is important that you know the currency of the service provision so this can be used to drive the income allocation. Example allocation methods are given in Spreadsheet CM10.1 in the technical guidance. None of these allocation methods is mandatory, but those used must be agreed locally.

15. Although treatment function codes may be useful in allocating block income, they may cover a wider range of patients than the patient cohort covered by the block contract. To avoid this possibility, a look-up table of the patients in the cohort can be used to allocate the income, with appropriate consideration for the materiality and availability of the information, in line with the materiality principle.

16. The income ledger is divided into five income groups as shown in Figure CM10.1.

Figure CM10.1: Income groups
17. **The own-patient care income group** comprises the income relating to the provider’s own-patient activity, including:

- patients funded by the English NHS through national pricing, local pricing or block contracting arrangements (also known as healthcare income)
- overseas patients, from countries with and without reciprocal charging arrangements
- patients from Wales, Scotland, Northern Ireland, the Isle of Man and Gibraltar
- armed forces personnel funded directly by the Ministry of Defence
- private patients, defined as those who choose to be treated privately and are responsible for paying the fees for their care.

18. The income for the different patient groups needs to be identified and allocated to them only. You can do this by using the individual patients’ commissioner codes, which can be found on NHS Digital’s website. This is important as you need to be able to check that private patients are not being cross-subsidised by NHS income.

19. Healthcare income is defined as the income a provider receives for the activity it undertakes for NHS commissioning organisations. It is often recorded in a separate recording system at patient-spell level, meaning the information can be used to allocate the income at patient level.

20. There are different types of healthcare income:

- national tariff income
- locally agreed tariff income
- block contract income
- income for pass-through costs such as high cost drugs.

21. All NHS contracted and non-contracted activity income streams should be allocated to a patient based on the activity undertaken. National tariff, non-national tariff and pass-through income is recorded in the provider’s income-monitoring systems, which record income according to patient, point of delivery and date(s) of treatment. The income includes the market forces factor, specialist top-ups and any locally agreed prices.

24. [https://www.digital.nhs.uk/](https://www.digital.nhs.uk/)

25. **Standard CM7: Private patients and NHS patients living outside England** gives guidance on how to cost patients not funded by the English NHS.
22. Where a contract is paid for with a block income, this income needs to be allocated using a locally agreed, appropriate method. Spreadsheet CM10.1 in the technical guidance gives examples of ways you can allocate block income.

23. Non-NHS and non-English NHS healthcare income comes from overseas patients, military personnel and patients from Wales, Scotland, Northern Ireland, the Isle of Man and Gibraltar. This may be recorded in the income monitoring system or separately – for example, in a line on the relevant consultant’s cost centre. The income needs to be allocated to the relevant non-NHS patients and to NHS patients living outside England for reporting against the associated costs.

24. The education and training (E&T) income group comprises the income the provider receives for E&T activities. You should set your organisation’s own allocation method for this income.

25. The learning and development agreement issued by Health Education England breaks down this income by the specialty it relates to, and you should refer to this to allocate this income.

26. This income may be held in corporate cost centres or department cost centres. You need to identify where the income is held and ensure it is all reported in the E&T income group.

27. The research income group comprises the income the provider receives for research and development (R&D) activities. You should set the allocation method, in conjunction with the R&D department, for this income. This includes:
   • commercial clinical trial income where the funder is the sponsor
   • commercial income where the funder is not the sponsor (ie a commercial grant)
   • investigator-led income which is non-commercial but funded by a commercial company
   • National Institute for Health Research (NIHR) income (biomedical research centres, fellowships, research capability funding, clinical research facilities, research for patient benefit)
   • NIHR income via the Clinical Research Network
   • grants from charities and other organisations.
28. This income may be held in corporate cost centres or department cost centres. You need to understand where the income is held and ensure it is all reported in the research income group and allocated to research activities.

29. The **other activities income group** includes the following income relating to the providers:
   - commercial activities, such as pathology services for another provider
   - direct access services, where the patient is referred from primary or community care for diagnostics or treatment.

30. The **income reconciliation items income group** includes income for which there is no corresponding activity, such as:
   - grants or donations received by the provider
   - income for a staff member such as a youth worker employed by a provider for activity undertaken by the local council, where the provider is unable to obtain the activity information to include in the costing system.

31. Where a provider is commissioned to provide an activity but this activity occurs outside the hospital and is recorded by an external body, you should obtain this information and include it with your organisation’s patient-level information costing system (PLICS) data. This income should not be treated as a reconciling item.

32. Use your organisation’s central database of all its SLAs, which the financial management team should hold, to identify this income and report it in the correct income group.

33. Also work with the financial management team to identify the costs and activities associated with the SLA, which should be updated annually.

34. Make sure both income and costs are reported in the correct income group and allocated to the correct activities, so that any profitable commercial activities do not reduce the total cost amount for your organisation’s own-patient activities.

35. A provider may receive income if it has a contract to carry out all or part of an activity on another provider’s behalf, such as providing pathology services to other healthcare providers.
36. These contracted services are commercial activities. Their associated costs and income should be treated as described in Standard CM8: Other activities.\textsuperscript{26}

37. As the income for the period must match the income reported to the board, a full reconciliation must be kept showing how the ledger income maps to the income loaded into the costing system.

\textsuperscript{26} If your provider is the contracting or requesting organisation, this is referred to as contracted out activity in the standards (see Standard CM8: Other activities for further information).
Costing approaches

CA1: Tonsillectomy, 18 years and under
CA2: Cochlear implant surgery
CA3: Renal dialysis
CA4: Chemotherapy procurement and delivery
Acute

CA1:

Tonsillectomy, 18 years and under

**Purpose:** To ensure tonsillectomies in patients 18 years and under are costed in a consistent way.

**Objective**

1. To improve the quality of cost data for tonsillectomies in patients 18 years and under.

**Scope**

2. This guidance covers the costing of the inpatient episode only.

3. Take care to ensure the costs of pre-assessment and follow-up care are identified and separated appropriately. This care would normally be delivered at outpatient attendances.

4. You should apply Standards CP1 to CP5 to costing tonsillectomies for patients 18 years and under.

**Overview**

5. A tonsillectomy is a surgical procedure to remove the tonsils when these become infected, or to treat breathing problems like heavy snoring and sleep apnoea.

6. The care pathway is likely to be divided into:
   - preoperative assessment
   - the inpatient episode (including the procedure)
   - aftercare and follow-up.
Surgeons can use different techniques for the procedure, for example:

- cold knife (steel) dissection, where the tonsils are removed with a scalpel – this is the traditional method
- diathermy, where a probe is used to destroy the tissue around the tonsils, allowing them to be removed
- coblation – similar to diathermy but at a lower temperature
- laser or ultrasound ablation, although these are less common.

Work with the ear, nose and throat (ENT) or paediatric service, depending on who delivers the care, to map care pathways to inform the costing process.

The inpatient episode of care normally consists of:

- preoperative assessment
- surgery
- postoperative care:
  - overnight stay of one night (if not a day case)
  - the consultant may or may not assess the patient once on the ward; you need to establish this in discussion with clinical and service leads
  - if a day case, the length of recovery on the unit will be around four hours post-surgery.

Discuss with the service the difference between tonsillectomies for adults and for children and young people. The healthcare resource groups (HRGs) specify under and over 19, but many services have their own protocols for age that will generally have an impact on costing, for example:

- Some differentiate between children under and over 12. This makes little difference to the surgery but does impact on anaesthetic input, particularly the pre and postoperative care. Children usually take longer to put to sleep, and wake-up time is likely to be considerably longer for younger children. Anaesthetists may also use different kit for children.
- Different equipment may be used depending on the patient’s age (or size). The same equipment will generally be used for all children, but as children get older (eg ages 12 to 15) adult equipment may be used instead.
- Input from paediatric nurses again may be driven by protocols around age (or by national standards). Patients aged up to 16 are likely to have paediatric nurse input (and above 16 for young people with learning disabilities).

**Identifying the activity**

11. The informatics department will be able to identify all patients aged under 19 undergoing tonsillectomies. It is helpful to find out whether they were treated by a specialist paediatric team and on a paediatric ward. These patients may be treated under paediatrics, ENT or paediatric ENT specialties.

12. The procedure mainly groups to reference cost HRG CA60B (tonsillectomy, 18 years and under). It may also group to CA61Z (adenotonsillectomy) that involves removing the adenoid glands along with the tonsils, which is most commonly done in children.

**Identifying the costs**

13. Identify with finance colleagues all costs directly associated with the procedure. These costs fall into the following main areas:

**Theatres**

14. Work with finance colleagues who manage the cost centres for theatres, as well as the general managers for theatres, paediatrics and ENT, to determine the regularity of paediatric ENT sessions, whether there is a dedicated or usual theatre, and the staffing for each session.

15. For each patient it should be possible for the theatre systems to provide the theatre used, the procedure’s start and end time (knife-to-skin times), and start and end time of anaesthesia and recovery. It should also be possible to obtain details of any other patients operated on in the same session, and whether the session was a waiting list session or one carried out during unsociable hours. It should then be possible to adjust for any associated additional costs in the weightings.
16. Non-pay expenditure within theatres is significant. If a patient-level feed of all the supplies and consumables used in theatre is not available, you need to work closely with the theatre managers to establish each procedure’s likely non-pay cost. You should meet the theatre managers to determine if there are any standard packs, and if so, if there are any circumstances in which they cannot be used.

**Diagnostics**

17. Work with the department to develop a weighting of resources across the tests, based on consumables, equipment and staff input. Once complete, you should be able to use the patient-level feed to match the costs of diagnostic tests to individual patients.

**Dispensing of drugs**

18. Using the patient-level pharmacy feed, drugs can be matched to the correct patients. Any medication kept on the ward or in theatres is allocated during the non-pay allocations described above. You also need to allocate the costs of the pharmacy department itself, which may be based on scripts issued or weighted to reflect that certain prescriptions are more resource intensive than others.

**Paediatric and specialist nursing costs**

19. Costs for paediatric specialist nurses may be held in a separate cost centre from the paediatric ward. Work with the manager or team leader to determine whether they have any additional input into such patients: they may be able to provide a patient-level feed of contacts made, or you may have to use sampling to estimate an apportionment for these costs.

20. There is likely to be considerable input from paediatric nurses for children under 16 (exact age cut-off will depend on individual protocols) on the ward or day-case unit. Depending on the set-up, these costs may or may not be held on the ward or day-case unit cost centre so you should identify this in the ledger and allocate appropriately. Children under three years old are likely to require even more input.
Other considerations

21. Some patient co-morbidities may affect procedure time, such as sickle cell, asthma and hypertension.
CA2: Cochlear implant surgery

**Purpose:** To ensure cochlear implant surgery is costed in a consistent way.

**Objective**

1. To improve the quality of cost data for cochlear implant surgery.

**Scope**

2. This standard covers the costing of the inpatient episode only.

3. Take care to ensure the costs of assessment and aftercare are identified and separated appropriately.

4. You should apply Standards CP1 to CP5 to costing cochlear implant surgery.

**Overview**

5. A cochlear implant is an electronic device which may help children and adults who do not benefit sufficiently from conventional hearing aids. Conventional hearing aids work by making sounds louder. A cochlear implant turns sounds into tiny electrical pulses sent directly to the hearing nerve.

6. In the UK 21 NHS centres can carry out this procedure. NHS England has produced a national service specification\(^1\) for possible care pathways and minimum service requirements. The British Cochlear Implant Group has produced quality standards for both adults and children and young people that provide more guidance on recommended care pathways.\(^2\)

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7. Based on NHS England’s specification, the overall care pathway is normally divided into:
   - assessment of suitability for implant
   - inpatient episode (including the procedure)
   - aftercare, continuing care and rehabilitation.

8. The inpatient episode normally consists of:
   - preoperative assessment
   - surgery
   - other intra-operative testing and procedures when clinically necessary
   - postoperative care:
     - overnight stay of one night (if not a day case)
     - antibiotics
     - at least one X-ray
     - the consultant may or may not assess the patient once on the ward; you need to establish this in discussions with clinical and service leads.

Approach

9. Work with the cochlear implant service to map the care pathways to inform the costing process.

10. Establish whether the patient pathway for children and young people is different from that for adults. This should be reflected in the costs, for example:
    - additional pain relief
    - different theatre staffing, eg paediatric nurses
    - different ward staffing, eg additional paediatric staff not normally held in the ward costs centre
    - paediatric specialist input before discharge.
Identifying the activity

11. There are two procedure codes for implanting cochlear implants (D241 implantation of intracochlear prosthesis and D242 implantation of extracochlear prostheses). These will group to two HRGs:³
   - CA42Z unilateral cochlear implant
   - CA41Z bilateral cochlear implants.

12. There are other procedure codes for attention to (D243) or removal of (D246) cochlear prosthesis. These group to other HRGs in the CA chapter (eg major or intermediate ear procedures).

