**DHB Costing Guidelines**

**Version 11**

**June 2019**

Issued by

Common Costing Group

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# Explanatory Foreword

### 1) Version control

Version 8 is applicable from 1 July 2018 onwards.

### 2) Purpose of the Costing Guidelines

The costing guidelines have been created to achieve the following objectives;-

1. Assist DHBs when they are implementing an event level costing system.
2. Enable DHBs to assess their costing methodology in comparison to other DHBs.
3. Assist the interpretation of event level costing data.
4. Improve the development of the Costing Standards.

### 3) Origin of the Costing Guidelines

The guidelines were developed by the Common Costing Group, an advisory group set up in 2005 by the CFO Technical Accounting Group and the Ministry of Health. They are based on information obtained from the members of this group.

Every guideline details the DHBs that contributed information towards its creation and the date this information was obtained.

### 4) Relationship of the Costing Guidelines to the Costing Standards

The Costing Standards provide direction on the allocation of costs to patient events and the categorisation of the expenses and the products (CS7) that should be used to represent the goods and services provided.

The guidelines provide information on the products that DHBs have chosen to use to allocate costs to patient events, and the type of costs that are allocated by each product.

Therefore they provide information on how DHBs have applied the costing standards in relation to schedule seven Intermediate Products, i.e. the goods and services costed and allocated to patient events.

# Guideline 1: CRITICAL CARE (CS7.7.10 A100)

The cost of providing the inpatient and day patient care within an Intensive Care Unit, Neonatal ICU, Coronary Care Unit or other high dependency specialist unit.

**Hierarchy of Products**

|  |  |
| --- | --- |
| Level 1 | Critical Care Day |
| Level 2 | ICU / ITU Day |
|  | CCU Day |
|  | SCBU DayPICU Day |
|  | NICU DayHDU DayIntensive Mental Health Day |
|  | Other Special Care Units |
| Level 3 | Same categories as above but in hours |
| Level 4  | Hours differentiated by level of intensity |

**CRITICAL CARE (A100) GUIDELINES**

The following are guidelines that can be used by DHBs when determining how to cost Critical Care products/activity. They are based on the methodology currently used and found by DHBs to be successful.

The guidelines were created using data from the following District Health Boards;-

|  |  |
| --- | --- |
| ·       Bay of Plenty | ·       Auckland |
| ·       Northland | ·       MidCentral  |
| ·       Waitemata | ·       Counties Manukau |
| ·       Waikato | ·       Capital & Coast |

### 1) Critical Care Products/Activity

Summary of critical care products costed by DHB's.



Each DHB has adopted a uniquely different product mix to cost their Critical Care Units. Generally there is some form of bed day in the product mix however, some DHB's allocate costs based on bed hours.

The types of costs allocated to bed days also differ considerably, for example some include doctor costs others don't. A number of DHB's have bed day products based on acuity but again this varies considerably e.g. the range is one to nineteen.

As a guideline Critical Care Units should be costed using some form of bed day product that recognises the staff resource required per patient day/hour. If possible the day/hour should be weighted according to the resources consumed i.e. weighted by acuity, ventilation, CPAP etc. Note however, before this methodology is adopted there should be confidence in the weight adopted. Also as a general rule all weights/RVUs should be reviewed annually.

If services provided by Critical Care staff, in addition to the normal bed day, care can be recognised and costed, e.g. procedures and tests then it is advisable to separately cost this activity.

### 2) Critical Care Department Overheads

Overall indirect costs comprised approximately 27% of the total Critical Care Department costs. The range between DHBs submitting overhead percentages (3 DHBs) was 22% to33%.

**NOTES**

Number of DHBs included in survey = 8

Date of survey - May/June 2019

From 2017/18 Cost Data these are the top 10 Purchase Units (across all DHBs with Critical Care Costs):



# Guideline 2: EMERGENCY (CS7.7.11 A110)

The cost of providing the Emergency Department service. This includes costs of Acute Assessment Units managed within the same clinical directorate as the Emergency Department, but not the Assessment / Short Stay wards which are outside of the ED Director’s management scope.

**Hierarchy of Products**

|  |  |
| --- | --- |
| Level 1 | ED Attendance or Acute Assessment Unit attendance |
| Level 2 | As for Level 1 by DHB ED triage Score |
| Level 3 | Specific types of attendance – by specialty or patient presentation type, ED location etc. |
| Level 4  | As above with hours  |
| Level 5  | As for Level 4 with differentiation by level of resource intensity  |

**EMERGENCYENCY DEPARTMENT (A110) GUIDELINES**

The following are guidelines that can be used by DHBs when determining how to cost Emergency Department products/activity. They are based on the methodology currently used and found by DHBs to be successful.

The guidelines were updated in 2019 using data from the following District Health Boards:

|  |  |
| --- | --- |
| * Auckland
 | * Tairawhiti
 |
| * Bay of Plenty
 | * Northland
 |
| * Capital & Coast
 | * Waikato
 |
| * Counties
 | * Waitemata
 |
| * Lakes
 |  |

**1) Emergency Department Products/Activity**

All DHBs surveyed use triage level as a way to differentiate their products (Triage 1 being the highest level of severity):

|  |  |
| --- | --- |
| * Emergency Visits - Triage 1
 | * Emergency Visits - Triage 4
 |
| * Emergency Visits - Triage 2
 | * Emergency Visits - Triage 5
 |
| * Emergency Visits - Triage 3
 |  |

Based on Waitemata DHB Doctors, using level three products hierarchy location within ED (e.g. resus, monitored) is a better indicator of cost than triage due to there being different staffing ratios which RVUs can be based on.

Some DHBs also have additional hourly, daily (bed day) or other duration / LOS based products as well. Sometimes multiple duration types are used, e.g. hours and bed days. Sometimes hours aren't counted for e.g. the first hour, or until they have been there for a certain number of hours.

A few DHBs split patients into admitted and non-admitted, which coincides with the purchase units e.g. ED04001/ED04001A.

Some DHBs track movements within ED, e.g. to observation, or to assessment units. But there can be difficulty tracking some of this movement, e.g. between ED and assessment units, and the logic of mapping these movements to products requires some work.

Some DHBs cost specific procedures performed in ED, while others barely capture any data at all on procedures.

**2) Emergency Department Overheads**

Median indirect costs comprised 24% of the total Emergency Department costs. The range between DHBs was 16% to 31%.

**NOTES**

Number of DHBs included in survey: 9

Date of survey: Feb 2019

(Survey conducted by Richard Wilde, Waitemata DHB)

# Guideline 3: THEATRE/PROCEDURE ROOMS(CS7.7.8 A080)

Facility and staff costs for operating theatre and recovery rooms. Includes specific procedure rooms where anaesthesia may not always be required and Maternity Unit Caesarean theatres.

**Hierarchy of Products**

|  |  |
| --- | --- |
| Level 1 | Anaesthesia minute |
| Level 2 | As for level 1 by specialty |
| Level 3 | As for level 1 by specialty and by theatre type or anaesthesia type |
| Level 4  | Per level 3, further split by complexity |

**THEATRE/PROCEDURE ROOMS (A080) GUIDELINES**

The following are guidelines that can be used by DHBs when determining how to cost theatre/procedure room products/activity. They are based on the methodology currently used and found by DHBs to be successful.

The guidelines were created using data from the following District Health Boards;-

|  |  |
| --- | --- |
| * Auckland
 | * Taranaki
 |
| * Counties Manukau
 | * Waikato
 |
| * HawkesBay
 | * Waitemata
 |
| * Lakes
 | * Bay of Plenty
 |
| * Mid Central
 | * Canterbury
 |
| * Northland
 |  |

### 1) Theatre/Procedure Room Products/Activity

All DHBs have a product based on time in theatre to allocate staff, ie Nurse and Technician costs. Supply costs are also generally allocated based on operating time, however, a couple of DHBs allocate supply costs based on a weighted operation bases. There are also a couple of DHBs that allocate a portion of their supply costs based on the actual cost of the supplies rather than an RVU.

In addition to the products noted above 55% of the DHBs who participated in the survey have a separate product for recovery room activity and 18% have a separate preadmit clinic product.

2) Theatre/Procedure Room Relative Value Units (RVUs) (see following table)

The following are the RVUs that are applied by the DHBs listed above to count and cost theatre/procedure room products/activity.