Identifying the costs

13. Identify with finance colleagues all costs directly associated with the procedure. These costs fall into the following main areas:

Device costs

14. Device costs make up the bulk of the episode costs. They vary vastly depending on the supplier. Costs of cochlear implant devices, even if currently excluded from national prices, must be included in the relevant HRGs for costing purposes. Costs submitted against cochlear implant HRGs should cover the external processor (which may be activated at a later time) as well as the cochlear implant itself.

15. If the device fails and is under warranty and within the appropriate terms and conditions, the manufacturer covers the device costs. The NHS picks up the cost of the procedure and follow-up care only.

16. Ensure you have accurately identified the device costs in the general ledger. It is possible these may be coded against audiology (840) rather than ENT (120) or paediatric ENT (215). If these costs are not identified properly they can be incorrectly allocated as a support cost across audiology, so vastly understating the unit costs of cochlear implants.

³ These will group to CZ25A and CZ25B for the purposes of payment under the 2016/17 tariff.
17. Given the relatively small number of patients (but high cost of the procedure) you should allocate the actual cost of each implant to each patient, as it is material to the patient cost. The procurement team should be able to give you the information necessary to do this.

18. When this is not possible, apply an appropriate relative weight value unit (RVU) (see Standard CP3: Appropriate cost allocation methods). It is critical that the weighting reflects the difference in cost between unilateral and bilateral.

**Surgical staffing costs**

19. Patients are not routinely seen by their consultant on the ward following the procedure; therefore, no costs need to be allocated for this. But as care pathways differ it is important to confirm this in discussions with the service.

**Diagnostics**

20. Patients are normally X-rayed at least once following the procedure.

**Other healthcare professionals**

21. Depending on the care pathway, other healthcare professionals (eg specialist nurses, clinical scientists, audiologists, hearing therapists, speech and language therapists, teachers of the deaf) may contribute to care before discharge. Their cost should be included in the total cost and an appropriate apportionment method agreed with the service leads to reflect how their time is spent across this group of patients.

**Other considerations**

22. Providers also receive a separate payment for the assessment and for aftercare and maintenance. Assessment and aftercare require considerable input from several staffing groups, making counting and costing complex.

23. Assessment may involve input from the cochlear implant team, ENT surgeon, clinical scientists, audiologists, medical physicists (for electrophysiological assessment), speech and language therapists, teachers of the deaf, clinical psychologist, radiologists (CT/MRI) and other specialists such as paediatricians, geneticists and neurologists.
24. A similar range of professionals may contribute to a patient's aftercare. There will be considerable review during year 1 (and also to a degree in years 2 and 3 for children), and the patient will be offered regular reviews thereafter (at least annually). This includes ongoing support and maintenance (e.g., repairs/spares).

25. Every five years (on average) the device will be upgraded.
CA3: Renal dialysis

**Purpose:** To ensure renal dialysis is costed in a consistent way.

**Objective**

1. To improve the quality of cost data for renal dialysis.

**Scope**

2. This standard should be applied to all renal dialysis activity.

3. You should apply Standards CP1 to CP5 to costing renal dialysis.

**Overview**

4. Chronic kidney disease is a long-term condition in which the kidneys do not work effectively, notably in filtering waste products from the blood. This is usually caused by damage to the kidneys from other conditions, most commonly diabetes and high blood pressure.

5. The kidneys also:
   - help to maintain blood pressure
   - maintain the correct levels of chemicals in the body, which help the heart and muscles to function properly
   - produce the active form of vitamin D that keeps bones healthy
   - produce a substance called erythropoietin, which stimulates red blood cell production.
6. No cure exists for chronic kidney disease, although treatment can slow or halt its progression and prevent other serious conditions. Many patients can be managed in primary care but if the disease progresses to kidney failure or end-stage kidney disease, patients may need artificial kidney treatment (dialysis) or a kidney transplant. This guidance focuses on costing dialysis treatment.

7. Patients with acute kidney injury may also receive dialysis. Their kidney function deteriorates very quickly, often due to a complication from another serious illness.

8. The care pathway varies according to type of treatment and organisation. At a basic level.

9. **Haemodialysis** (diverting blood into an external machine, where it is filtered before being returned to the body) can be given in an acute hospital, a satellite unit (a community hospital, GP surgery or completely separate building) or at home. Most patients have three sessions per week with each treatment lasting about four hours. Patients at home may have more than three sessions.

10. **Peritoneal dialysis** (pumping dialysis fluid into the space inside the abdomen to draw out waste products from the blood passing through vessels lining the abdomen, and then draining this dialysis fluid from the abdomen) is given at home. There are two types:
   - continuous ambulatory peritoneal dialysis (CAPD): blood is filtered several times during the day; it is usual to have four bag exchanges per day for seven days per week
   - automated peritoneal dialysis (APD): a machine helps to filter the blood during the night as patients sleep; a variation is assisted automated peritoneal dialysis, where a healthcare professional goes into the patient's home to help them set this up (often due to the size of the bags).

11. Some patients (eg those with acute kidney injury) may be admitted to hospital (eg to ITU or renal ward) for treatment.

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**Acute > Costing standards > CA3: Renal dialysis**
Approach

12. Discuss with clinical and service leads whether the care pathway for children and young people differs from that for adults, to help inform the costing process.

Identifying the activity

13. HRGs are produced from the national renal dataset (NRD)\(^4\) so this data should be your information source. Work with informatics to ensure that patient feeds match exactly the dialysis HRGs from the NRD. Activity may or may not be recorded in the patient administration system (PAS) or in the admitted patient care commissioning data set (CDS) or outpatient CDS.

14. Different types of renal dialysis have different currencies and methods of counting:
   - haemodialysis is counted per session (HRGs LD01* to LD10*):
     - providers must in addition identify patients seen away from their normal base (holiday haemodialysis)
     - home haemodialysis is counted by week
   - peritoneal dialysis is counted per day (HRGs LD11*-LD13*)
   - acute kidney disease haemodialysis is counted per session (HRGs LE*).

15. Renal dialysis is an unbundled HRG. If the patient attends solely for renal dialysis, a core HRG of LA97A/B will be created.

16. Some organisations may not record haemodialysis-at-home activity. You need to find out from the renal department the average number of sessions per patient of home haemodialysis for those aged 19 and over, as well as the total number of patients receiving the treatment. This could be an issue for activity in satellite settings, particularly if contracted to an independent sector provider (see Standard CM8: Other activities).

17. For dialysis that uses a hub-and-spoke configuration, the activity and costs should be recorded in the submission from the NHS provider contractually responsible for delivering the care (see Standard CM8: Other activities).

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\(^4\) http://content.digital.nhs.uk/article/2117/National-Renal-Data-Set

We recognise we have not included this dataset in the minimum information requirements for this version of the standards. It will be considered for the next version.
18. You need to identify with finance colleagues all costs directly associated with the procedure. These costs fall into the following main areas:

**Dialysis centre/ward for chronic kidney disease**

19. Meet the service/clinical lead for renal dialysis to get a clear picture of the machinery and ward space (if not home) used for the different types of treatment.

20. Check if machines are dedicated to particular patients or to a restricted group of patients because of blood-borne viruses, and which patients they are dedicated to. Then allocate each machine’s capital charges from the asset register to the dialysis treatment, and obtain from engineering and technical staff information for allocating these staff and other maintenance costs across all equipment within the hospital.

21. Ward costs such as nursing and non-pay cost should be allocated according to Standards CP1 to CP5.

22. Be aware that a hospital dialysis unit may treat different groups of patients:
   - patients with defined end-stage kidney disease, whether as outpatients or inpatients – both pay and non-pay costs fall within the chronic dialysis HRGs
   - patients with acute kidney injury – often sicker patients needing more staffing; associated staffing costs should be allocated to an acute kidney injury HRG (when available) and not included in costing for chronic dialysis
   - patients undergoing non-dialysis treatments, eg plasma exchange, antibody removal therapy for transplantation – although pay and non-pay costs for these procedures may be included in the dialysis unit ledgers, they should not be included in chronic dialysis HRG costing.

**Satellite sites**

23. Repeat the process above for any satellite sites.
Acute

24. We recommend the cost ledger is set up to identify the relevant costs easily, particularly if you have multiple satellite units. For example:
   • cost centre A – haemodialysis home
   • cost centre B – main hospital
   • cost centre C – satellite 1
   • cost centre D – satellite 2
   • cost centre E – satellite \( n \)
   • cost centre F – peritoneal.

25. Individual satellites may be set up in different ways (even within the same organisation), for example:
   • Satellite 1 is provided and run by your organisation; the costs and activity should be reported according to the main site.
   • Satellite 2 is provided by an independent sector provider – the level of information provided will vary (i.e., a cost per treatment may be given with no breakdown of costs or any activity information); you may provide different levels of input, e.g., just medical staffing or medical staffing and the machines.
   • Satellite 3 is provided by your organisation but the activity is for another organisation; the activity and costs should not form part of your organisation’s return (see Standard CM8: Other activities).

26. You may need to create proxy patients in the costing system to allocate the income and costs where activity information is unavailable. This should be done with care.

Dialysis facilities in critical care or on wards

27. Use the NRD to identify patients who received dialysis outside the dedicated setting, either directly or by cross-matching with ward data. Then allocate the costs of machinery on the same basis as above (dialysis ward/satellite units) for those patients. These costs need to be for either acute or chronic kidney disease, depending on patient status.

28. Some organisations plumb their water treatment plant directly into the ward. Others use a mobile unit taken to the patient, or patients may be taken to the ward or renal unit for dialysis. Allocate the costs of these mobile water treatment units as suggested for machines.
Medical staff

29. Follow Standard CM1: Medical staffing to allocate medical staff costs – based on job plans, rotas or through discussion with clinicians and managers – to the patient level after checking what medical input takes place during dialysis.

30. If there is medical input where there is a zero cost core HRG or where the medical input is directly related to the dialysis delivery, flag these costs in your costing system. Otherwise, leave the medical costs with the core HRG.

31. Medical staff may undertake sessions at satellite sites. For example, they may undertake two programmed activities per week, one for patient clinics and one for multidisciplinary team meetings to discuss patient progress with nurses and other healthcare professionals. You need to allocate these to the correct satellite unit when apportioning costs.

32. In some organisations medical staff input during the actual dialysis will be minimal. Others carry out ward rounds. Discuss the level of input with clinical and service leads and apportion accordingly.

Specialist nurses

33. Work with the management accountant and service manager responsible for specialist nurses to identify nurses involved with administering dialysis. Use timetables to allocate costs between outpatients, inpatients and the administration of dialysis itself, including by treatment type. You may need to ask for the average nursing input for each type of dialysis to determine this allocation by treatment type.

34. Most organisations have nurses who visit patients on home dialysis. Establish the frequency of these visits and allocate the costs accordingly.

Multidisciplinary team for dialysis care

35. The dialysis patient requires a wide multidisciplinary team. This includes, for example, dieticians, specialised pharmacists, social workers or welfare support workers and those providing psychological support. Organisations differ in how they provide this support: for some it may be by external referral; for others, activity may be recorded in renal, or costs may be attributed directly to dialysis. Discuss this with the clinical service lead and business manager.
36. Even where separate activity is provided, some of the pay cost may need to be allocated against the dialysis. An example would be a renal psychologist who generates clinical activity via clinic review but then spends time training and supervising dialysis staff, time that should be included in dialysis costing.

Information technology

37. Bespoke renal IT systems are often needed to collect data from dialysis sessions for internal electronic patient record use and mandatory returns to the UK Renal Registry. These systems’ pay and non-pay costs should be included in dialysis costing.

38. A mandatory capitation fee for all dialysis patients is payable to the UK Renal Registry. This cost needs to be allocated to dialysis.

Prescribing and high cost drugs (including erythropoiesis stimulating agents (ESAs))

39. A list of all medication dispensed by pharmacy will be available. You can use it to allocate these costs directly to patient level. Any medication kept on the ward or in theatres is allocated during the non-pay allocations above. You also need to allocate the costs of the pharmacy department itself using the activities in the standard list provided.

40. If pharmacy issues drugs to the dialysis department rather than to individual patients, you need to work with the department to determine which drugs are for which treatment type. If dialysis drugs are issued to any other department, you need to determine which unbundled HRG their cost should relate to by comparing patients and dates.

41. Some drugs used for dialysis are high cost drugs. Allocate these using the activity provided in the standard list.

Home delivery

42. Work with the management accountant and service lead for renal medicine to identify costs of home delivery. These will usually be in a separate cost centre (if set up as such) and should include the costs of machine maintenance and delivery of consumables and drugs to the patient’s home.
43. The cost ledger may contain sufficient information to split the costs between dialysis treatments, or the invoices received directly may have to be analysed with the help of the accountant and directorate.

Consumables for dialysis

44. Consumables are major cost drivers for renal dialysis, so need to be carefully allocated. The department itself will probably keep track of the supplies ordered for each patient at home, so with its help these consumables and fluids for peritoneal dialysis should be easily divided between treatment types.