**Theatre/Procedure Room Relative Value Units (RVUs)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  |  |  | **Cost Groups with Direct Patient Activity** |  |
|  |  |  |  | Nurse Labour | Allied Health Labour | Non Clinical Support Labour | Mgmt& Admin Labour | Outsourced Clinical Services | Drugs | Implants | Other Clinical Supplies | Infrastructure | **Notes** |
| **DHB** |  | **Products** | **Quantity Measure** |  |  |  |  |  |  |  |  |  |  |
| Waikato | Operation | 4 | Minutes | 1 - 4 | all 1 | - | 2 - 4 | - | - | - | - | 1 - 4 | Range Minor Op to Complex Op |
|  | Setup | 4 | Operation | - | - | - | - | - | 1 - 4 | 1 - 4 | 1 - 4 | 25 - 100 | Range Minor to Complex Setup |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Waitemata | Operation | 8 | Minutes | 2 - 3.28 | 2 - 3.28 | all 1 | all 1 | all 1 | all 1 | 0 - 4 | 1 - 3 | all 1 | Range ORL, Medical, Othroetc |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Bay of  | Operation | 22 | Minutes | .6 - .9 | - | all 1 | all 1 | - | 5 - 22 | 0 - 8 | 5 - 75 | all 1 | Proc by Dept eg Gynae, ENT etc |
| Plenty | Recovery Theatre | 1 | Minutes | .5 | - | 0 | 1 | - | 0 | 0 | 2 | 1 |  |
|  | Setup | 22 | Operation | 3 - 27 | - | 0 - 4 | 0 | - | 0 | 0 - 260 | 0 - 50 | 5 - 30 | Proc by Dept eg Gynae, ENT etc |
|  | Recovery Ward  | 3 | Hour | all 5 | - | 0 | 0 | - | all .2 | 0 | all 1 | all .2 |  |
|  | Recy Ward Arrival | 3 | Each | all 8 | - | 0 | all 1 | - | 0 | 0 | all 2 | all 1 |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Counties | Operation Nurse | 7 | Minutes | 1 - 6 | - | - | - | - | - | - | - | - | Range category 1 to 6 |
| Manukau | Operation Supplies | 16 | Operation | - | - | - | - | - | 1 - 15 | 1 - 15 | 1 - 15 | - | Proc by Dept eg ORL, Renal, Hand etc |
|  | Recovery Theatre | 1 | Minutes | 1 | - | - | - | - | - | - | - | - |  |
|  | Facility | 1 | Operation | - | 1 | 1 | 1 | - | - | - | - | 1 |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Auckland | Operation | 1 | Minutes | 1 - 3 | all 1 | all 1 | all 1 | - | all 1 | - | all 1 | 1 - 2 |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Mid Central | Operation Nurse | 1 | Minutes | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |  |
|  | Operation Supplies | 1 | Minutes | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 |  |
|  | Operation Other | 1 | Minutes | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 |  |
|  | Day | 3 | Days | 60 | 60 | 60 | 60 | 60 | 0 | 0 | 60 | 60 | Range, DOSA, PERIOP & SSSU |
|  | Preadmit Clinic | 2 | Minutes | 1 - 2 | 0 | 0 | 1 | 0 | 0 | 0 | 0.5 - 1 | 0.5 - 1 | Range, Preadmit clinic S2 & S3 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Taranaki | Operation Staff | 6 | Minutes | all 1 | 0 | 0 | all 1 | all 1 | 0 | 0 | 0 | 0 - 1 |  |
|  | Operation Theatre | 5 | Minutes | 0 | 0 | 0 | 0 - 1 | 0 - 1 | 0 | 0 | all 1 | all 1 |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |

|  |
| --- |
| **Theatre/Procedure Room Relative Value Units (RVUs) cont.** |
|  |  |  |  | **Cost Groups with Direct Patient Activity** |
|  |  |  |  | Nurse Labour | Allied Health Labour | Non Clinical Support Labour | Mgmt& Admin Labour | Outsourced Clinical Services | Drugs | Implants | Other Clinical Supplies | Infrastructure | **Notes** |
| **DHB** |  | **Products** | **Quantity Measure** |  |  |  |  |  |  |  |  |  |  |
| Lakes  | Setup | 4 | Operation | 10 - 60 | 0 | 0 | all 10 | 0 | 0 | 0 | 0 - 3 | 0 - 3 | Range from minor to complex |
|  | Operation Drugs | 8 | Operation | 0 | 0 | 0 | 0 | 0 | 61 - 3 | 0 | 0 | 0 | Proc by anaes type eg Local, Gen etc |
|  | Operation Staff | 9 | Operation | 2 - 3 | 0 | 0 | all 1 | 0 | 0.1 - 3 | 0 | 1 - 6 | all 1 | Range from minor to complex |
|  | Recovery Theatre | 1 | Operation | all 1 | 0 - 1 | 0 | all 1 | 0 | 0 - 1 | 0 | 1 - 2 | all 1 |  |
|  | Day | 3 | Days | 60 | 0 | 0 | 15 | 0 | .5 - 3 | 0 | 480 | 480 | Day pts& day case for ENT & Dental  |
|  | Implants | 3 | Unit | 0 | 0 | 0 | 0 | 0 | 0 | Weight | 0 | 0 | Weight = Proc code weighting |
| Hawkes  | Operation Staff | 13 | Minutes | all 1 | all 1 | all 1 | all 1 | 0 - 1 | 0 - 1 | 0 | all 1 | all 1 |  |
| Bay | Operation Supplies | 1 | Item | 0 | 0 | 0 | 0 | 0 | 0 | Cost | Cost | 0 | Cost = actual cost of item |
|  | Recovery Theatre | 1 | Minutes | all 1 | all 1 | all 1 | all 1 | 0 | 0 - .25 | 0 | all 1 | all 1 |  |
|  | Day | 3 | Days | all 15 | all 15 | all 15 | all 15 | 0 | 15 - 25 | 0 | 0 | all 15 |  |
|  | Preadmit Clinic | 1 | Attend | 1 | 1 | 1 | 20 | 0 | 1 | 1 | 1 | 1 |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Northland | Operation Staff | 28 | Minutes | 0 - 3 | 0 | 0 | 0 | 0 | 0 - .15 | 0 | 0 | 0 - 1 | Range by Dept eg Gynae& complexity  |
|  | Operation Supplies | 3 | Item | 0 | 0 | 0 | 0 | 0 | 0 | 0 | Cost | 0 | Cost = actual cost of item |
|  | Setup | 30 | Operation | 0 - 15 | 0 | 0 - 15 | 0 - 1 | 0 - 1 | 0 - 65 | 0 | 0 - 80 | all 1 | Proc by Dept eg Ent, Gynaeetc |
|  | Recovery Theatre | 1 | Minutes | 0 - 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 - .95 | 0 - .02 |  |
|  | Day | 2 | Days | 0 - 60 | 0 | 0 | 0 | 0 | 0 | 0 | 0 - 2 | 0 | Nursing day - acuity and day stay |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Canterbury | Recovery Theatre | 10 | Minutes | 1 - 3 | 1 - 3 | 1 - 6 | 1 - 3 | 0 | 0 | 0 | 0 | 0 | Range from 'Main Recovery', to Dental |
|  | Recovery Theatre | 10 | Operation | 0 - 20 | 0 - 20 | 0 - 40 | 1 - 20 | 0 | 0 | 0 | 1 - 6.5 | 0 |  |
|  | Operation MRSA | 1 | Patient | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 69.11 | 0 |  |
|  | Operation extra nurse  | 10 | Operation | 0 - 116 | 0 - 232 | 0 | 0 - 1 | 0 | 0 | 0 | .02 - 1 | 0 | Proc by Dept eg NICU extra nursing etc |
|  | Operation Staff | 6 | Minutes | 1 - 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | Range from Main Theatres to DSU |
|  | Operation  | 140 | Operation | 12 - 14 | 0 - 80 | 0 - 40 | all 1 | 0 | 0 | 0 | 1 - 1781 | 0 | Range from Ortho Hand Minor to |
|  |  |  |  |  |  |  |  |  |  |  |  |  | Plastics Hand Maj ADHL. |

|  |  |  |
| --- | --- | --- |
|  | **Cost Groups with Indirect Pt Activity** |  |
|  |  |  |  | Cost of Capital | Corporate | Other Service Based | Drugs | CTA |  | **Notes** |
| **DHB** |  | **Products** | **Quantity Measure** |  |  |  |  |  |  |  |
| Waikato | Operation | 4 | Minutes | all 1 | all 1 | all 1 | all 1 | - |  | Range Minor Op to Complex Op |
|  | Setup | 4 | Operation | all 15 | all 30 | all 30 | - | all 1 |  | Range Minor to Complex Setup |
|  |  |  |  |  |  |  |  |  |  |  |
| Waitemata | Operation | 8 | Minutes | all 1 | all 1 | all 1 | all 1 | - |  | Range ORL, Medical, Othroetc |
|  |  |  |  |  |  |  |  |  |  |  |
| Bay of  | Operation | 22 | Minutes | 1 - 4 | all 1 | all 1 | - | all 1 |  | Proc by Dept eg Gynae, ENT etc |
| Plenty | Recovery Theatre | 1 | Minutes | all 1 | all 1 | all 1 | all 3 | all 1 |  |  |
|  | Setup | 22 | Operation | 1 - 5 | 5 - 10 | 5 - 60 | 0 - 30 | 0 |  | Proc by Dept eg Gynae, ENT etc |
|  | Recovery Ward  | 3 | Hour | all 1 | all .2 | all .5 | 0 | 0 |  |  |
|  | Recovery Ward Arrival | 3 | Each | 0 | all .2 | all 1 | 0 | 0 |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| Counties | Operation Nurse | 7 | Minutes | 1 - 12 | 1 - 12 | 1 - 12 | 1 - 12 | - |  | Range category 1 to 6 |
| Manukau | Operation Supplies | 16 | Operation | 21 - 311 | 21 - 311 | 21 - 311 | 21 - 311 | - |  | Proc by Dept eg ORL, Renal, Hand etc |
|  | Recovery Theatre | 1 | Minutes | 1 - 5 | 1 - 5 | 1 - 5 | 1 - 5 | - |  |  |
|  | Facility | 1 | Operation | 64 - 111 | 64 - 111 | 64 - 111 | 64 - 111 | - |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| Auckland | Operation | 1 | Minutes | all 1 | all 1 | all 1 | all 1 | - |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| Mid Central | Operation Nurse | 1 | Minutes | 0 | 0 | 0 | 0 | 0 |  |  |
|  | Operation Supplies | 1 | Minutes | 0 | 0 | 0 | 0 | 0 |  |  |
|  | Operation Other | 1 | Minutes | 1 | 1 | 1 | 1 | 1 |  |  |
|  | Day | 3 | Days | 60 | 60 | 60 | 0 - 60 | 60 |  | Range, DOSA, PERIOP & SSSU |
|  | Preadmit Clinic | 2 | Minutes | 0 | 0.5 - 1 | 0.5 - 1 | 0 | 0 |  | Range, Preadmit clinic S2 & S3 |
|  |  |  |  |  |  |  |  |  |  |  |
| Taranaki | Operation Staff | 6 | Minutes | all 1 | all 1 | all 1 | all 1 | all 1 |  |  |
|  | Operation Theatre | 5 | Minutes | all 1 | all 1 | all 1 | all 1 | all 1 |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| Lakes  | Setup | 4 | Operation | 1 - 4 | 1 - 4 | 1 - 4 | 1 - 4 | 1 - 4 |  | Range from minor to complex |
|  | Operation Drugs | 8 | Operation | 0 | 0 | 0 | 0 | 0 |  | Proc by anaes type eg Local, Gen etc |
|  | Operation Staff | 9 | Operation | all 1 | all 1 | all 1 | all 1 | all 1 |  | Range from minor to complex |
|  | Recovery Theatre | 1 | Operation | all 1 | all 1 | all 1 | all 1 | all 1 |  |  |
|  | Day | 3 | Days | 0 | 0 | 0 | 0 | 0 |  | Day pts& day case for ENT & Dental  |
|  | Implants | 3 | Unit | 0 | 0 | 0 | 0 | 0 |  | Weight = Proc code weighting |

**Theatre/Procedure Room Relative Value Units (RVUs) cont.**

|  |
| --- |
| **Theatre/Procedure Room Relative Value Units (RVUs) cont.** |
|  | **Cost Groups with Indirect Pt Activity** |  |
|  |  |  |  | Cost of Capital | Corporate | Other Service Based | Drugs | CTA |  | **Notes** |
| **DHB** |  | **Products** | **Quantity Measure** |  |  |  |  |  |  |  |
| Hawkes  | Operation Staff | 13 | Minutes | all 1 | all 1 | all 1 | all 1 | all 1 |  |  |
| Bay | Operation Supplies | 1 | Item | 0 | 0 | 0 | 0 | 0 |  | Cost = actual cost of item |
|  | Recovery Theatre | 1 | Minutes | all 1 | all 1 | all 1 | all 1 | all 1 |  |  |
|  | Day | 3 | Days | all 15 | all 15 | all 15 | all 15 | all 15 |  |  |
|  | Preadmit Clinic | 1 | Attend | all 1 | all 1 | all 1 | all 1 | all 1 |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| Northland | Operation Staff | 28 | Minutes | 0 - 1 | 0 - 1 | 0 - 1 | 0 - 1 | 0 - 1 |  | Range by Dept eg Gynae& complexity  |
|  | Operation Supplies | 3 | Item | 0 | 0 | 0 | 0 | 0 |  | Cost = actual cost of item |
|  | Setup | 30 | Operation | all 1 | all 1 | all 1 | all 1 | all 1 |  | Proc by Dept eg Ent, Gynaeetc |
|  | Recovery Theatre | 1 | Minutes | 0 - 1.28 | 0 - 1.28 | 0 - 1.28 | 0 - 1.28 | 0 - 1.28 |  |  |
|  | Day | 2 | Days | 0 | 0 | 0 | 0 | 0 |  | Nursing day - acuity and day stay |
|  |  |  |  |  |  |  |  |  |  |  |
| Canterbury | Recovery Theatre | 10 | Minutes | 0 | 0 | 0 | 0 | 0 |  | Range from 'Main Recovery', to Dental |
|  | Recovery Theatre | 10 | Operation | 0 - 1 | 0 - 1 | 0 - 1 | 0 - 1 | 0 |  |  |
|  | Operation MRSA | 1 | Patient | 0 | 0 | 0 | 0 | 0 |  |  |
|  | Operation extra nurse  | 10 | Operation | all 1 | all 1 | all 1 | 0 - .1 | 0 |  | Proc by Dept eg NICU extra nursing etc |
|  | Operation Staff | 6 | Minutes | 0 | 0 | 0 | 0 - .4 | 0 |  | Range from Main Theatres to DSU |
|  | Operation  | 140 | Operation | all 1 | all 1 | all 1 | .33 - 89 | 0 |  | Range from Ortho Hand Minor to |
|  |  |  |  |  |  |  |  |  |  | Plastics Hand Maj ADHL. |
|  |  |  |  |  |  |  |  |  |  |  |

Although there is a considerable difference in the number of products used between DHBs to cost theatre services, all DHBs allocate staff costs based on the patients time in theatre. Therefore as a guide this approach should continue to be adopted in future.

If the actual supply cost per operation can be identified then this should be used in the costing process otherwise an allocation basis based on either time or a predetermined RVU should be used.

If additional theatre activity ie activity in addition to the actual operating time eg recover room, theatre setup etc can be measured per operation then it should be captured and separately costed.

### 3) Theatre/Procedure Room Overheads

Overall indirect costs comprised approximately 29% of the total theatre costs. The range between DHBs was 14% to 50%. Currently however, all DHBs who participated in the survey include sterile supply expenses in theatre overhead costs. From 2008/2009 onwards the Common Costing Standards specify that sterile supply costs should be reported as direct costs in their own product cost pool. Therefore it is anticipated that reported theatre overheads will reduce in future.