45. Be aware that the consumables delivered to the satellite units may have been ordered by a central unit (e.g., main hospital). These costs are not always allocated to the correct satellite unit but remain in the main hospital’s costs, overstating the main site’s costs and understating the satellite units’.

46. Where the independent sector is used, these costs may be covered by the charge to the NHS provider (cost per treatment) and the consumables are not purchased by the NHS provider. This should be established with the service.

47. The size of the bags varies (standard is two litres but may be up to five litres). Different types of fluid are also available (with very different costs).

Patients seen away from their normal base

48. Providers must identify patients seen away from their normal base (holiday haemodialysis). Patients have to apply to the specialist commissioning group in the part of the country they wish to visit, which then funds this care.

49. Different places have different requirements about what they want the organisation that the patient usually visits to send with the patient. This should be established in discussions with the service.

50. Your organisation may also care for patients who are staying in their local area. Usually service-level agreements are in place for this and the provider will generally invoice the relevant commissioner at standard tariff.
Acute

Other considerations

51. Much activity happens before treatment – for example:
   - patients undergoing haemodialysis have an arteriovenous fistula (a special blood vessel) made by connecting an artery to a vein; alternately patients may have an arteriovenous graft (synthetic tubing) or a neck line inserted
   - patients undergoing peritoneal dialysis have a catheter inserted into an incision in the abdomen; this allows dialysate (dialysis fluid) to be pumped into the peritoneal cavity (the space inside the abdomen)
   - these procedures and clinic review associated with them should not be included in the dialysis cost.

52. People may switch between treatment types (more likely to be from peritoneal to haemodialysis). Some transplant patients may also move to dialysis.

53. Some organisations find it hard to identify the proportion of medical staffing costs that should be allocated to dialysis and non-dialysis activity when recorded under TFC 361 (Nephrology), and this causes variability in national unit costs.

54. Some organisations also report issues about the coding of these patients. Discuss overall activity figures for each of the treatment types with the service lead to indicate the overall activity count expected for the year. This can then be used to verify the activity information provided by the informatics department.

55. Many organisations have contracts with the independent sector to provide dialysis (particularly at satellite units). Depending on the model, the independent sector provides the accommodation, nursing, consumables and equipment, and your organisation provides the medical staffing input. Your organisation is then invoiced with a ‘cost per treatment’ (excluding any costs covered by the NHS trust).

56. Considerable capital costs are involved: for example, the cost of a water treatment plant at the main hospital site. These include maintenance costs, some of which may be paid for under a contract and some of which may be internal maintenance staff costs.
57. Organisations procure dialysis machines in different ways. Some have a rolling capital programme where machines are replaced about every seven to 12 years (or by number of hours used), while others lease machines on a cost per treatment (or by year) basis. The average cost of a machine is about £13,000. This machine cost must be included in the cost of the treatments either as a capital charge or lease cost. At home a patient will use their own machine, whereas in a centre a machine will usually be shared and cost should be apportioned appropriately. Some in-centre patients will also require single-use machines for infection control reasons.

58. For patients receiving dialysis at home, conversion costs are involved, including nursing assessment costs, electricity and water supply, and drainage facilities. The cost should be included in that for home haemodialysis. The machines provided for home use may be purchased new, may be ex-hospital machines or may be leased on a cost-per-treatment basis (which may include machine and consumables).

59. Patients dialysed at home may be reimbursed for their raised utility bills. This is particularly relevant for haemodialysis if the patient has a water meter and for some dialysis machines that use a lot of electricity.

60. Include patient transport costs in costing renal dialysis.

**PLICs collection requirements**

61. While we require you to cost this, the costs and activity should not be included in the patient-level extracts, but should be included in the reconciliation tables. See Section 8 of the 2016/17 PLICS cost collection guidance for information on reconciliation tables.
CA4: Chemotherapy procurement and delivery

**Purpose:** To ensure chemotherapy is costed in a consistent way.

**Objective**

1. To improve the quality of cost data for chemotherapy activity.

**Scope**

2. This standard covers the costing of activity relating to the procurement and delivery of chemotherapy in a non-inpatient setting. However, the same principles apply to unbundled procurement HRGs recorded in an inpatient setting.

3. You should apply Standards CP1 to CP5 to costing chemotherapy.

**Overview**

4. Chemotherapy is a type of cancer treatment that uses therapeutic agents to kill cancer cells.

5. The main aim of treatment may be to:
   - cure cancer – this is known as curative chemotherapy
   - make other treatments more effective – for example, it can be combined with radiotherapy (where radiation is used to kill cancerous cells) or it can be used before surgery
   - reduce the risk of the cancer returning after radiotherapy or surgery
   - relieve symptoms – a cure may not be possible for advanced cancer, but chemotherapy may relieve the symptoms; this is known as palliative chemotherapy.

5. Including day-case patients.
6. Nationally costs vary, which is why chemotherapy was selected for guidance.

7. Most cancer patients are on a treatment plan designed to cure them. This typically consists of:
   - initial outpatient attendance
   - multidisciplinary team (MDT) meeting to agree the most appropriate plan of treatment (see Standard CM9: Cancer MDT meetings)
   - surgery (for solid tumours) followed by
   - chemotherapy or radiotherapy or a combination of these.


9. Each regimen consists of several ‘cycles’ or sessions of treatment (usually four to eight cycles per regimen). A cycle comprises one or more attendances for administration of chemotherapy drugs followed by a rest period before the next cycle begins. For example, a regimen may consist of eight four-week cycles with treatment on the first, eighth and 15th day of each cycle.

10. Patients on a curative pathway are usually given one regimen with a prescribed number of cycles.

11. Treatment of patients with advanced cancer (non-curable or metastatic) can be varied almost by cycle until the most effective drug is found to alleviate the patient’s symptoms.

12. Chemotherapy can be delivered orally, intravenously, subcutaneously or using a bolus method.

13. Most chemotherapy drugs are administered either via a disposable cannula inserted and removed at each attendance, or via a central line or a peripherally inserted central catheter (PICC) that remains in situ for the whole course of treatment.

14. A central line or PICC is normally inserted under a local anaesthetic at a separate day-case or outpatient attendance before beginning treatment.

15. Your organisation will use regimens validated by the integrated cancer system covering your area (e.g., London Cancer Alliance, Manchester Cancer Services). Work with pharmacists and clinicians to establish which regimens are used.
16. Chemotherapy is unusual in the way it is reported and costed. For each attendance, at least two and sometimes three HRGs are reported: a core HRG, an unbundled chemotherapy delivery HRG and possibly a chemotherapy procurement HRG. The core HRG may be the zero cost SB97Z HRG if no other procedure has taken place, but may be another HRG entirely.

**Approach**

**Identifying the activity**

17. It is important to understand the different currencies used to summarise chemotherapy activity on various systems.

18. The chemotherapy system, which should capture the information contained in the minimum data feed for chemotherapy in Spreadsheet IR1.2 in the technical guidance, will contain highly detailed patient-level data, as will the pharmacy system with respect to dispensed drugs.

19. Some drugs can be used in different regimens, and often the name of the drug rather than the regimen is included in patient notes. This data is then open to interpretation by coders and a mismatch in activity reported in PAS is possible if they are coded to the wrong regimen.

20. The National Tariff Chemotherapy Regimen List\(^6\) maps each regimen to an OPCS code which in turn is mapped to a banded procurement or delivery HRG. Therefore, the number of cycles and deliveries reported could differ if these are based on regimen.

21. It is therefore important to reconcile activity three ways between the chemotherapy, pharmacy and PAS output, and investigate any differences.

22. If a patient attends for a blood test before the delivery attendance, count this as a standard attendance, not a delivery attendance.

23. If a patient attends for delivery of chemotherapy but a blood test determines it cannot proceed, count this as a standard attendance, not a delivery attendance.

\(^6\) [Link](https://isd.hscic.gov.uk/trud3/user/guest/group/61/pack/10/subpack/27/releases;jsessionid=D4128A74CB3A0C3E63527428A303AAD4)
24. If a patient is on a combined chemotherapy and radiotherapy pathway, a further unbundled HRG for the radiotherapy session may be generated if this is delivered at the same time as the chemotherapy.

25. A procurement HRG should be generated on the first attendance of each cycle. In the example regimen above, eight procurement HRGs and 24 delivery HRGs would be recorded.

26. Some organisations have substantial clinical trials activity. As clinical trials funding usually covers only the costs of the drugs being tested and treatment costs over and above normal NHS treatment, this activity should be costed in the same way as standard NHS activity, excluding any costs covered by the trial.

Identifying the costs

27. You need to identify with finance colleagues all costs directly associated with chemotherapy. These costs fall into the following main areas:

Procurement

28. The procurement cost is the total costs incurred in a cycle, not the cost per attendance within the cycle. It includes any pharmacy on-costs and any other costs associated with procuring each cycle.

29. A procurement HRG should only be recorded at the first attendance of each cycle; the activity measure is therefore the number of cycles.

30. Although all patients on a particular regimen are given the same ‘cocktail’ of drugs, costs still vary as the patient’s age and weight determine dosage.

31. Drug costs should be available at patient level from the pharmacy system. Work with pharmacists to establish any on-costs incurred in the pharmacy department when preparing treatments, such as a dedicated pharmacist and/or preparation area and any other non-pay costs. As pharmacy data is at patient level, drugs are matched to the correct attendance and therefore the correct cycle within a regimen.
32. The costing approach for procurement is based on data being matched in all three key named systems (ie chemotherapy, pharmacy and PAS), which is crucial in identifying regimens and cycles. This is currently not the case in many organisations – chemotherapy is usually a standalone system, often with a unique way of identifying patients who do not match the PAS ID, making it extremely difficult to match patients in the costing system to regimens. It may be possible to match drugs to patients using the pharmacy system; however, it may be problematic to assign attendances to a cycle within a regimen to meet the procurement cost criteria.

Delivery

33. Delivery costs are those associated with the patient's attendance as a non-inpatient for administration of chemotherapy.

34. If the patient attends to receive chemotherapy only, all costs excluding procurement form part of the delivery HRG.

35. If the patient also attends for some other purpose, eg assessment, a further core HRG will be generated. It is important to distinguish between the costs associated with the core HRG and those associated with the delivery HRG. In this case, cost each patient according to normal practice, then amend the patient feeds to unbundle only those costs relating to the delivery HRG.

Ward or day unit costs

36. Work with the management accountant lead for the cost centre containing the chemotherapy ward or day unit staffing costs, and the budget holder.

37. Staff costs should be based on the length of stay in minutes and you should establish what staff are present at each session. For example, a session may have three qualified staff or a set ratio of staff for the number of patients.

38. Some specialties may have additional staff (eg paediatrics) or oncology specialist nurses may be in different cost centres such as specialist nursing.

7. We recognise the minimum information requirements state to collect this in hours. However collecting in minutes, particularly for chemotherapy, allows more accurate costing.
39. Where a patient is on a combined chemotherapy and radiotherapy pathway, you need to cost both the chemotherapy and radiotherapy sessions. Apply the same approach for costing the chemotherapy sessions as the radiotherapy session.

**Medical staff**

40. In general, delivering chemotherapy is a nurse-led service. Follow normal costing procedures to allocate medical staff – based on their job plans and timetables – to patient level, after checking what medical input takes place during chemotherapy delivery.

41. If medical input is directly related to the chemotherapy delivery, these costs should be identified in the costing system to unbundle them within the delivery HRG. Otherwise, leave the medical costs with the core HRG. There may also be anaesthetist costs, as anaesthetists may be involved in any procedure or in pain management associated with the chemotherapy.

**Diagnostics**

42. Diagnostic tests relevant to chemotherapy delivery may be performed when a patient attends for delivery, eg blood tests. The cost of these should be included in the delivery HRG.

**Other considerations**

43. If you have patients on telephone maintenance for their chemotherapy, refer to Standard CM3: Outpatients for how to cost this.
Education and training

ET1: Information requirements
ET2: Clearly identifiable education and training costs
ET3: Appropriate education and training cost allocation methods
ET1: Information requirements

**Purpose:** To identify the information required to cost education and training activities.

**Objective**

1. The education and training (E&T) standards aim to provide a consistent approach to costing students and trainees on a clinical placement as part of a training programme.

**Scope**

2. This standard applies to any programme that:
   - is a recognised part of the education/training curriculum and approved by the higher education institute and the relevant regulatory body
   - has clinical and mentoring support as defined by the relevant regulatory body
   - was undertaken during the financial year – note that the data is requested by financial year and not academic year, to reflect how these placements are funded.

**Overview**

3. Accurate information is essential to costing E&T activity properly, but we recognise obtaining this information can be challenging.

4. You are not responsible for the quality or coverage of your organisation’s information, as this will involve informatics, services and education leads, but you are well placed to highlight gaps in the information.
Approach

5. While costing E&T requires significant work, it is probably the smallest element and can only be done once earlier steps are complete, such as gathering activity information.

6. Collecting information about the resources consumed in E&T needs to involve a wide variety of organisational staff as well as finance teams.