**NOTES**

Number of DHBs included in survey;- 11

Date of survey;- September 2008

# Guideline 4: WARDS (CS7.7.2 (A010)

|  |
| --- |
|  |
|  |
| The costs of providing the inpatient and day patient care within a Ward setting. |
|  |
| **Hierarchy of Products** |
| Level 1Bed day per ward |
| Day Case |
| Level 2 | Ward Days by Specialty |
| Level 3 | Ward Days or Ward hours split by specialty and actual ward |
| Level 4  | Ward days or hours split by acuity / dependency system |
| Level 5  | Acuity by shift or time of day ward hour differentiation |
|  |
| **WARD DEPARTMENT (A010) GUIDELINES** |
|  |
| The following are guidelines that can be used by DHBs when determining how to cost Ward products/activity. |
| They are based on the methodology currently used and found by DHBs to be successful. |
|  |
| The guidelines were created using data from the following District Health Boards;- |
|  |
|  | HawkesBay | Mid Central |  | Northland |  |
|  | Lakes | Auckland |
|  | Waitemata | Counties Manukau |
|  | Waikato | Wairarapa |
|  |
| 1) Ward/Department Products/Activity |
|  |
| To cost Wards DHBs should have products at least to the level of bed days and day cases/patients. Most DHBs |
| go further than this and define their bed days at the speciality level. A number go further still and record bed days |
| at the speciality level with some form of acuity. |
|  |
| The following products/activity are counted and costed by the DHBs who contributed to the survey;- |
|  |  |  |  |  |  |
| **Unit of Measure** | **Product Level** | **Example** |  | **Number of DHBs** | **Notes** |
|  |  |  |  |  |  |
| Bed Day | Bed Day | Bed Day |  | 3 | Generic day for all Wards. |
|  |  |  |  |  |  |
|  | Speciality/Ward | Medical |  | 4 | For the majority of DHBs speciality |
|  |  | Surgical  |  |  | is determined by the ward. |
|  |  | Mental Health |  |  |  |
|  |  |  |  |  |  |
|  | Speciality/Ward-Acuity | Nursing Day Shift Acuity | 2 | Three levels - Day, Evening, Night.  |
|  |  | Nursing Dependency 1-5 |  | Includes default level when |
|  |  |  |  |  | dependency not recorded. |
|  | Speciality/Ward-DRG | Bed day - A - Z64B | 1 | DRG weight used to spreadimprest drug costs. |
|  |
| Bed Hours | Bed Hours | Bed Hours | 1 |  |
|  |
|  | Speciality/Ward | Antenatal  | 1 | Only used to cost the Obstetric |
|  |  | Postnatal |  | service. |
| **Unit of Measure** | **Product Level** | **Example** | **Number of DHBs** | **Notes** |
|  |
|  | Speciality/Ward-DRG | Bed Hour - WAU - B60A | 1 | DRG weight used to spread imprest drug costs. |
| Day Patient | Day Patient | Day Patient | 4 |  |
|  |
|  | Speciality/Ward | Medical | 1 |  |
|  |  | Surgical  |  |  |
|  |  | Mental Health |  |  |
|  |
| Other  | Boarder Days | Boarder Parent Day | 1 |  |
|  |
|  | Procedures | Colonoscopy Care | 1 |  |
|  |  | Lumbar Puncture |  |  |
|  |  | Renal Biopsy |  |  |
|  | Leave Days | 1 | Costs only applied to Mental Health leave days. |
|  | Watch | 1 | Staff cost lower cost than bed days. |
|  | Pharmacy Bed Day | 1 | Used to allocate imprest drug costs. |
|  |
| 2) Ward/Department Relative Value Units (RVUs) |
|  |
| Although all DHBs use bed days as the main product/activity to cost their Ward/Departments there is a  |
| considerable difference in the level to which the bed day is recorded. For example the range is from one |
| generic bed day to several levels of detail below this i.e. bed day by speciality and acuity or DRG. |
|  |
| This leads to a considerable difference in the number of counted and costed Ward products, which in turn |
| means a significant difference in the RVUs used. |
|  |
| In addition to the bed days there is also a variety of other products counted and costed by DHBs for their |
| Ward/Departments. Just under half of those surveyed have a Day Patient product, there are also a number of  |
| other products, for example Boarders Days and Leave Days, that are unique to individual DHBs. |
|  |
| It is therefore not possible by product to usefully convert the RVUs that have been applied by DHBs into a  |
| comparable number or range. |
|  |
| However as a general rule;- |
|  | - Day patient products are given RVUs a half to a third the value of bed day product RVUs. |
|  |
|  | - Unless a DHB has a nursing acuity system then in the main nursing labour costs are spread |
|  | evenly over the bed days products. |
|  |
|  | - Imprest drugs were also spread evenly over the bed day products.  |
|  |
|  |
| 3) Ward Department Overheads |
|  |
| Overhead costs were almost always spread equally over the bed day products. The allocation to other ward |
| products generally varied in relation to the RVUs used for direct costs. |
|  |
| Overall indirect costs comprised approximately 28% of the total Ward/Department costs. The range between |
| DHB was 3% to 52%. However the majority of DHBs reported overhead costs in the range of 22% to 41%. |
|  |
| **NOTES** |
| Number of DHBs included in survey;- |  | 9 |  |  |
|  |
| Date of survey;- |  | 19/05/2009 |  |  |
|  |

# Guideline 5: ONCOLOGY & HAEMATOLOGY SERVICES

### Background

The integrity of the national pricing program requires that the six cancer centres have accurate counting and costing data.  This allows benchmarking between centres and provides consistency, which is critical to ensure a fair and equitable IDF price for providing services to the respective regions.

### Methodology

The guideline is based on the Oncology and Haematology PUC’s.

The services represented by each PUC have associated cost characteristics that are unique to that service. The audit tests generally focus on checking to ensure that the costing results reflect the service attributes of each PUC. There are however, general checks that apply to all PUCs, these have been listed first.

The checks are a guide that DHBs can use to audit their results; however, there may be differences in service delivery that result in a DHB allocating costs to a PUC that do not conform to one of the audit checks listed below. When differences occur it is recommend that DHBs investigate the results and ensure that there is a legitimate reason for the variance.

### General audit checks for haematology and oncology services

Volumes

Does the number of costed events match the volumes reported to the Ministry? If not why? If costs are not spread over all the services provided i.e. episodes of care are incorrectly excluded then the results will be incorrect.

Pharmaceutical Cancer Treatment (PCT) Drugs

The PCT drugs need to be reported under the CS7 category ‘Pharmaceutical Cancer Treatment’ (A150). This category must include both the cost of the drugs and the cost of dispensing the drugs.

Most of the costs under A150 will come under the CS2 category ‘Pharmaceuticals’ (DF), however, because this CS7 category also includes the dispensing costs there may also be pharmacist costs under ‘Allied Health Labour’ (DC), and supply costs under ‘Other Clinical Costs’ (DH). A150 should also contain the PCT drug reimbursement under the CS2 category OF ‘PCT Cost Recovery’. This figure should be materially equal to the costs in DF A150. A difference should be anticipated as the claim amount won’t cover the cost of dispensing.

The DHB Oncology related PCT drug claims can be used as a guide to check the total PCT drug expenditure in the Oncology PUCs as both figures should be materially equal. Differences can occur due to the claim process being fortnightly and having a 6 week delay from dispensing to claim payment, this leads to a 6 week estimate within each financial year.

Overheads

The allocation of overheads to each PUC should reflect the overhead consumed in the provision of the service. An RVU that achieves this needs to be identified and used in the overhead allocation process. This is particularly important for those Cancer PUCs, such as M50005 Radiotherapy, that represent a capital intensive service. The total of DM, OM and OA represent the cost of capital employed in this service provision.

Allocation of Doctor Costs

The total amount of Doctor time allocated to each PUC in the costing methodology, should approximately reconcile to an FTE allocation determined by the service as per the Doctors employment contracts.

Consideration should be given to using separate RVU calculations for SMO and RMO if the DHBs model of care lead to significant differences in where doctors spend their time (i.e. RMOs may spend a significant amount of time on the ward where an SMO may not).

This audit check can be completed by mapping the RVUs used for costing the service to the cancer PUCs and multiplying the RVU by the PUC volumes to get a total RVU Doctor weight for each PUC. The total Doctor FTEs in the service can then be allocated to each PUC in proportion to the PUC’s total RVU Doctor weight. The resulting Doctor FTE calculated under this methodology should then be compared to the allocation of Doctor time, by FTE, to each PUC according to the employment contracts.

Time Allocation Example

This is an example of how the RVUs for the activities can be allocated and then compared to the contracted FTE for a service.

Please note, in this example:

* The cost base for Medical and Radiation Oncology is combined, and therefore both groups of activity need to be assessed together.
* The Radiation Oncologists time for RT Treatment has also been allocated on a per treatment basis (5 mins) with the overall goal of allocating an average of 75 minutes per patient following discussion with the Clinical Director.
* RMO allocations have been separated from SMO allocations as they spend a considerable amount of time on the ward and in the chemotherapy outpatients environment compared to the SMOs.
* Haematology activity is not shown in this example.



The contracted fte figure e.g. 13 SMO is prorated over the activity based on the resource percentages. This provides a reasonability check on the balance of resource across groups of activities and can be compared to the services rosters.

### Oncology specific audit checks by PUC

**M50020 Medical Oncology - 1st attendance**

* The cost of this PUC should be dominated by Medical S&W expenses, CS7 category A030 and CS2 category DR for SMO and DS for RMO, Outpatient Facility & some Radiology
* There should be only a small amount of drug and blood costs attached.
* Generally the allocated overheads should be similar to other FSA appointments.

**M50021 Medical Oncology - Subsequent attendance**

* The cost of this PUC should be dominated by Medical S&W expenses, Outpatient Facility & some Radiology.
* There should be only a small amount of drug and blood costs attached.
* Generally the allocated overheads should be similar to other FU appointments.

**M50022 Radiation Oncology - 1st attendance**

* The cost of this PUC should be dominated by Medical S&W expenses, CS7 category A030 and CS2 category DR for SMO and DS for RMO, Outpatient Facility & some Radiology
* There should be only a small amount of drug and blood costs attached.
* Generally the allocated overheads should be similar to other FSA appointments.

**M50023 Radiation Oncology - Subsequent attendance**

* The cost of this PUC should be dominated by Medical S&W expenses, Outpatient Facility & some Radiology
* There should be only a small amount of drug and blood costs attached.
* Generally the allocated overheads should be similar to other FU appointments.

**M50009 Oncology - Blood Transfusions**

* The cost of this PUC should be dominated by Blood expenses, which come under the CS2 category ‘Other Clinical Costs’ (DH).
* If any, there should be only a small amount of Laboratory and Radiology expenses.
* The material employee costs should be Nursing S&W.