Identify your provider’s training programmes and a lead for each

7. From the national list of training programmes, identify those your organisation runs. The list of programmes on which we request costing data can be found in the Department of Health (DH) E&T collection guidance.¹

8. Information about the programmes you currently run, and for which you receive income, should be available in your learning and development agreement (LDA) and/or in any other agreements you may have with Health Education England (HEE).² You may also be able to use the information in the LDA schedule as a sense-check at the end of the process. However, content may vary locally.

9. You may find you do not provide clinical placements for every year of a programme.

10. Once you have identified your provider’s training programmes, you need to identify who can best act as the lead for each. It is essential to have appropriate leads and for all involved to understand what information they are responsible for collecting.

11. Some organisations, but not all, have nominated education leads. Budget holders for the relevant staff group are useful initial contacts if it is unclear who the lead or education supervisor is.

². The LDA income also includes out-of-tariff programmes, so this income needs to be excluded.
12. For some programmes:
   - it is likely a designated individual will be responsible for the programmes related to a specific profession, eg pharmacy; in these cases it is often easy to agree an overall lead for providing information
   - you may need an overall lead, eg the head of midwifery, but have individual leads for the programme's different elements, such as antenatal and postnatal
   - for nursing students, who can be significant in number and have placements across the wards in your organisation, you may need your head of nursing as overall lead but with a group established to include representative leads from the different types of placement, eg wards, theatres, outpatients, critical care units
   - it may be appropriate to nominate leads for specific aspects of E&T that cut across programmes.

13. For medical undergraduates, there is likely to be a co-ordinator for each year of the programme. For medical postgraduates costing E&T is more difficult, as information is likely to be required at both specialty and organisational level through central medical education teams.

Establish the amount of activity across programmes

14. Determine the activity – ie the number of trainee/student hours spent on courses or clinical placements across the organisation – against each training programme during the costing period.

15. The academic year (August/September to July/August) does not match the financial year (April to March). Courses and placements begin at different points during the year and run for different lengths of time, but organisation costs are based strictly on the financial year, as are all statutory financial returns. Activity and related costs should therefore be identified and reported for each training programme based on the financial year.

Establish the information required

16. You may obtain some of what you need easily from routinely available finance information.

17. But often you need more information, which the identified leads should gather.
18. You have several options for collecting information to calculate costs. Use objective methods as far as possible. However, we recognise that some subjective judgement – with senior clinical, finance and education colleagues’ agreement – will be needed. Your chosen method and the degree of subjective judgement should be appropriate for your organisation and proportionate to the scale of costs and resource usage.

19. Table ET1.1 shows suggested sources of information.

Table ET1.1: Suggested sources of information

<table>
<thead>
<tr>
<th>Source of information</th>
<th>Potential use</th>
<th>Contacts/examples</th>
</tr>
</thead>
</table>
| Information from financial systems                         | • Helping to highlight resources and departments directly related to E&T that need to be apportioned across the exercise  
• Acting as a check to ensure appropriate resources are highlighted by programme leads  
• Calculating overheads | • Ledgers, PLICS, service line reporting, etc                                   |
| Contracts with external funding bodies                     | Helping to highlight and understand the programmes and resources funded by HEE. Depending on the level of detail in the LDA, contracts can yield significant useful information. | • Contracts with local education and training boards (LETBs), such as learning and development agreements  
• Medical education managers                                                                 |
| Face-to-face discussions/ interviews with relevant staff, either one-to-one or in a focus group | To build the detailed information required on each placement.                   | Consultants, consultants’ personal assistants, junior doctors, practice facilitators, placement managers, admin staff, mentors, teaching staff and staff in areas where teaching takes place during patient care. |
20. When asking clinicians for information, in the first instance try to arrange a face-to-face meeting. Feedback from clinicians suggests this is their preferred method of communication. To get the right information it can help to ask clinicians to think about taking a student through what is going to happen in their training.

21. We recommend that you start by talking to your top five specialties by expenditure and contact everyone else electronically. To help you with this, we include a template in Spreadsheet ET1.1 of the technical guidance.

22. It is important to validate any information with senior education leads.

<table>
<thead>
<tr>
<th>Source of information</th>
<th>Potential use</th>
<th>Contacts/examples</th>
</tr>
</thead>
</table>
| Discussions with external organisations, including educational establishments | May help establish expectations of the placement. For example, a course handbook for each year of the medical undergraduate’s degree may include expectations of a clinical placement. | • Educational establishments  
• Deaneries |
| Surveys/questionnaires | Some organisations have used this to determine the % service/training split. | • Samples of medical postgraduates  
• Staff members who facilitate the training |
| Job plans/diaries for teaching staff | To assess the time spent teaching while delivering patient care, or the time admin staff spend on central education activities. | • HR department  
• Medical staffing departments  
• Department heads  
• Individual staff |
| Workplace-based assessment documents for postgraduate trainees by assessors | Case-based discussion, mini-clinical evaluation exercise and direct observation of procedural skills |
ET2: Clearly identifiable education and training costs

**Purpose:** To identify the costs applicable to education and training.

**Objective**

1. To ensure organisations can identify their education and training (E&T) costs consistently.

**Scope**

2. All costs related to E&T for in-scope programmes.

**Overview**

3. To ensure we understand the true costs of all clinical placements at your organisation and within scope of the exercise, you should determine the actual cost, irrespective of the existing funding route or income.

4. *We encourage you to do this in the costing system and not as a separate exercise.*

**Approach**

**Identifying what to include as a clinical placement**

5. When capturing costs associated with a clinical placement it is important to distinguish E&T activities seen to be part of the clinical placement from those that are non-placement related. Exclude hours spent on the latter activities.
6. The location where the activities take place will help determine which activities are part of the placement. However, this will not apply in all cases as higher education institutes can carry out their responsibilities from NHS facilities.

7. In some instances, students will come to an organisation on a clinical placement for a set period, but within that have time allocated to their non-clinical placement activities. Ensure this is reflected when recording the average number of hours for the placement.

Collect the resource information required

8. Establish what information needs to be collected for each programme to identify the resources involved in its delivery. This will ultimately allow you to assign appropriate costs.

9. E&T activities include direct teaching, associated administration and central activities such as facilities. The total cost therefore comprises different components. Figure ET2.1 summarises the cost components to be reported (yellow blocks) and shows both the resource information (blue blocks) and costing data (green blocks) required to calculate the cost of a programme of activity.

10. Cost components 001 to 008 are relevant to costing both non-salaried and salaried placements. Cost components 009 to 012 apply only to salaried placements and reflect the requirement to capture the element of a trainee’s salary that relates to the time they are being trained.
Figure ET2.1: Cost components to be reported

### Non-salaried training programmes

<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
<th>Formula</th>
</tr>
</thead>
<tbody>
<tr>
<td>001</td>
<td>Pre-placement costs (£)</td>
<td>Time staff spend on pre-placement activities plus associated expenses</td>
</tr>
<tr>
<td>002</td>
<td>Direct teaching staff costs (£)</td>
<td>Time staff spend on performing direct teaching</td>
</tr>
<tr>
<td>003</td>
<td>Cost of teaching staff time spent on training courses (£)</td>
<td>Time staff spend on training courses for students/trainee teaching</td>
</tr>
<tr>
<td>004</td>
<td>Cost of staff teaching while delivering patient care (£)</td>
<td>Staff time spent teaching while delivering patient care</td>
</tr>
<tr>
<td>005</td>
<td>Facilities cost (£)</td>
<td>The facilities which are used for all the student/trainee activities identified</td>
</tr>
<tr>
<td>006</td>
<td>Administration cost (£)</td>
<td>Time spend by administrator on the programme</td>
</tr>
<tr>
<td>007a</td>
<td>Central education cost (£)</td>
<td>Proportion of staff cost for education directorate activities</td>
</tr>
<tr>
<td>007b</td>
<td>Cost of delivering exams or assessments (£)</td>
<td>Time and associated expenses which staff spend in respect of exams and assessments</td>
</tr>
<tr>
<td>008</td>
<td>Support costs (£)</td>
<td></td>
</tr>
</tbody>
</table>

Cost of cohort (£) = sum of components 001 to 008

### Salaried training programmes

<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
<th>Formula</th>
</tr>
</thead>
<tbody>
<tr>
<td>009</td>
<td>Cost of checking trainees’ work (£)</td>
<td>Time spent by staff checking trainees’ work in addition to that done by teaching staff</td>
</tr>
<tr>
<td>010</td>
<td>Cost of trainees attending courses or examinations (£)</td>
<td>The courses and examinations attended by trainees</td>
</tr>
<tr>
<td>011</td>
<td>Total trainee staff cost (£)</td>
<td>Number of trainees by grade</td>
</tr>
<tr>
<td>012</td>
<td>Proportion of trainee time in training (%)</td>
<td>Proportion of time trainees spend in training (%)</td>
</tr>
</tbody>
</table>

Cost of cohort (£) = sum of components 001 to 010 + 011 × 012

<table>
<thead>
<tr>
<th>Additional Costs</th>
<th>Formula</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-pay costs (£)</td>
<td></td>
</tr>
<tr>
<td>Staff cost (£)</td>
<td></td>
</tr>
<tr>
<td>Course cost (£)</td>
<td></td>
</tr>
<tr>
<td>Travel and subsistence (£)</td>
<td></td>
</tr>
<tr>
<td>Staff cost (£)</td>
<td></td>
</tr>
<tr>
<td>Staff cost (£)</td>
<td></td>
</tr>
<tr>
<td>Staff cost (£)</td>
<td></td>
</tr>
<tr>
<td>Staff cost (£)</td>
<td></td>
</tr>
<tr>
<td>Staffing cost of the trainees by grade (£)</td>
<td></td>
</tr>
</tbody>
</table>
11. Each cost component is explained in more detail below, and a checklist clarifies what does and does not fall within each component.

12. Programme leads and finance staff should review the list of components for each programme, ensure a joint understanding of what is required and agree a method for collecting the required information.

Checklist of what to include in each cost component of the E&T template

13. For each component there are three sections, outlining the resource information required from those involved in delivering the education activity and providing guidance for finance staff on how to attribute and calculate the associated cost.

14. Remember that cost components 001 to 008 relate to both salaried and non-salaried programmes, but cost components 009 to 012 relate only to salaried programmes.
Table ET2.1: Cost components 001 to 008 – resource and cost information required

**001: Pre-placement costs**

<table>
<thead>
<tr>
<th><strong>001: Resource information required</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Time staff spend on pre-placement activities for the programme</strong></td>
</tr>
<tr>
<td>Two cost components should include:</td>
</tr>
<tr>
<td>- non-pay costs incurred for pre-placement activities</td>
</tr>
<tr>
<td>- relocation costs</td>
</tr>
<tr>
<td>- local recruitment.</td>
</tr>
<tr>
<td>Costs to be included should reflect the time in training: therefore any costs reported should be consistent with the service–training split in cost component 012.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>001: Pre-placement costs</strong></th>
<th>Included in this component?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost of induction of students at the beginning of their clinical placements</td>
<td>Yes</td>
</tr>
<tr>
<td>Cost of performing DBS (disclosure and barring service) checks or occupational health assessments</td>
<td>Yes</td>
</tr>
<tr>
<td>Cost of uniforms and PPE (personal protection equipment) supplied to students and required for health and safety reasons</td>
<td>Yes</td>
</tr>
<tr>
<td>Cost of non-pay incurred for pre-placement activities</td>
<td>Yes</td>
</tr>
<tr>
<td>Cost of relocation</td>
<td>Yes</td>
</tr>
<tr>
<td>Cost of staff participating in centrally organised/national recruitment</td>
<td>No</td>
</tr>
<tr>
<td>Cost of administration staff involved in pre-placement activities (captured in cost component 006)</td>
<td>No</td>
</tr>
<tr>
<td>Cost of facilities required for pre-placement activities (captured in cost component 005)</td>
<td>No</td>
</tr>
</tbody>
</table>

**001: Pre-placement costs**

Staff cost multiplied by the time identified
## 002: Direct teaching costs

### 002: Resource information required

**Time staff spend performing direct teaching** (not in conjunction with delivering patient care) for students/trainees while they are on clinical placement

<table>
<thead>
<tr>
<th>002: Direct teaching costs</th>
<th>Included in this component?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classroom-based teaching</td>
<td>Yes</td>
</tr>
<tr>
<td>Preparation and follow-up time for direct teaching</td>
<td>Yes</td>
</tr>
<tr>
<td>Lectures/seminars</td>
<td>Yes</td>
</tr>
<tr>
<td>One-to-one or group tutorials</td>
<td>Yes</td>
</tr>
<tr>
<td>Teaching clinical skills in a simulated environment (e.g., this could be lab-based or in a simulated environment that includes ‘patients’). This could take place outside the provider, e.g., at a higher education institute (HEI)</td>
<td>Yes</td>
</tr>
<tr>
<td>Expenses paid to ‘patients’ for participating in teaching exercises</td>
<td>Yes</td>
</tr>
<tr>
<td>Any teaching that takes place outside clinical placements, e.g., if staff give lectures or seminars on HEI’s behalf</td>
<td>No</td>
</tr>
<tr>
<td>Cost of staff involved in delivering examinations related to clinical placements (captured in cost component 007)</td>
<td>No</td>
</tr>
<tr>
<td>Administration costs associated with direct teaching (captured in cost component 006)</td>
<td>No</td>
</tr>
<tr>
<td>Facilities or equipment costs associated with direct teaching (captured in cost component 005)</td>
<td>No</td>
</tr>
</tbody>
</table>

### 002: Cost calculation

Cost of teaching staff involved multiplied by the time identified
(remember we are looking at training, so do not include elements of pay that are service-generated, e.g., clinical excellence awards, on-call and overtime)
### 003: Cost of teaching staff time spent on training courses

#### 003: Resource information required

**Time teaching staff spend on training courses** that enable them to teach and train the students/trainees on the programme

<table>
<thead>
<tr>
<th>003: Cost of teaching staff time spent on training courses</th>
<th>Included in this component?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Training required by staff to be able to teach, eg mentoring training for nurses</td>
<td>Yes</td>
</tr>
<tr>
<td>Routine ‘refresher’ or ‘update’ training for teaching staff</td>
<td>Yes</td>
</tr>
<tr>
<td>Internal or external training courses</td>
<td>Yes</td>
</tr>
<tr>
<td>Salary costs of supervisors for time spent attending training courses</td>
<td>Yes</td>
</tr>
<tr>
<td>Travel and subsistence expenses paid to staff for attending external training courses</td>
<td>Yes</td>
</tr>
<tr>
<td>Fees for external courses and trainers’ salary costs if employees deliver the training</td>
<td>Yes</td>
</tr>
<tr>
<td>Cost of the training course if the provider does not incur the cost, eg if the course is funded by the LETB</td>
<td>No</td>
</tr>
<tr>
<td>Cost of back-fill for a staff member attending training courses, unless staff are required to back-fill an education role</td>
<td>No</td>
</tr>
<tr>
<td>Administration cost associated with delivering internal training courses or arranging for staff to attend external courses (captured in cost component 006)</td>
<td>No</td>
</tr>
<tr>
<td>Facilities cost associated with delivering internal training courses (captured in cost component 005)</td>
<td>No</td>
</tr>
</tbody>
</table>

#### 003: Cost calculation

Cost of teaching staff involved multiplied by the time identified plus the cost of the course/training activity, plus travel and subsistence expenses.
**004: Cost of staff teaching while delivering patient care**

<table>
<thead>
<tr>
<th>004: Resource information required</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Time staff spend teaching while delivering patient care</strong>, ie the additional time it takes staff to deliver patient care with students/trainees present compared to the time it would otherwise take.</td>
</tr>
</tbody>
</table>

Example:

1. The resource impact of teaching in outpatient clinics is the difference in the duration of an outpatient clinic appointment with trainees/students present compared to the duration without them.

2. If a consultant combines teaching with patient care (ie they have students/trainees with them in clinic, on the wards or in theatres) for 30% of their total working time, and they spend 50% of this time doing direct teaching, they spend 15% of their total time providing teaching while delivering patient care. Therefore 15% of their total cost would be attributed to cost component 004.

Note that while this example refers to outpatient clinics, theatres, wards and consultants, the same approach should be applied to any setting in which teaching takes place during the delivery of patient care. It should be applied to all staff involved in teaching, irrespective of profession.

<table>
<thead>
<tr>
<th>004: Cost of staff teaching while delivering patient care</th>
<th>Included in this component?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Additional time taken to deliver the care with students and trainees present compared to the time taken without them present</td>
<td>Yes</td>
</tr>
<tr>
<td>Benefits (opportunity costs) foregone by using the time for training rather than something else</td>
<td>No</td>
</tr>
<tr>
<td>Additional costs incurred elsewhere by having trainees present, but which are not related to the actual delivery of training, eg locum costs if a trainee is absent and service has to be covered</td>
<td>No</td>
</tr>
</tbody>
</table>

**004: Cost calculation**

Cost of all staff groups involved multiplied by the time identified

(remember we are looking at training, so do not include elements of pay which are service-generated, eg clinical excellence awards, on-call and overtime)

This component should not be seen or calculated as lost income; we are only capturing lost productivity in terms of staff time
005: Facilities cost

05: Resource information required

Resources used in providing facilities for the direct provision of E&T, activities and/or the cost of other facilities incurred by having the students/trainees on site. (A provider may need information on total floor space and/or estates to allow allocation.) Each organisation’s library and knowledge services (LKS) manager will need to supply:

- the total cost of running the LKS service during the period being costed
- the proportion of activity relating to E&T as opposed to service.

To help providers calculate these costs, we show below indicative percentage usage by education (as opposed to service) of LKS services by type of organisation.

<table>
<thead>
<tr>
<th>Type of provider</th>
<th>Mean</th>
<th>Median</th>
<th>Mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute – university/teaching trust</td>
<td>61%</td>
<td>68%</td>
<td>70%</td>
</tr>
<tr>
<td>Acute – district general hospital</td>
<td>68%</td>
<td>71%</td>
<td>75%</td>
</tr>
</tbody>
</table>

005: Facilities costs

<table>
<thead>
<tr>
<th>Cost calculation</th>
<th>Included in this component?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct pay and non-pay costs associated with running dedicated E&amp;T facilities include:</td>
<td></td>
</tr>
<tr>
<td>• dedicated education buildings with lecture theatres and training rooms</td>
<td></td>
</tr>
<tr>
<td>• libraries and education centres</td>
<td></td>
</tr>
<tr>
<td>• clinical skills centres</td>
<td>Yes</td>
</tr>
<tr>
<td>Equipment specific to E&amp;T activities (remember we are reconciling to actual costs, so for any items of capital equipment used in E&amp;T, you should include the associated revenue costs, eg maintenance contracts and depreciation)</td>
<td>Yes</td>
</tr>
<tr>
<td>Non-pay costs incurred in running departments with a specific responsibility for students and trainees, eg non-pay costs associated with cost components 006 and 007</td>
<td>Yes</td>
</tr>
<tr>
<td>Proportion of clinic/theatre/ward space used when teaching while delivering patient care</td>
<td>No</td>
</tr>
<tr>
<td>Costs of miscellaneous rooms used for teaching that are not part of dedicated E&amp;T facilities</td>
<td>No</td>
</tr>
</tbody>
</table>

005: Cost calculation

Direct costs of the facilities used, including both pay and non-pay costs
You may need to apportion the cost of the facilities across the various programmes
Non-pay costs of cost components 006 and 007 should also be included
Costs reported should only include the proportion of the facilities used for E&T activities
## 006: Administration cost

### 006: Resource information required

**Time staff spend on the administration of clinical placements** before, after or during the clinical placement

<table>
<thead>
<tr>
<th>006: Administration cost</th>
<th>Included in this component?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administration staff costs concerning the induction of students, including preparation</td>
<td>Yes</td>
</tr>
<tr>
<td>Administration staff costs concerning the organisation and delivery of direct teaching</td>
<td>Yes</td>
</tr>
<tr>
<td>Administration staff costs concerning the organisation and delivery of teaching while delivering patient care</td>
<td>Yes</td>
</tr>
<tr>
<td>Administration staff costs concerning the organisation and delivery of training courses for teaching staff (both internal and external training)</td>
<td>Yes</td>
</tr>
<tr>
<td>Administration staff costs concerning central education activities (see cost component 007a)</td>
<td>Yes</td>
</tr>
<tr>
<td>Staff costs associated with any other administration activity related to E&amp;T</td>
<td>Yes</td>
</tr>
<tr>
<td>Preparation and follow-up activities required by teaching staff when undertaking direct teaching (see cost component 002)</td>
<td>No</td>
</tr>
</tbody>
</table>

### 006: Cost calculation

Cost of staff involved multiplied by the time identified
007: Central education costs

007: Resource information required

007a: **Central education costs** incurred by providing clinical placements

Time staff spend undertaking central education activities necessary for delivering placements to students/trainees

007b: **Cost of delivering exams or assessments** for clinical placements

<table>
<thead>
<tr>
<th>007: Central education costs</th>
<th>Included in this component?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost of staff in the library/education centres</td>
<td>Yes (007a)</td>
</tr>
<tr>
<td>Cost of staff required to attend meetings with HEI partners to agree placements</td>
<td>Yes (007a)</td>
</tr>
<tr>
<td>Cost of staff required for assuring the quality of placements, including HEI, LETB or regulator visits, preparation and follow-up</td>
<td>Yes (007a)</td>
</tr>
<tr>
<td>Cost of staff for assessing trainers to ensure skills are up to date (not including the cost of staff delivering in-house training courses for teaching staff – see cost component 003)</td>
<td>Yes (007a)</td>
</tr>
<tr>
<td>Cost of staff for liaison with HEIs</td>
<td>Yes (007a)</td>
</tr>
<tr>
<td>Costs of staff inputting data for placements, eg data returns to HEI</td>
<td>Yes (007a)</td>
</tr>
<tr>
<td>Cost of staff required for organising rotations in the provider</td>
<td>Yes (007a)</td>
</tr>
<tr>
<td>Cost of staff time spent on additional activities for students on clinical placement, eg mock interviews, reviews of applications, etc</td>
<td>Yes (007a)</td>
</tr>
<tr>
<td>Cost of staff undertaking a pastoral care role for students/trainees</td>
<td>Yes (007a)</td>
</tr>
<tr>
<td>Cost of additional staff time spent supporting struggling students</td>
<td>Yes (007a)</td>
</tr>
<tr>
<td>Travel and subsistence expenses for students/trainees on placements, eg accommodation provided to students/trainees free of charge</td>
<td>Yes (007a)</td>
</tr>
<tr>
<td>Travel and subsistence expenses paid to staff for attending external education-related meetings</td>
<td>Yes (007a)</td>
</tr>
</tbody>
</table>
007: Central education costs *(continued)*

<table>
<thead>
<tr>
<th>007: Resource information required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost of staff responsible for organising and invigilating exams or assessments required for clinical placements</td>
</tr>
<tr>
<td>Cost of hosting exams or assessments on behalf of other providers required for clinical placements</td>
</tr>
<tr>
<td>Cost of administering central education activities and/or examinations and assessments (see cost component 006)</td>
</tr>
<tr>
<td>Cost of rooms and equipment required for central education activities and/or examinations and assessments (see cost component 005).</td>
</tr>
<tr>
<td>Cost of delivering academic exams or assessments on behalf of an HEI or other education partner</td>
</tr>
</tbody>
</table>

007: Cost calculation

007a/b: Cost of staff involved multiplied by the time identified plus travel and subsistence

008: Support costs *(see the Department of Health (DH) guidance for further details)*

<table>
<thead>
<tr>
<th>008: Resource information required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resources consumed as support costs by E&amp;T</td>
</tr>
</tbody>
</table>

008: Support costs

Detailed additional guidance produced for the 2014/15 cost collection is available on the DH exchange*

008: Cost calculation

Cost of the element of the organisation’s total support costs that can be attributed to delivering the programmes of activity identified

*https://dhexchange.kahootz.com/connect.ti
Table ET2.2: Cost components 009 to 012 resource and cost information required (only relevant to salaried training programmes)

**009: Cost of checking trainees' work**

**009: Resource information required**

*Additional time spent checking trainees’ work* that is not done by teaching staff or those responsible for direct supervision

<table>
<thead>
<tr>
<th><strong>009: Cost of checking trainees’ work</strong></th>
<th><strong>Included in this component?</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>If a trainee writes a prescription, the staff cost in the pharmacy department for confirming the prescription with trainees or their supervisor (if required) should be included in this cost component. The same method could be used for checking diagnostic test orders, for example</td>
<td>Yes</td>
</tr>
<tr>
<td>Where a trainee is treating a patient and orders blood tests that are not necessarily required, the cost of the tests and the staff cost for the time it takes to process them</td>
<td>No</td>
</tr>
<tr>
<td>If a trainee is running a clinic with consultant supervision and it takes longer to see each patient than if the consultant were running the clinic, the cost of that additional time is included under cost component 004</td>
<td>No</td>
</tr>
</tbody>
</table>

**009: Cost calculation**

Cost of staff involved multiplied by the time identified
### 010: Course fees and expenses