**MS01001 Nurse Led Outpatient Clinics**

* The cost of this PUC should be dominated by Nursing S&W expenses, CS2 category DB.
* On average this should be the lowest cost Oncology PUC.

**M50024/25 Oncology - Radiotherapy**

* This PUC should contain significant Radiotherapist S&W expenses. These come under the CS2 category ‘Allied Technical Health Labour’ (DO).
* There should also be a material amount of Doctor S&W expenses for planning activities.
* The depreciation and capital costs of the radiotherapy equipment and the associated buildings should be mapped to this PUC. This should result in a significantly greater portion of overhead costs as a percentage of total costs compared to other Oncology and Haematology PUCs.
* If this service is outsourced then these costs should be visible under the employee CS2 categories or the ‘Outsourced Clinical Services’ (DJ) category.

**MS02009 IV Chemotherapy - Cancer - Any health specialty**

* The cost of this PUC should be dominated by PCT drug costs, CS7 category (A150) and the associated dispensing costs which come under a number of CS2 categories e.g. ‘Allied Technical Labour’ (DO) and ‘Other Clinical Costs’ (DH).
* There should be a material amount of nursing cost for this PUC, CS2 category ‘Nursing Labour’ (DB).
* Depending on the DHBs model of care, there may be a reasonable amount of doctor cost if RMOs are present in the Chemo Outpatient setting.

**M50016 – HDR Brachytherapy**

* This PUC should contain significant Radiotherapist S&W expenses. These come under the CS2 category ‘Allied Technical Labour’ (DO).
* There should also be a material amount of Doctor S&W expenses for planning activities.
* The depreciation and capital costs of the radiotherapy equipment and the associated buildings should be mapped to this PUC. This should result in a significantly greater portion of overhead costs as a percentage of total costs compared to other Oncology and Haematology PUCs.
* If this service is outsourced then these costs should be visible under the employee CS2 categories or the ‘Outsourced Clinical Services’ (DJ) category.

**M50017 PET Scanning**

* If this service is outsourced by the Provider then cost should be in ‘Outsourced Clinical Services’ (DJ) category.
* Many DHBs pay for this direct from the Funder.

**M50008 Stereotactic Radiotherapy**

* This PUC should contain similar types of costs to M50024/25 Oncology – Radiotherapy.
* The counting methodology is different to M50024/25. The PUC unit of measure is completed treatments, not by individual treatment events. Therefore, the cost of this PUC should be significantly higher than M50024/25.

### Haematology specific audit checks by PUC

Generally the issues that relate to the Oncology PUC are also applicable to the Haematology PUCs.

**M30002 Haematology - 1st attendance**

* The cost of this PUC should be dominated by Medical S&W expenses.
* There should be only a small amount of drug and blood costs attached.
* Generally the allocated overheads should be similar to other FSA appointments.

**M30003 Haematology - Subsequent attendance**

* The cost of this PUC should be dominated by Medical S&W expenses.
* There should be only a small amount of drug and blood costs attached.
* Generally the allocated overheads should be similar to other FU appointments.

**M30014 Haematology - Blood Transfusions**

* The cost of this PUC should be dominated by Blood expenses. These come under the CS2 category ‘Other Clinical Costs’ (DH).
* At most there should be only a small amount of Laboratory and Radiology expenses.
* The material employee costs should be Nursing S&W, CS2 category DB.

**M30020 IV Chemotherapy – Cancer-Haematology (non paediatric)**

* The cost of this PUC should be dominated by PCT drug costs, CS7 category (A150) and the associated dispensing costs which come under a number of CS2 categories e.g. ‘Allied Technical Labour’ (DO) and ‘Other Clinical Costs’ (DH).
* There should be a material amount of Nursing costs for this PUC.

**MS02013 Virtual First Specialist Assessment - Any health specialty**

* The cost of this PUC should be dominated by Medical S&W expenses.
* There should only be a small amount of overhead cost attached to this PUC, in general it should be approximately half the overhead allocated to follow-up haematology appointments.

# Guideline 7: MEDICAL COST POOL (CS7.7.3 A030)

**Introduction**

The medical intermediate product cost pool contains the cost of providing medical staffing care to patients in a number of settings: inpatients, outpatients, theatres and procedure rooms.

The majority of costs in this cost pool should be drawn from CS2 category DA – Medical Labour. CTA Revenue (OE) should offset Medical Labour to the degree that these costs are supported by the clinical training agency. Where the primary physician giving care is a nurse practitioner Nursing Labour (DB) should provide the majority of intermediate product cost. Other relevant cost categories include Other Clinical Supplies and Overheads, where these expenses relate to Medical Labour, and Corporate and Other Service based overheads.

**Purpose**

The purpose of this document is to expand on the guidance in the Common Costing Standards regarding Medical cost pool intermediate products and to present preferred and alternative measures for these products.

This guideline is complimentary but subordinate to the standards and should be read in conjunction with Schedule 7 Medical Cost Pool (A030).

### Outpatients

The cost of providing medical care in an outpatient setting :

|  |  |  |
| --- | --- | --- |
| Product | Preferred Measure | Alternate Measure |
| First appointment | Actual minutes | Booked minutes / Count |
| Follow up appointment | Actual minutes | Booked minutes / Count |
| Virtual appointment | Actual minutes | Booked minutes / Count |
| Procedure – eg scope | Actual minutes | Booked minutes / Count |

The preferred measure for all Outpatient Products is the actual duration of the appointment in minutes.

Many patient management systems record the time booked for the appointment rather than the actual minutes that the patient attended. Booked minutes or a count of the outpatient appointments with an average appointment time RVU are acceptable alternate measures.

RVU values for outpatient appointments should include preparation time and subsequent documentation time.

The cost of providing the outpatient facility or procedure room should not be included in this cost pool. These costs should be distributed by products in the Outpatient Utilisation (A020) or Theatre/Procedure Rooms (A080) cost pools.

### Inpatients

The cost of providing medical care to admitted patients in a ward setting :

|  |  |
| --- | --- |
| Product | Preferred Measure |
| Doctor Ward Day | Count |
| Doctor Ward Daycase | Count |
| Doctor Admit Day | Count |
| Doctor Ward Discharge Day | Count |

The preferred measure for all inpatient products is a count of the number of days or part days that a patient stays on a ward.

Where there is a significant difference in medical resource consumed by the patient at specific times in their stay (eg admit day, discharge day, transfers) additional products may be used to allocate more cost to these parts of the inpatient event.

In a “home warding” situation where the patient’s ward maps to the speciality of the doctor providing care the ward may be used as the feeder basis however using speciality or clinician is the preferred method.

The cost of providing the ward facility should not be included in this cost pool. These costs should be distributed by products in the Wards (A010) cost pool.

### Theatre

The cost of performing surgery in a theatre setting :

|  |  |
| --- | --- |
| Product | Preferred Measure |
| Doctor Theatre Time | Minutes |

The preferred measure for surgical products is the number of minutes medical staff are present in surgery calculated as the time between first incision and close.

Where multiple surgeons take part in an operation the feeder volume minutes or RVUs should reflect this.

Where surgery takes place out of hours at higher cost to the DHB “out of hours” products with higher RVUs can be used to allocate the correct medical cost to the operation.

The cost of providing the theatre facility or of anaesthetists should not be included in this cost pool. These costs should be distributed by products in the Theatre / Procedure Rooms (A080) cost pool and the Anaesthetics (A036) cost pool.

### Procedures

For the purposes of this document “Procedures” include all work undertaken by doctors outside the settings outlined above. The products listed are neither mandatory nor exhaustive and will depend on the services offered by your DHB.

|  |  |  |  |
| --- | --- | --- | --- |
| Product(s) | Typical cost RC | Preferred Measure | Alternate Measure |
| Radiology procedures  | Dependent on procedure | Count | N/A |
| Birth Delivery | Obstetrics | Minutes | Count |
| Colonoscopy  | Gastroenterology | Minutes | N/A |
| Pain clinic | General Medical | Minutes | N/A |

**Radiology procedures**

Certain radiology procedures require the presence of a doctor in addition to the Radiologist. The preferred measure is a count of the number of procedures. Where such a procedure has been identified a product should be set up in the corresponding doctor’s cost centre. Note this is in addition to any Radiographer costs which are allocated from cost pool A060.

**Birth Delivery**

Certain birth deliveries require the presence of an Obstetrician. These deliveries can be identified by their ICD10 codes (forceps etc) or by clinician if these details are available. The preferred measure is the number of minutes spent attending to the delivery. Where this is unavailable the alternate measure is a count of the number of procedures. Where such a procedure has been identified a product should be set up in the Obstetrician cost centre. The cost of Lead Maternity Care (F020), as distinct from other Obstetric doctor activity, should not be distributed from this cost pool.