#### 010: Resource information required

**Information about training courses that trainees attended** during the year as part of their overall training

<table>
<thead>
<tr>
<th>010: Course fees and expenses</th>
<th>Included in this component?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course fees</td>
<td>Yes</td>
</tr>
<tr>
<td>Travel and subsistence while on the course</td>
<td>Yes</td>
</tr>
<tr>
<td>Travel and subsistence for sitting examinations or assessments that are not delivered in-house but are required as part of training</td>
<td>Yes</td>
</tr>
<tr>
<td>Staff costs for the trainee while on the course (captured in cost component 011)</td>
<td>No</td>
</tr>
<tr>
<td>Cost of training courses related to continuing professional development or mandatory training (health and safety, etc), ie courses not directly related to a trainee’s training programme</td>
<td>No</td>
</tr>
<tr>
<td>Cost of training courses for the direct teaching of students or junior staff (captured in cost component 003 for the cohort of students being taught)</td>
<td>No</td>
</tr>
<tr>
<td>Staff costs for preparing and implementing in-house assessments or examinations required by the training programme, eg annual review of competence progression (ARCP), clinical/educational supervisor’s end of placement/year reports, team assessment of behaviour (TAB). These are captured in cost component 007b</td>
<td>No</td>
</tr>
<tr>
<td>Facilities and equipment costs for training courses or examinations/assessments provided in-house (captured in cost component 005)</td>
<td>No</td>
</tr>
<tr>
<td>Administration cost for the organisation of trainees attending external courses or examinations/assessments, or the organisation of courses or examinations/assessments delivered in-house (captured in cost component 006)</td>
<td>No</td>
</tr>
<tr>
<td>Cost of Royal College examinations</td>
<td>No</td>
</tr>
</tbody>
</table>

#### 010: Cost calculation

Cost of courses attended by trainees plus travel and subsistence
### Acute

**011: Total trainee staff cost**

**011: Resource information required**

**Number of trainees by grade and their basic salary**

<table>
<thead>
<tr>
<th><strong>011: Total trainee staff cost</strong></th>
<th><strong>Included in this component?</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Salary cost of a trainee excluding service-generated costs such as on-call and banding payments. These service-generated costs are currently outside the scope of the E&amp;T tariffs, and will continue to be funded via existing routes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

**011: Cost calculation**

Total basic salary cost of the trainees, including the element of the cost relating to service

Note that for this collection, banding supplements and/or on-call payments should be excluded from the salary costs reported
12: Proportion of trainee time in training

012: Resource information required

Proportion of time a trainee spends in training compared to delivering service

Organisations should calculate their own percentage split between training and service for each training programme, rather than using a predetermined split.

We expect the service–training split to differ depending on the stage the trainee has reached in their training, and how specialist the area is.

<table>
<thead>
<tr>
<th>012: Proportion of trainee time in training</th>
<th>Included in this component?</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Number of study days taken</td>
<td>Yes</td>
</tr>
<tr>
<td>• Amount of classroom teaching undertaken (hours per week for how many weeks)</td>
<td></td>
</tr>
<tr>
<td>• Time on training courses</td>
<td></td>
</tr>
<tr>
<td>• Time in direct teaching, eg lectures</td>
<td></td>
</tr>
<tr>
<td>• Time undertaking examinations or assessments</td>
<td></td>
</tr>
<tr>
<td>• Time developing and updating e-portfolio</td>
<td></td>
</tr>
<tr>
<td>• Time in meetings with supervisors</td>
<td></td>
</tr>
<tr>
<td>• Amount of time in the working week trainees are expected to be supervised or observing</td>
<td></td>
</tr>
</tbody>
</table>

Amount of time trainees spend training other trainees (captured in cost component 002 or 004 for the cohort being trained)  No

012: Cost calculation

No cost required; input required is % of time, calculated from the resource information collected

The template takes the costs identified in cost component 011 and multiplies them by the % input here, to arrive at the element of the trainee cost that is training

It also multiplies the total hours by the % to calculate the trainees’ specific training hours
Cost of providing additional education activities outside clinical placements

15. The costs incurred (if any) by your organisation providing education-related activities other than those required for clinical placements are beyond the scope of the cost collection exercise. These are often covered as part of an informal agreement with the local higher education institute (HEI).

16. These activities could include but are not limited to:
   - direct teaching in the form of lectures, seminars, tutorials, etc on behalf of an HEI or other education partners
   - formal positions within an HEI, eg assistant/subdean
   - hosting academic examinations on behalf of an HEI or other education partners.

   **Note:** this includes the costs of all cost components – staff costs, facilities, administration, etc.

17. Although these costs are not incurred as part of a clinical placement, it may benefit your organisation if you can identify them. You can then build a picture of the total resources in your organisation that are involved in delivering E&T, and ensure agreements are in place. However, these should not be included in the E&T section of the collection.

Training programmes

18. We are aware that the naming of some training programmes locally may differ from that of nationally recognised courses. Where this is the case we ask you to map the locally defined training programmes to the national programmes.

19. For the purposes of costing clinical placements, training programmes are categorised as non-salaried and salaried training:
Non-salaried

20. Non-salaried training programmes include those where students are assumed to spend 100% of their time learning while on clinical placement and no time delivering service. The provider does not pay these students a salary, and the costs of the placement are met by HEE (via LETBs) or by the provider directly.

21. On occasion a provider may act as host and pay staff on HEE’s behalf, with HEE reimbursing the provider for the salaries (eg of student midwives in some organisations). The individuals should still be classed as non-salaried students, and their salary costs should not be included in the exercise.

22. Secondment of a salaried staff member onto a training course that does not attract a salary, eg a healthcare assistant onto a nursing course, should be recorded on the non-salaried sheet, excluding the salary costs. This is to reflect that the exercise is capturing only the cost of the clinical placements they undertake while training as a nurse for example.

23. The costs of salary support are outside the scope of the standards.

24. The quantum of costs associated with locally funded posts should be captured as part of your high level reconciliation, which allows current income to be compared with reported costs.

25. Currently 48 non-salaried programmes are collected across eight training categories:
   - medical
   - dental (professions complementary to dentistry – PCD)
   - undergraduate dentistry
   - allied health professionals
   - nursing and midwifery
   - pharmacy
   - practitioner training programmes (healthcare science)
   - operating department practitioners.
Salaried training programmes are for individuals paid a salary by the organisation; these individuals are referred to as ‘trainees’ rather than ‘students’. Trainees split their time at providers between E&T and delivering services to patients.

The nature of this split will vary depending on the organisation and the profession. The proportion of time spent on E&T is also likely to change as a trainee progresses through a training programme.

HEE (via LETBs) pays for the cost of training these individuals, and contributes to their salary, depending on the time spent on E&T.

A total of 131 salaried programmes are split across 15 training categories:

- acute care
- dentistry (salaried to include dental nurse)
- healthcare scientists
- general practice vocational training scheme
- Improving Access to Psychological Therapies (IAPT)
- medical (salaried)
- obstetrics and gynaecology
- ophthalmology
- pathology
- paediatrics
- pharmacy
- psychiatry
- psychology
- radiology
- surgery.
Part-time working

30. The cohort years associated with the training programmes are designed to reflect full-time courses. When providers capture part-time activity, it should be recorded based on the current stage and content of the course, rather than the current year of the student. This is covered further in DH’s E&T cost collection guidance.³

Lead employer arrangements

Host provider

31. Where a lead employer chargeback arrangement exists between NHS providers, we ask that all costs and activity incurred by the host provider are included in the submission.

32. Where chargeback arrangements do not exist, all NHS providers should include only the activity costs they incur. This enables you to reconcile activity costs and provides DH and HEE with details of local lead employer arrangements.

33. As a result of this approach the salary costs included by the host provider will either be zero (where all salaries are paid by the lead employer, as in example A below) or will only reflect those they pay for (see example B below).

Lead employer

34. The lead employer should include details of the salary costs in their own return to ensure that we capture the total quantum of costs and that the provider reports these in line with operating expenditure.

35. Where the lead employer has no other activity and cost for that programme, this can simply be included in columns L to M to reflect the numbers and the total salary (see example C below).

36. Where there is activity at the provider for that particular programme, this should be included as normal in terms of cost components 1 to 12. Then include in columns L to M only the number of full-time equivalents (FTEs) and the salary costs of those hosted elsewhere (see example D below).

Service–training splits

37. Cost component 012: Percentage of time in training is often referred to as the ‘service–training split’ and is a highly subjective area. HEE has worked with DH to provide more guidance.

38. Note that the percentages and ranges under the following headings should be considered as guidelines only, and providers should report the actual observed percentage of time in training where possible.

Healthcare scientists

39. These estimates apply to Modernising Scientific Career (MSC) programmes only. All figures show percentage of time that should be training; the remaining time is assumed to contribute to clinical service. It is essential that the supernumerary of the NHS Scientist Training Programme (STP) is maintained, as set out in the MSC policy document.

Table ET2.3: Percentage of trainee time spent in training

<table>
<thead>
<tr>
<th>Programme</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>STP</td>
<td>100%</td>
<td>80%</td>
<td>60%</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>HSST</td>
<td>60%</td>
<td>40%</td>
<td>40%</td>
<td>20%</td>
<td>20%</td>
</tr>
</tbody>
</table>

40. The rationale behind these splits is:

- **NHS Scientist Training Programme (STP):** These are pre-registration employees, undertaking activities under supervision. In their first year they rotate through four areas, only one of which is the employer specialism required. In every year 20% of time is spent on academic training (MSc course). Trainees make some contribution to service when undertaking activities under supervision, but procedures are performed more slowly as training activities. Training takes place over three years compared to four previously, hence a greater training commitment.

---

4. As advised by professional leads from the National School of Healthcare Science.
• **Higher Specialist Scientist Training (HSST):** These are post-registration employees providing clinical services while following a personalised training plan. As with STP, about 20% of time is allocated to academic activities, for either the FRCPath or DClinSci qualification. Trainees clearly contribute to service when undertaking activities, some of which are done under supervision. It has been recommended that the splits for the HSST programme are reviewed in 2017, by when the programme will have had sufficient time to become established.

**IAPT**

41. Trainees comprise:
   - high intensity therapists, who spend 40% of their time in training
   - clinical trainees (psychological wellbeing practitioners), who are in training 50% of the time.

42. The rationale behind these splits is:
   - **High intensity therapists:** High intensity trainees provide individual and group assessment and interventions.
   - **Clinical trainees (psychological wellbeing practitioners):** Clinical trainees provide individual, couple and group assessment and interventions, contribute to team discussion and provide teaching to external organisations about a client’s/patient’s wellbeing. They also evaluate the service and help develop new policies.

43. Both types of trainee receive supervision to check the quality of their work. As all practitioners must be supervised for clinical governance purposes, the percentage split represents a legitimate contribution to the service.

44. The number of clients/patients seen will change over the course of the three years. This contribution also needs to be measured differently depending on the service/client group. As trainees become more competent they can see more clients and carry out more varied work.

---

5. As advised by professional leads from universities responsible for IAPT training.
Pharmacy

45. Trainees comprise:
   - pre-registration training pharmacists, who spend 65% of their time in training
   - pharmacy technicians, who spend 45% of their time in training.

Additional support

46. DH has produced a template (available through the DH exchange⁷) that uses the checklist for cost component 012 (see Table ET2.2 above) to identify the information on which to base the split.

47. These service–training splits are calculated at a programme level, with the service and training percentages automatically generated based on the completed questions. Note that this template was produced to help providers having difficulty calculating their service–training splits: its use is not mandatory as part of the collection.

48. If providers do use the template, we ask that they consider it alongside information available locally and the 2014/15 ranges in Table ET2.4. These ranges reflect the data returned by providers involved in the 2014/15 exercise that reported a confidence level of 4 (high) or 5 (very high).

6. Advised through the HEE advisory group (pharmacy), the pharmacy LETB leads meeting and the NHS Pharmacy Education and Development Committee (both pre-registration pharmacists and support staff groups).

Table ET2.4: Percentage of medical trainee time in training as reported in the 2014/15 exercise (high confidence)

<table>
<thead>
<tr>
<th>Year</th>
<th>Lower quartile</th>
<th>Median</th>
<th>Upper quartile</th>
<th>Number of observations</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY1</td>
<td>50%</td>
<td>55%</td>
<td>66%</td>
<td>32</td>
</tr>
<tr>
<td>FY2</td>
<td>47%</td>
<td>54%</td>
<td>60%</td>
<td>35</td>
</tr>
<tr>
<td>ST1</td>
<td>40%</td>
<td>50%</td>
<td>58%</td>
<td>350</td>
</tr>
<tr>
<td>ST2</td>
<td>40%</td>
<td>46%</td>
<td>57%</td>
<td>348</td>
</tr>
<tr>
<td>ST3</td>
<td>35%</td>
<td>40%</td>
<td>53%</td>
<td>372</td>
</tr>
<tr>
<td>ST4</td>
<td>34%</td>
<td>35%</td>
<td>52%</td>
<td>315</td>
</tr>
<tr>
<td>ST5</td>
<td>35%</td>
<td>40%</td>
<td>50%</td>
<td>321</td>
</tr>
<tr>
<td>ST6</td>
<td>35%</td>
<td>38%</td>
<td>45%</td>
<td>295</td>
</tr>
<tr>
<td>ST7</td>
<td>35%</td>
<td>35%</td>
<td>50%</td>
<td>129</td>
</tr>
<tr>
<td>ST8</td>
<td>37%</td>
<td>45%</td>
<td>50%</td>
<td>39</td>
</tr>
</tbody>
</table>
### Example A: Host with no activity

You are a host provider with all your FTEs coming from a lead employer organisation(s).