**Colonoscopy**

Colonoscopies are undertaken by Gastroenterologists in procedure rooms or theatres. The preferred measure is the duration of the colonoscopy in minutes. Where this is unavailable a count of the number of procedures performed and an RVU representing the time per procedure may be used. Where such a procedure has been identified a product should be set up in the Gastroentorology cost centre.

**Pain Clinics**

Doctors are often included in multi-disciplinary pain clinic teams. The preferred measure is the number of minutes that the doctor spends in the clinic. Where such a procedure has been identified a product should be set up in the appropriate cost centre.

The cost of providing a procedure room should not be included in this cost pool. These costs should be distributed by products in the Theatre / Procedure Rooms (A080) cost pool.

### Fee for Service

|  |  |  |
| --- | --- | --- |
| Product | Preferred Measure | Alternative Measure |
| Doctor Outsourced Dollars | Dollars | As for standard paid. |

Where doctors are paid on a fee for service basis (eg per operation) it may be possible, depending on the information available in the DHB’s procurement system, to link the amount paid directly to the event. In these cases the dollars paid to the doctor should be used as the volume for allocating outsourced fee for service dollars within the medical cost centre.

Theoretically a fee for service structure could be set in place for any of the above care settings however it is most often seen in a surgical setting.

Where there is insufficient procurement information available Outsourced Doctor Dollars can be allocated on the same basis as non fee for service payments.

**Defining Product Feeders**

Medical cost centres are usually arranged by medical speciality. Where this is the case product feeders should be based on the speciality of the doctor providing care to the patient and mapped to the cost centre of that speciality. If doctor-cost centre mappings are maintained in the costing system the clinician should be used as the feeder basis.

**Critical Care (ICU,NICU,CCU)**

Dedicated doctor costs for Critical Care Departments are classified as cost pool A100 not A030.

Refer to Guideline 1 – Critical Care.

### Emergency Department (ED)

Doctor costs for Emergency Departments are classified as cost pool A110 not A030. Refer to Guideline 2 – Emergency.

Costing Standards context

This guideline aligns with DHB Costing Standards Version 12 2011/12.

# Guideline 8: TREATMENT OF GOVERNANCE COSTS

There are five Statement of Financial Performance in the MoH Financial Reporting templates:

* **DHB Governance and Funding Administration**
* **DHB Provider**
* DHB Funds
* DHB Elimination
* DHB Consolidated

The DHB Governance and Funding Administration includes governance costs for the entire DHB. To enable appropriate allocation of costs to Provider activity, it is important to separate out the cost centres (and individual costs) that relate to governance and non-provider functions.

See Costing Standards Schedule 1 (CS1) for assistance in determining the cost centre functions that relate to Governance.

|  |  |
| --- | --- |
| **Step 1** | Identify all cost centres that relate to Funding and Planning functions as defined in CS1. |
| **Step 2** | Exclude these costs from patient costing. |
| **Step 3** | Allow overhead allocation from Provider overhead cost centres to Funding and Planning. Examples would be payroll, Human Resources, IT, building costs as applicable. See CS4 for the accepted overhead cost allocation methods.Costs allocated from Provider to Funding Administration are also excluded from patient costing. |
| **Step 4** | Identify all cost centres categorised as governance CS1. This is basically CEO and DHB Board costs. |
| **Step 5** | Allow overhead allocation from Provider overhead cost centres to Governance as applicable. The total cost of Governance is then the initial cost plus allocated overheads. |
| **Step 6** | Governance costs are then allocated to both Provider Arm and to Funding & Planning according to the basis set out in CS4 Table 1. |
| **Step 7** | Costs allocated from Governance to Funding and Planning (non-Provider) are also excluded from patient costing.  |
| **Step 8** | Costs allocated from Governance to Provider Arm are considered to be overheads of healthcare service delivery and are included in patient costing. |

### Governance guideline flowchart



# Guideline 9: MATERNITY

**Background**

Purchase unit W10001 was added to casemix several years after casemix funding was introduced. In the first year data quality was so poor that costs were excluded from pricing. Over the years data quality has improved, but has been quite inconsistent between DHBs and between years.

Maternity data quality and consistency is important in casemix because of its unique influence on DRGs. The W10001 purchase unit contains both mothers and babies, and these both go through the same cost departments, but end up in different sets of DRGs, the mothers in the “O” DRGs and the babies in the “P” DRGs. In particular there has been inconsistency on whether to attach the costs of the delivery in delivery suite to the mother or the baby and also in the weighting of bed days between mothers and wellborn babies in the wards. A guideline is needed so that some consistency can be attained across DHBs and DRGs.

**Scope**

This guideline is directed at the bulk of patients going through the maternity facilities - normal deliveries and wellborn babies which end up in the W10001 purchase unit. Therefore the costs of the delivery suite, maternity wards and LMC midwives is included.

 If mothers need to undergo a theatre procedure, this will be captured separately in the theatre system. If babies are not wellborn and need medical attention, they will be referred to a neonatal unit or a paediatrics department. These costs are not covered by the guideline.



**Delivery Suite**

The diagram below shows the pathway through the maternity unit for normal deliveries and wellborn babies. The baby does not have a patient event created until it is born, after the time spent in delivery suite. This guideline therefore recommends that all the costs of the delivery is put on the mother and none on the baby.



Differentiation of costs within delivery suite for more complex births can be obtained using the following methodologies

1. If a feed can be obtained from a maternity system, one product or a set of products for a complex birth can be created (for example: augmentation, epidural, induction).
2. In the absence of a feed from the maternity system, ICD procedure codes can be used to determine complexity. See appendix 2

**Maternity Wards**

**There is already a guideline on the costing of wards.**

According to the guidelines for wards, products should be:

Level 1 Ward day

Level 2 Ward day by specialty

Level 3 Ward day or ward hour split by specialty and actual ward

Level 4 Ward day or Ward hour split by acuity/dependency system

Level 5 Acuity by shift or time of day ward hour differentiation

Mothers and wellborn babies share maternity wards and the time that nurses and midwives spend attending the pair needs to be split between mother and baby ward day products. Because mothers and babies end up in different DRGS, consistency in a costing approach is important to developing consistent and rational casemix weightings. If it is possible to differentiate products between mother and baby, and if there is no way to identify actual time spent (eg via an acuity/dependency system) this guideline recommends that more time is allocated to mothers than to babies.

In general, in maternity wards, the RVU for ward-based midwife time (excl LMC) and nursing time spent with mothers should be about twice that of babies.

**Lead maternity carers (LMC)**

The common costing standard for LMC (F20) contains the following hierarchy of products:

Level 1 Women registered with service

Level 2 Women by module

Level 3 Contacts by module

Level 4 Level 3 detail of visit type and delivery

Level 5 level 4 plus hours in labour by stage.

This guideline is concerned with the costing of the inpatient event at which delivery occurs, therefore level 3 and 4 which specify detail about the delivery event.

The survey (appendix 1) showed that most DHBs attribute LMC cost to the delivery, the stay in maternity ward for mothers and babies, outpatient and domiciliary visits. Some DHBs have few or no DHB employed LMCs so there is no cost to the DHB and therefore no products.

The following methodologies are used to cost LMC services

1. *Delivery.*
	* Three DHBs had one product per delivery.
	* Two DHBs had one product for delivery but differentiated the type of delivery, eg: Normal vaginal, epidural, operative vaginal and caesarean section
	* One DHB used ICD procedure codes to create products (see appendix 2).
	* Two of the above DHBs had additional delivery products for independent midwives, one had the RVU for independent midwife at 20% of the DHB midwife and the other 44%. Two of the DHBs did not have DHB midwives so had no costed products for LMCs at all.
2. *Ward.*
	* LMC post-natal cost was spread either via bed days or via trendare bed hours by acuity in most instances.
	* Three DHBs did not have a post-natal inpatient product but the entire costs was spread via the delivery product.
	* One DHB had a ward visit contact product
3. *Outpatient and home visits*
	* Most (but not all) DHBs also had outpatient and home visit products recording attendances for LMCs.

**Appendix 1 – Survey**



**Appendix 2**



# Guideline 10: UNCOUNTED SERVICES / SPREAD COSTS

There are differences in practice and understanding of uncounted services and spread costs. This guideline aims to create better consistency whilst meeting the requirements of internal users of costed patient activity data as well as external reporting requirements such as NCCP.

### Non funded patient activity

For operational and national reporting purposes, several non-funded services are required to be costed using the same methodology as funded activity:

* 1. Cancelled Operations - Inpatients who for various reasons do not receive the treatment/surgery that they were admitted for.
	2. Pre-assessment outpatient appointments which are a necessary part of an elective inpatient procedure booking, and historically considered to be part of the eventual WIES cost – sometimes the procedure booking does not proceed due to various reasons.
	3. Admitted ED events where the patient presents acutely and proceeds to an acute inpatient admission. Note some DHBs do not differentiate the ED event costs but instead directly amalgamate all intermediate products to the inpatient event.
	4. OP appointments where the patient did not arrive and did not cancel prior to the appointment time. Depending on the service, these can have a reasonable cost. Note that some DHBs do not cost this activity as separate events while others consider that quantifying the cost of these wasted resources is important operationally.

### Costs that are unable to be patient identifiable or complete

As well as the above types of patient events that are not directly funded but are distinct patient events with intermediate product activity and costs, there may also be GL costs for service delivery that is *unable to be defined* to patient events:

* 1. Summary services - may be an amount of dollars that is known to cover several service based PUCs. May not be able to allocate to a specific PUC but is known that the pool of money relates to several service based PUCs.
	2. Some intermediate products may be known to relate to a specific service such as sexual health but are unable to be matched to individual events because the NHI is not available for privacy reasons.
	3. Joint ventures with specialist service providers where the DHB provides and pays for the facility and theatres or other service components but does not have GL visibility of the specialist costs (eg Urology Services in Midland).
	4. Counted services where the cost is incomplete because some inputs are not provided directly by the DHB. This arises when one DHB (A) sees the patient for an assessment and another DHB (B) provides radiology, diagnostics ordered from that assessment. In some DHBs the amounts paid by DHB A to DHB B for the imaging is shown as a single “lump” of charges from other DHBs, with no automated way to identify which local patient events these radiology charges relate to.

### How to link and spread costs

Linked costs – where a non-funded event has costs and can be directly linked to a ***related*** funded event for that patient NHI, the costs of the linked event (the child event) should simply be added to the “parent” funded event:

* + - ED admitted events linked to the acute IP event.
		- Pre-assessment event linked to the inpatient event ***if it occurs***. Note to consider: the pre-assessment is “ordered” from the OP specialist assessment where it was determined that treatment is the best option for the patient – from a clinical workflow perspective is it more appropriately linked to the OP assessment or referral prioritisation process? What would be the impact on casemix and outpatient costs?
		- Cancelled operation events are linked to the next subsequent elective admission for that procedure. Note that this admission may never occur.
		- DNA OP events are linked to the prior or next OP attendance for that patient in that Health specialty. Note that the patient may never attend.

Spread costs - where the non-funded event does not have a related funded event OR there is a lump of GL cost not identifiable to specific NHI events.

Examples include:

* + - Cancelled Operations, DNA and pre-assessments where there is no funded event.
		- GL charges from other DHBs or organisations where the charge is for a patient delivered service but the NHI is not available. Note that the nature of these service charges must be known and identified; preferably to PUCs or at least to service/specialty pools and patient settings. May include some outsourced services.

Basis of spread:

Amalgamate all the spread costs for a specific PUC and identify these to CS7 cost pools. Spread to counted, funded events within the PUC on a pro-rata basis calculated on the following (for discussion). Note that pre-assessments and cancelled operations should only be spread to elective inpatient casemix events in the same specialty. Spread on the basis of;

* + - The total event cost for each CS7 group in the spread costs
		- The total event costs
		- The total event volumes (evenly spread)

### Patient activity that can only be reported at summary PUC level

* + - Purchased services that are contracted at a service or program unit of measure.
		- Purchased services that are counted on an input unit of measure basis such as FTEs for Mental Health
		- Purchased services that are contracted on a capacity basis such as available bed days and school enrolments.
		- Purchased services where the patient NHI is not available due to privacy concerns such as Sexual Health.

### Uncounted services

These should only occur;

* + - Where the DHB cannot measure events/costs using the PUDD national unit of measure OR the DHB Funder has contracted that PUC at a UOM that is different from the national measure.
		- Where the DHB has not incurred the total cost of all components that are expected to constitute the funded service delivery, and is unable to adjust provider arm costs to reflect that.

Examples:

* + - The DHB Funder may contract an entire service provision separately. However for some services such as private laboratory, the amount of the contract that relates to Provider Arm is known and able to be brought into the costing system using totals from PVS – negative price adjuster to Provider revenue.
		- Where the Provider subcontracts to another provider, if the total cost is not known the service is subsequently uncountable.

# Guideline 11: AMBULANCE / PATIENT TRANSPORT SERVICES

1. There are several ways that patients are transported to and from healthcare facilities to receive treatment. Transport may be by road, air, other ambulance or health shuttle service, by public transport or by private car. Broadly speaking these transport costs can be categorised as follows:

|  |  |  |
| --- | --- | --- |
|  | Definition of transport cost | Cost treatment |
| A | Transporting acute patients from the place of the acute condition onset such as the accident site or person’s home to a hospital facility for treatment. | Emergency transfers are excluded from inpatient costs. If these are incurred by a DHB they should be separately purchased. (Appendix 1) |
| B | Inter hospital transport from one inpatient event to another where the initiating facility is in a different DHB region to the destination facility.  | Costs should be amalgamated into a separate line usually purchase unit TR0201 (Appendix 1). Paid by DHB of domicile and part of NTA policy. Excluded from Inpatient event costs. |
| C | Inter hospital transport from one inpatient event to another where the initiating facility is in the same DHB region as the destination facility. | Costs should be amalgamated into a separate line and excluded from inpatient event costs. These will be reported as Uncounted Costs in the NCCP submission and should be identified as Intra DHB transport costs as there is no national purchase unit defined. |
| D | Patient transport or transport subsidies that are given to patients to move from their place of residence to a distant healthcare facility. These facilities may be either within the same DHB or to another DHB and the transport cost may be paid as money or vouchers directly to a patient, or be in the form of “free transport shuttles” supplied by a DHB to transport patients to attend healthcare services. | Costs should be identified and amalgamated into a separate line. TR0101 is the Purchase Unit for these costs to be reported to NCCP. (Appendix 1) |

1. **Transport clinician Costs:**

As well as the actual transport costs, most ambulance transfers occurring between two hospital facilities incur the time cost of clinicians, (nurse, midwife and/or doctor) from the initiating departure DHB, who accompany the patient in the air/road ambulance. Recording of this transport cost is inconsistent across DHBs and may be recorded in the GL in a separate Responsibility/Cost Centre or, when it is not separately identified, included in the department where it is incurred.

Transport clinical or nursing cost is included in the inpatient or Emergency Department event costs.

Transport clinician costs are reported in the appropriate CS2 cost group for the clinician involved (usually nursing labour; DB).

The CS7 cost group for transport clinician cost relates to the GL Cost centre where those costs are recorded. This means that the CS7 group may be any of the following:

|  |  |  |
| --- | --- | --- |
| CS Schedule | Cost Pool Name | NCCP Category |
| CS7.7.2 | Ward cost  | A010 |
| CS7.7.11 | Emergency Department | A110 |
| CS7.7.15a | Obstetrics Delivery Suite | F010 |
| CS7.7.10 | Critical care (ICU and SCBU)  | A100 |
| CS7.7. 16 | Other treatments | G010 |

**Appendix 1: Transport related purchase units (Purchase Unit Data Dictionary 2017/18)**

|  |  |  |  |
| --- | --- | --- | --- |
| PUC | Purchase Unit Name | Purchase Unit Definition | UOM |
| TR0101 | Patient Travel & Accommodation Assistance | Implementation of the MoH patient travel and accommodation assistance policy. | Service |
| TR0201 | Patient transport - non emergency and inpatient transfers | Transport of patients from one facility in a DHB to a facility in another DHB when their condition is such that ordinary modes of transport are unsuitable. | Service |
| TR0202 | Road ambulance - emergency | Emergency road ambulance services for medical cases. | Service |
| TR0203 | Air ambulance - emergency | Emergency air ambulance services for medical cases. | Service |
| TR0204 | Water Ambulance - Emergency | Emergency water ambulance services for medical cases. | Service |

# Guideline 12: AUDIT GUIDELINE FOR COSTING RENAL SERVICES

**Background**

The Renal Purchase units (PU’s) were analysed by the common costing group for consistency and to agree a consistent counting approach.

There were some counting issues around a number of the Renal PU’s as there a number of different units of measure CWD, Attendance, Client, patient by month, service and project were being used.

The group agreed that if the Unit of Measure for “Patient” was translated to read “Patient Month” and also if “Client” was changed to “Client Year” then this would help clarify the counting. Also noted that the UOM tab in the Data Dictionary be changed to reflect this.

**Methodology**

The services represented by each PUC have associated cost characteristics that are unique to that service. The audit tests generally focus on checking to ensure that the costing results reflect the service attributes of each PUC. There are however, general checks that apply to all PUCs, these have been listed first.

The checks are a guide that DHBs can use to audit their results, however, there may be differences in service delivery that result in a DHB allocating costs to a PUC that do not conform to one of the audit checks listed below. When differences occur it is recommend that DHBs investigate the results and ensure that there is a legitimate reason for the variance.