<table>
<thead>
<tr>
<th>Activity</th>
<th>Activity</th>
<th>Activity</th>
<th>Activity</th>
<th>Costs</th>
<th>Costs</th>
<th>Percentage</th>
<th>Total</th>
<th>Calculation</th>
<th>Calculation</th>
<th>Calculation</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>B</td>
<td>C</td>
<td>D</td>
<td>E</td>
<td>F</td>
<td>G</td>
<td>H</td>
<td>I</td>
<td>J</td>
<td>K</td>
<td>L</td>
</tr>
<tr>
<td>001–010</td>
<td>011</td>
<td>012</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Host provider</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Total services and training hours (all trainees)</th>
<th>Training hours (all trainees)</th>
<th>Total number of FTE trainees (service and training)</th>
<th>FTE hours per week</th>
<th>Cost components</th>
<th>Total trainee staff cost (service and training)</th>
<th>Proportion of trainee time in training, not service delivery</th>
<th>Total costs</th>
<th>Cost per hour</th>
<th>Cost per hour excluding salary costs</th>
<th>Cost per FTE excluding salary costs</th>
<th>How many of the FTEs reported are hosted only, ie another employer pays their salary?</th>
</tr>
</thead>
<tbody>
<tr>
<td>20,800.0</td>
<td>10,400.0</td>
<td>10.0</td>
<td>40.0</td>
<td>50,000.00</td>
<td>0.00</td>
<td>50.00%</td>
<td>£50,000</td>
<td>£4.81</td>
<td>£4.81</td>
<td>£5,000</td>
<td>10.0</td>
</tr>
</tbody>
</table>

- This activity includes all FTEs entered in column C; therefore this includes the 10 FTE activity from the lead employer(s).
- This is your provider's 10 FTEs received from the lead employer(s).
- Salary costs will be zero as all 10 FTEs have come from the lead employer(s) who also has not issued you with a chargeback invoice.
- Please enter the number of FTEs received from the lead employer(s); this number is also added to column C.
### Example B: Host with activity

You are a host provider with FTEs coming from your organisation and from a lead employer organisation(s).

<table>
<thead>
<tr>
<th>Activity</th>
<th>Activity</th>
<th>Activity</th>
<th>Activity</th>
<th>Costs</th>
<th>Costs</th>
<th>Percentage</th>
<th>Total</th>
<th>Calculation</th>
<th>Calculation</th>
<th>Calculation</th>
<th>Calculation</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>B</td>
<td>C</td>
<td>D</td>
<td>E</td>
<td>F</td>
<td>G</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>L</td>
</tr>
<tr>
<td>001–010</td>
<td>011</td>
<td>012</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Total services and training hours (all trainees)</th>
<th>Training hours (all trainees)</th>
<th>Total number of FTE trainees (service and training)</th>
<th>FTE hours per week</th>
<th>Cost components</th>
<th>Total trainee staff cost (service and training)</th>
<th>Proportion of trainee time in training, not service delivery</th>
<th>Total costs</th>
<th>Cost per hour</th>
<th>Cost per hour excluding salary costs</th>
<th>Cost per FTE excluding salary costs</th>
<th>How many of the FTEs reported are hosted only, ie another employer pays their salary?</th>
</tr>
</thead>
<tbody>
<tr>
<td>208,000.0</td>
<td>104,000.0</td>
<td>100.0</td>
<td>40.0</td>
<td>550,000.00</td>
<td>3,150,000.00</td>
<td>50.00%</td>
<td>£2,125,000</td>
<td>£20.43</td>
<td>£5.29</td>
<td>£5,500</td>
<td>10.0</td>
</tr>
</tbody>
</table>

This activity includes all FTEs entered in column C; therefore this includes the 10 FTE activity from the lead employer(s).

This is your provider’s 90 FTEs plus the 10 FTEs received from the lead employer(s).

Salary costs will be for 90 FTEs as the 10 FTEs received from the lead employer(s) entered in column L do not have a salary.

Please enter the number of FTEs received from the lead employer(s); this number is also added to column C.
# Example C: Lead employer with no activity

You are a lead employer provider with all your FTEs posted to a host provider(s) and have no FTEs of your own.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Activity</th>
<th>Activity</th>
<th>Activity</th>
<th>Costs</th>
<th>Costs</th>
<th>Percentage</th>
<th>Total</th>
<th>Calculation</th>
<th>Calculation</th>
<th>Calculation</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>B</td>
<td>C</td>
<td>D</td>
<td>E</td>
<td>F</td>
<td>G</td>
<td>H</td>
<td>I</td>
<td>J</td>
<td>K</td>
</tr>
<tr>
<td>001-010</td>
<td>011</td>
<td>012</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Total services and training hours (all trainees)**

**Training hours (all trainees)**

**Total number of FTE trainees (service and training)**

**FTE hours per week**

**Cost components**

**Total trainee staff cost (service and training)**

**Proportion of trainee time in training, not service delivery**

**Total costs**

**Cost per hour**

**Cost per hour excluding salary costs**

**Cost per FTE excluding salary costs**

**How many of the FTEs reported are hosted only, ie your provider pays their salary?**

**Lead employer salary costs (salaries incurred for trainees hosted elsewhere that are not recharged)**

<table>
<thead>
<tr>
<th></th>
<th>Activity</th>
<th>Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Lead provider</td>
<td>Lead provider</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Total host FTEs</th>
<th>Total salary training split 50%</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>£175,000</td>
<td>£350,000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Total host FTEs</th>
<th>Total salary training split 50%</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>£175,000</td>
<td>£350,000</td>
</tr>
</tbody>
</table>

There is no FTE activity at your provider; the 10 FTEs have been posted to your host provider(s), entered in column L.

There are no FTEs in your provider; the 10 FTEs are posted to another provider, entered in column L.

Even though there is no activity, the 10 host FTEs’ salary costs are still incurred by your provider because there is no chargeback invoice to the host provider.

Please enter the number of FTEs posted to host provider(s); this number is also subtracted from column C.

These are the total for columns L and M. Column M is calculated assuming a proportion of trainee time in training of 50%. The column M salary cost will be included in your reconciliation statement.
**Example D: Lead employer with activity**

You are a lead employer provider with FTEs within your own organisation and FTEs posted to a host provider(s).

<table>
<thead>
<tr>
<th>Activity</th>
<th>Activity</th>
<th>Activity</th>
<th>Activity</th>
<th>Costs</th>
<th>Costs</th>
<th>Percentage</th>
<th>Total</th>
<th>Calculation</th>
<th>Calculation</th>
<th>Calculation</th>
<th>Activity</th>
<th>Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>B</td>
<td>C</td>
<td>D</td>
<td>E</td>
<td>F</td>
<td>G</td>
<td>H</td>
<td>I</td>
<td>J</td>
<td>K</td>
<td>L</td>
<td>M</td>
</tr>
<tr>
<td></td>
<td>001–010</td>
<td>011</td>
<td>012</td>
<td>0001</td>
<td>001</td>
<td>002</td>
<td>003</td>
<td>004</td>
<td>005</td>
<td>006</td>
<td>007</td>
<td>008</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>166,400.0</td>
<td>83,200.0</td>
<td>80.0</td>
<td>40.0</td>
<td>400,000.00</td>
<td>3,150,000.00</td>
<td>50.00%</td>
<td>£1,975,000</td>
<td>£23.74</td>
</tr>
</tbody>
</table>

This activity includes all FTEs entered in column C; therefore does not include the 10 hosted FTEs detailed in column L.

This is your provider's 90 FTEs minus the 10 FTEs hosted to another provider as detailed in column L.

Salary costs will be for 90 FTEs as your provider pays the salaries of the 10 hosted FTEs detailed in column L because you have not issued a chargeback invoice to the host provider.

Please enter the number of FTEs posted to the host provider(s); this number is also subtracted from column C.

These are the total for columns L and M. Column M is calculated assuming a proportion of trainee time in training of 50%. The column M salary cost will be included in your reconciliation statement.
ET3:

**Appropriate education and training cost allocation methods**

**Purpose:** To provide a consistent method for netting off education and training costs from the Costing Transformation Programme's PLICS cost collection.

**Objective**

1. To ensure organisations net off education and training (E&T) costs as accurately as possible in their costing process.

**Scope**

2. All costs related to E&T for in-scope programmes.

**Overview**

3. Methods for calculating reference costs net of E&T costs were developed with the Department of Health (DH) Education and Training Working Group and University Hospital Southampton NHS Foundation Trust (UHS). This method is a guide to, or starting point for, how to net off E&T costs from reference costs.

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8. The project team considered both the burden of collection and the ongoing need to collect the reference costs on the old basis of netting off E&T income.
4. The two methods are:
   - **Adjust the reference costing model to allocate costs to E&T cost centres to populate the E&T return and provide reference costs that exclude E&T costs.** This method involves work to re-apportion all cost centres that include an element of E&T costs. This is what most providers will wish to do when E&T costs are fully integrated as part of the reference costs collection. For as long as reference costs are required net of E&T income this method means providers must set up and maintain two reference costs models within their systems.
   - **Remove the identified E&T costs from the cost quantum before loading it into the reference costs model.** This method still requires the separate calculation of E&T costs, but has the benefit of not affecting the reference costs model for future collections net of income.

5. Organisations can choose the method they use, but the direction is towards allocating costs to E&T in the costing system and we encourage you to do so.

6. UHS developed the optional guidance below to support the dual run.

**Approach**

7. Where costs are easily identified as relevant to a particular cost centre/account code, they should be removed from that code.

8. Where costs cannot easily be identified as relevant to a specific cost centre, they should be apportioned across relevant cost centres using the most appropriate method (see guidance below for examples).

9. Costs should be identified at the lowest possible level to ensure their true effect on reference cost currencies is identified.

**Calculating and assigning costs to the resources identified**

10. We require the expenditure incurred in the costing period, so when costing resource information use actual salary costs rather than average points on a scale. Or if you use a relative weight value for a staff group, calculate an average cost based on the total actual spend in the period for the group involved.
11. It is likely that many costs have to be split between cohorts and occasionally between programmes, so a method for apportioning a calculated cost may be required, eg using time spent or numbers of students/trainees.

12. As far as possible, you should take the same approach for costing E&T activity as for costing service activity.

13. An exception to this, and a potential deviation from CTP PLICS in relation to E&T, is the calculation of support costs.9

14. The guide was intended to address issues around consistency and offer an example of how a provider could approach this calculation for E&T. We appreciate that until a standardised approach to apportioning support costs for E&T is agreed and mandated, inconsistencies in allocating overheads will persist. We are not making it compulsory to use this approach, and appreciate that some providers will use another approach.

15. We ask providers to sense-check the support costs element they include as a percentage of total costs submitted, with their normal support costs assumed.

Methods for separating the E&T costs

16. DH and the E&T Working Group considered three methods for allocating costs to E&T within the system. Two focus on adapting current apportionment tables and the third uses newly created journals to remove the costs of E&T.

Creating initial tables to split costs between E&T and non-E&T

17. Method 1: The working group explored the possibility of directing all costs in a cost centre containing E&T costs to an ‘initial split’ table, splitting the costs between E&T and non-E&T. The non-E&T portion would be directed to the existing table and the E&T portion to an E&T table.

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9. Organisations looking for more information about this calculation should refer to DH’s Guide to calculating overheads associated with education and training. This was developed with the NHS for providers to use during the collection. https://dhexchange.kahootz.com/connect.ti
18. **Method 2:** The working group also considered adding lines to existing allocation tables. If a cost centre and expense code combination contains an element of E&T costs, you could add a line to the allocation table to which that combination was directed. The amended table would still assign costs to the services that had always been in the table, but a proportion of costs would also be assigned to E&T.

19. The **advantages** of these methods are:
   - the process of splitting costs to E&T is better integrated into the allocation and apportionment process
   - there is no need to input any journals on a monthly basis.

20. The **disadvantages** are:
   - it takes longer to create all the initial split tables
   - these weightings still need to be updated annually to reflect changes in E&T costs
   - it creates many new allocation tables.

**Extracting E&T costs using PLICS journals**

21. **Method 3** ensures that education and service costs are kept together for regular reports to the provider executive committee.

**Selecting the codes to remove E&T costs from**

22. A journal should be used to transfer the E&T costs from their original ledger codes to a dummy cost centre and expense codes within the system. These dummy codes will then be directed to E&T allocation tables. Code combinations are chosen in two ways:

   - **Journal from specified account code combinations (SACCs)** – where you know specifically which cost centre and subjective code combinations to remove the costs from and how much to remove from each code; mainly for support costs.
• **Journal from a range of account code combinations (RACCs)** – for the remaining cost types we have to journal the predetermined costs from a range of cost centre and subjective code combinations based on the description of the subjective code. The total journalled from each combination will be in proportion to the existing amount on the subjective code. For example, we know the total E&T costs of midwifery. This cost is removed from all the midwifery subjective codes for the provider in proportion to the existing amount on each midwifery subjective code. The major cost groups where a journal will be calculated in this way are:
  - medical staff
  - adult nursing
  - child nursing
  - midwifery
  - divisional admin.

**Inputting the journals to establish E&T costs at service level**

23. To enable analysis for each E&T income stream (postgraduate, undergraduate and non-medical) it was agreed that three separate journals would be created to remove costs from cost centre and subjective code combinations on the general ledger. The process of reporting undergraduate, postgraduate and non-medical costs broken down by service line is as follows:

  • **Stage 1**: Run one set of service-line reports without any undergraduate, postgraduate or non-medical journals in place. These figures are calculated based on the same figures used for the E&T submission. The system allocates costs to services using your apportionment tables and gives a split of costs across services (as you normally would for usual service-line reporting).

  • **Stage 2**: Run the process again, removing the undergraduate costs from the relevant cost centre and expense code combinations using a journal. The remaining costs flow through to the same apportionment tables as before and are split across services excluding undergraduate costs.

  • **Stage 3**: The output from stage 2 can be subtracted from the output from stage 1 to identify the cost of undergraduate E&T broken down by care group and/or service line.

  • **Stage 4**: Repeat stages 2 and 3 for postgraduate and non-medical E&T.
24. Once you have completed this process, it is possible to run an output report from the system to show the non-medical costs split between service and E&T.

**Applying account code combinations to E&T costs**

25. Allocating the E&T costs within the system requires account code combinations (cost centre plus subjective code) of the costs. Account code combinations of some costs were readily available as they had been reviewed in the process of collecting the E&T costs, particularly for support costs. For the remaining costs it was necessary to assign ACCs to them.
26. SACCs should be applied where sufficient evidence can be provided to support the selection of the ACCs. The main areas with SACCs are medical staff teaching costs, nursing staff teaching costs and healthcare scientist teaching costs – practitioner training programmes (PTPs) and scientist training programmes (STPs).

27. The allocation method, SACC or ACC are shown by cost type in Tables ET3.1 and ET3.2.

Table ET3.1: Education cost allocation methods

<table>
<thead>
<tr>
<th>Cost type</th>
<th>Post-graduate (£000)</th>
<th>Under-graduate (£000)</th>
<th>Non-medical (£000)</th>
<th>Total (£000)</th>
<th>Allocation method</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Medical staff</strong></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
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<td>N/A</td>
<td></td>
<td></td>
<td>SACCs</td>
</tr>
<tr>
<td>Consultant admin</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-consultant</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>grade</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>**Non-medical</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-medical</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>staff</td>
<td>N/A</td>
<td>N/A</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Other</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Admin</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PACs</td>
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<td>SACCs</td>
</tr>
<tr>
<td><strong>Support costs</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total E&amp;T cost</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>SACCs</td>
</tr>
</tbody>
</table>
Table ET3.2: Breakdown of non-medical costs

<table>
<thead>
<tr>
<th>Subjective headings</th>
<th>Staff group</th>
<th>Post-graduate (£000)</th>
<th>Under-graduate (£000)</th>
<th>Non-medical (£000)</th>
<th>Allocation method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced nursing practitioner</td>
<td>Nursing</td>
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<td>N/A</td>
<td>N/A</td>
<td>SACCs</td>
</tr>
<tr>
<td>Healthcare assistant pilot</td>
<td>Nursing</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>SACCs</td>
</tr>
<tr>
<td>PAs and secretaries</td>
<td>Admin and clerical</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>RACCs</td>
</tr>
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<td>Education centre admin</td>
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<td>N/A</td>
<td>N/A</td>
<td>SACCs</td>
</tr>
<tr>
<td>Divisional admin support</td>
<td>Admin and clerical</td>
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<td>N/A</td>
<td>N/A</td>
<td>RACCs</td>
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<td>N/A</td>
<td>SACCs</td>
</tr>
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<td>Admin and clerical</td>
<td>Admin and clerical</td>
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<td>N/A</td>
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</tr>
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<td>N/A</td>
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</tr>
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<td>N/A</td>
<td>N/A</td>
<td>SACCs</td>
</tr>
<tr>
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<td>Nursing</td>
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<td>N/A</td>
<td>SACCs</td>
</tr>
<tr>
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<td>Sonographers</td>
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Table ET3.2: Breakdown of non-medical costs (continued)

<table>
<thead>
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<th>Subjective headings</th>
<th>Staff group</th>
<th>Post-graduate (£000)</th>
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<th>Non-medical (£000)</th>
<th>Allocation method</th>
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<td>Radiographers</td>
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<td>Adult nursing</td>
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<td>N/A</td>
<td>N/A</td>
<td>SACCs</td>
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<td>N/A</td>
<td>N/A</td>
<td>RACCs</td>
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<td>Radiography – Therapeutics</td>
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</table>
Table ET3.2: Breakdown of non-medical costs (continued)

<table>
<thead>
<tr>
<th>Subjective headings</th>
<th>Staff group</th>
<th>Post-graduate (£000)</th>
<th>Under-graduate (£000)</th>
<th>Non-medical (£000)</th>
<th>Allocation method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orthoptics</td>
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<td>N/A</td>
<td>N/A</td>
<td>SACCs</td>
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<td>Nutrition and dietetics</td>
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<td>N/A</td>
<td>RACCs</td>
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</tr>
<tr>
<td>Operating department practitioner</td>
<td>ODP</td>
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<td>N/A</td>
<td>RACCs</td>
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</tr>
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<td>Paramedics</td>
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<td>Pharm undergrad</td>
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<td>RACCs</td>
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</tr>
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<td>Pharmacy techs</td>
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<td>N/A</td>
<td>RACCs</td>
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<tr>
<td>Pharmacy pre-reg</td>
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<td>N/A</td>
<td>RACCs</td>
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<tr>
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<td>N/A</td>
<td>N/A</td>
<td>SACCs</td>
<td></td>
</tr>
<tr>
<td>Practitioner training programmes (PTP) –</td>
<td>Healthcare scientists</td>
<td>N/A</td>
<td>N/A</td>
<td>SACCs</td>
<td></td>
</tr>
<tr>
<td>Audiology</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PTP – Neurophysiology</td>
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<td>N/A</td>
<td>SACCs</td>
<td></td>
</tr>
<tr>
<td>PTP – Ophth and vision science</td>
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<td>SACCs</td>
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<tr>
<td>PTP – Blood sciences</td>
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<tr>
<td>PTP – Resp and sleep physiology</td>
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<td>N/A</td>
<td>SACCs</td>
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</tr>
<tr>
<td>STP – Clinical biochemistry</td>
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<td>N/A</td>
<td>SACCs</td>
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</tr>
</tbody>
</table>
### Table ET3.2: Breakdown of non-medical costs (continued)

<table>
<thead>
<tr>
<th>Subjective headings</th>
<th>Staff group</th>
<th>Post-graduate (£000)</th>
<th>Under-graduate (£000)</th>
<th>Non-medical (£000)</th>
<th>Allocation method</th>
</tr>
</thead>
<tbody>
<tr>
<td>STP – Clinical immunology</td>
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<td>N/A</td>
<td></td>
<td>SACCs</td>
</tr>
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<td>STP – CVR &amp; S</td>
<td>Healthcare scientists</td>
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<td>N/A</td>
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<td>SACCs</td>
</tr>
<tr>
<td>STP – Histopathology</td>
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<tr>
<td>STP – Medical physics</td>
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<td>N/A</td>
<td></td>
<td>SACCs</td>
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<tr>
<td>STP – Neurophysiology (IS)</td>
<td>Healthcare scientists</td>
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<td>N/A</td>
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<td>SACCs</td>
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<tr>
<td>STP – Reproductive science</td>
<td>Healthcare scientists</td>
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<td>SACCs</td>
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<td>Healthcare science – Pre-MSC</td>
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</tr>
<tr>
<td>Total cost</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Medical staff costs

24. A survey or other appropriate template should be used to gather E&T activities from medical staff: see Standard ET1: Information requirements for more information. Table ET3.3 shows example rates of consultant survey returns by care group. Cost centres can then replace the specialties in the costings model and the costs can be summarised by ACC for PLICS.

Table ET3.3: Consultant survey return rates by care group

<table>
<thead>
<tr>
<th>Division</th>
<th>Care group</th>
<th>Total number of staff</th>
<th>Returned total</th>
<th>Return rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Division A</td>
<td>Cancer care</td>
<td>82</td>
<td>44</td>
<td>53.66%</td>
</tr>
<tr>
<td></td>
<td>Critical care</td>
<td>190</td>
<td>100</td>
<td>52.63%</td>
</tr>
<tr>
<td></td>
<td>Surgery</td>
<td>84</td>
<td>44</td>
<td>52.38%</td>
</tr>
<tr>
<td>Division B</td>
<td>Emergency care</td>
<td>36</td>
<td>28</td>
<td>77.78%</td>
</tr>
<tr>
<td></td>
<td>Medicines for older people</td>
<td>38</td>
<td>26</td>
<td>68.42%</td>
</tr>
<tr>
<td></td>
<td>Pathology</td>
<td>38</td>
<td>18</td>
<td>47.37%</td>
</tr>
<tr>
<td></td>
<td>Radiology</td>
<td>96</td>
<td>66</td>
<td>68.75%</td>
</tr>
<tr>
<td></td>
<td>Specialist medicine</td>
<td>148</td>
<td>60</td>
<td>40.54%</td>
</tr>
<tr>
<td>Division C</td>
<td>Child health</td>
<td>154</td>
<td>62</td>
<td>40.26%</td>
</tr>
<tr>
<td></td>
<td>Women and newborn</td>
<td>58</td>
<td>22</td>
<td>37.93%</td>
</tr>
<tr>
<td>Division D</td>
<td>Cardiothoracic</td>
<td>66</td>
<td>40</td>
<td>60.61%</td>
</tr>
<tr>
<td></td>
<td>Neurosciences</td>
<td>94</td>
<td>60</td>
<td>63.83%</td>
</tr>
<tr>
<td></td>
<td>Trauma and orthopaedics</td>
<td>46</td>
<td>28</td>
<td>60.87%</td>
</tr>
<tr>
<td>THQ</td>
<td>Human resources</td>
<td>4</td>
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<td>50.00%</td>
</tr>
<tr>
<td>University</td>
<td></td>
<td>156</td>
<td>54</td>
<td>34.62%</td>
</tr>
</tbody>
</table>

**Total** | **1290** | **654** | **50.70%**
Healthcare scientists’ costs

25. PTP programme leads should be identified to complete a template that defines E&T activities, number of teaching hours and banding of the teaching staff in the programme.

26. Most PTP students are closely monitored and taught by either the programme leads or senior staff members in the same departments. If this is the case at your organisation, the departmental codes of the programme leads can be combined with the subjective codes from the banding of the teaching staff to form the ACCs.

27. You should extract the cost centres and bandings from the payroll data to determine the ACCs.

Adult/child nursing costs

28. You should obtain student names, the departments they are placed in and the time period of the placements. Record this information to calculate the actual number of days that each ward had nursing students during the costing period.

29. The wards can then be assigned cost centres, and subjective codes can be selected based on the available information on adult/child nursing. The cost centres and the subjective codes can then be combined to form the basis of allocation.

Costs with RACCs

30. A range of ACCs is applied where there is insufficient information to rely on in allocating the costs, eg divisional administration costs. RACCs are also used for the programmes where the training is performed by specific staff groups that can be easily isolated in the account codes, eg allied health professionals and midwives.

31. Select the ACCs based on the description of the subjective code of the trainers: for example, the midwifery costs are removed from all band 7 midwifery subjective codes in proportion to the existing amount on the subjective code.
E&T support costs

32. SACCs are applied. The costs of support services in the central cost centres, i.e. human resources, finance, estates, utilities, etc should be reviewed and reconciled with the costs retained in PLICS. This preliminary work helps to identify the relevant ACCs in the general ledger.

33. Once the total cost is determined, break it down into the three education activity streams in proportion to their total pay costs.

Populating the template and sense-checking the proposed submission

34. Information needs to be submitted for every training programme for which you have students/trainees, and captured in the relevant part of the collection template. More detail on the collection can be found in the DH Education and Training cost collection guidance.10

35. We suggest that organisations complete a high level reconciliation to help identify whether a submission is reasonable.

36. Possible reconciliation items to include are:
   • locally funded postgraduate trainees within the scope of the exercise
   • lead employer costs
   • share of activities an organisation provides on behalf of a partnership or region
   • funded activities that support the training but are not related to the clinical placement
   • income received for backfilling staff who are released to undertake a training activity
   • the difference between the actual salary costs of the postgraduate trainees in post and the standard pay scale on which the postgraduate medical tariff is currently based.

37. Once all known reconciliation items have been included, the resulting balance gives a clearer understanding of how the submission compares to income and an insight into how this balance is distributed across the different staff groups.