**General audit checks for renal services**

Volumes

Does the number of costed events match the volumes reported to the Ministry? If not, why? If costs are not spread over all the services provided i.e. episodes of care are incorrectly excluded then the results will be incorrect.

Fluids

Please check that all dialysis events have an allocation of renal fluid costs.  If you provide the service within your DHB the renal fluids should be mapped to DH clinical supplies.  If your service is outsourced, these costs will appear in the DJ outsourced services.  Check the relativities of renal fluid costs between purchase units taking into consideration the differences in the units of measure.

Allocation of Doctor Costs

The total amount of Doctor time allocated to each PUC in the costing methodology, should approximately reconcile to an FTE allocation determined by the service as per the Doctors employment contracts.

This audit check can be completed by mapping the RVUs used for costing the service to the renal PUCs and multiplying the RVU by the PUC volumes to get a total RVU Doctor weight for each PUC. The total Doctor FTEs in the service can then be allocated to each PUC in proportion to the PUC’s total RVU Doctor weight. The resulting Doctor FTE calculated under this methodology should then be compared to the allocation of Doctor time, by FTE, to each PUC according to the employment contracts.

Below is an example of how the FTE allocation for costing can be compare to contracted FTEs.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **SMO FTE ANALYSIS** |  |  |  |  |  |  |  |
| **Radiation Oncology SMO** |  |  |  |  |  |  |  |
| **PUC** |  | **12 MthVol** | **RVU** | **Vol x RVU** | **Resource %** | **SMO FTEs** |  | **ContFTEs** |
| M50001 | CBUDAY-RadOnc | 2,866 | 31.00 | 88,846 | 17.41% | 2.44 | Input | 2.50 |
| M50002 | OPT-RADONC-FSA | 2,136 | 60.00 | 128,160 | 25.11% | 3.53 | Outpt | 3.50 |
| M50003 | OPT-RADONC-FU | 5,494 | 20.00 | 109,880 | 21.53% | 3.03 | Outpt | 3.00 |
| M50005 | OPT-RADONC-Radio | 36,715 | 5.00 | 183,575 | 35.96% | 5.06 | Outpt | 5.06 |
| **Total**  |  | **47,211** |  | **510,461** | **100.00%** | **14.06** |  | **14.06** |
|  |  |  |  |  |  |  |  |  |
| **Medical Oncology SMO** | **12 MthVol** | **RVU** | **Vol x RVU** | **Resource %** | **SMO FTEs** |  | **ContFTEs** |
| M50001 | CBUDAY-MedOnc | 6,196 | 10.00 | 61,960 | 21.12% | 3.27 | Input | 3.30 |
| M50002 | OPT-GLMEDONC-FSA | 1,672 | 60.00 | 100,320 | 34.19% | 5.30 | Outpt | 5.50 |
| M50003 | OPT-GLMEDONC-FU | 6,557 | 20.00 | 131,140 | 44.69% | 6.93 | Outpt | 6.70 |
| **Total**  |  | **14,425** |  | **293,420** | **100.00%** | **15.5** |  | **15.5** |

The contracted fte figure e.g. 14.06 is prorated over the PUCs based on the resource percentages, e.g. 2.44 for M50001 was determined by multiplying 17.41% by 14.06.

**1) Renal specific audit checks by PUC**

Refer to standards for treatment of overheads

|  |
| --- |
| **M60001 - Renal Medicine - Inpatient Services (Caseweights)** The cost of this PUC should be dominated by CS7 category A010 Ward Costs and A030 Medical & Surgical Officer  |
| **M60002- Renal Medicine - 1st attendance (Attendance)***First attendance to nephrologist or medical officer at registrar level or above or nurse practitioner for specialist assessment.*The cost of this PUC should be dominated by A030 Medical & Surgical Officer and A040 Laboratory |
| **M60003 - Renal Medicine - Subsequent attendance (Attendance)***Follow-up attendances to nephrologist or medical officer at registrar level or above or nurse practitioner. Excludes dialysis.*The cost of this PUC should be dominated by A030 Medical & Surgical Officer and A040 LaboratoryThere should be only a small amount of A090 Pharmacy |
| **M60004 - Renal Medicine - Recurrent home based CAPD (Patient Month)***Programme of home-based treatment for patients requiring long term continuous ambulatory peritoneal dialysis - treatment component only. Includes patient/family support and monitoring, ongoing equipment required including repair and maintenance.*The cost of this PUC should be dominated by CS2 DH Clinical Supplies (Renal Fluids). Some DHBs outsource the supplies and equipment and therefore costs will appear under CS2 DJ Outsourced Clinical Services. CS7 B030 Community Domiciliary Services if it is community Renal. Staff costs will typically comprise of CS2 DO Allied Health Technician Labour and DB Nursing Labour. SMO and RMO costs are excluded from this PUC.A090 Pharmacy and A040 Laboratory costs may map to this PUC. |
| **M60005 - Renal Medicine - CAPD Training (Client)***Initial training and education of patients in self-management of continuous ambulatory peritoneal dialysis in their home. Includes patient/family education, initial equipment required, home modifications.*This PUC only includes costs over and above the normal monthly renal treatment costs.The cost of this PUC should be dominated by personnel, fluid, and machines specifically for training. Both CS2 DB Nursing Labour and DO Allied Health Technician Labour are potentially included.There should be no A090 Pharmacy and A040 Laboratory costs. These instead should be allocated to the FSA/FU or the monthly PUC. |
| **M60006 - Renal Medicine - Recurrent home based Haemodialysis (Patient Month)***Programme of home-based treatment for patients requiring long term haemodialysis - treatment component only. Includes patient/family support and monitoring, ongoing equipment required including repair and maintenance. Payment is based on a monthly count of patients.*The cost of this PUC should be dominated by CS2 DH Clinical Supplies (Renal Fluids). Some DHBs outsource the supplies and equipment and therefore costs will appear under CS2 DJ Outsourced Clinical Services. CS7 B030 Community Domiciliary Services if it is community Renal. Staff costs will typically comprise of CS2 DO Allied Health Technician Labour and DB Nursing Labour. SMO and RMO costs are excluded from this PUC. A090 Pharmacy and A040 Laboratory costs may map to this PUC. |
| **M60007 - Renal Medicine - Haemodialysis Training (Client)***Initial training and education of patients in self-management of haemodialysis in their home. Includes patient/family education, initial equipment required, home modifications.*This PUC only includes costs over and above the normal monthly renal treatment costs.The cost of this PUC should be dominated by personnel, fluid, and machines specifically for training. Both CS2 DB Nursing Labour and DO Allied Health Technician Labour are potentially included.There should be no A090 Pharmacy and A040 Laboratory costs. These instead should be allocated to the FSA/FU or the monthly PUC. |
| **M60008 - Renal Medicine - In centre Haemodialysis (Attendance)***Centre-based treatment for patients requiring long term haemodialysis. Includes all dialysis treatments prior to or during home haemodialysis or peritoneal dialysis training and all treatments of home haemodialysis patients undertaken at an In-centre facility.*The cost of this PUC should be dominated by CS2 DB Nursing Labour, DO Allied Health Technician Labour. CS2 DH Clinical Supplies (Renal Fluids, Equipment Depreciation and R&M). If the service is Outsourced then the CS2 costs will be under DJ Outsourced Services. Facility costs should be higher than the Home Dialysis PUCs. A030 Medical & Surgical Officer should represent dedicated resourcing of RMO/SMO within the incentre.A090 Pharmacy and A040 Laboratory costs may map to this PUC. |
| **M60009 - Renal Medicine - In centre self-managed dialysis (Attendance)***Centre-based self-managed dialysis treatment for patients requiring long term haemodialysis. Includes all monitoring, supplies and clinical services received during the dialysis treatment.*The cost of this PUC should be dominated by DO Allied Health Technician Labour. CS2 DH Clinical Supplies (Renal Fluids, Equipment Depreciation and R&M). If the service is Outsourced then the CS2 costs will be under DJ Outsourced Services. Facility costs should be higher than the Home Dialysis PUCs. A030 Medical & Surgical Officer is not expected for these patients.A090 Pharmacy and A040 Laboratory costs may map to this PUC. |
| **M60010 - Renal Medicine - in centre self-managed dialysis training (Client)***New clients undertaking in centre self-managed renal dialysis training.*This PUC only includes costs over and above the normal renal treatment costs.The cost of this PUC should be dominated by personnel, fluid, and machines specifically for training. Both CS2 DB Nursing Labour and DO Allied Health Technician Labour are potentially included.There should be no A090 Pharmacy and A040 Laboratory costs. These instead should be allocated to the FSA/FU or PUC M60009. |
| **M60011 - Pre-renal Replacement Therapy Programme (Service)***Dedicated outpatient services for newly diagnosed Chronic Renal Failure patients to provide a basic level of education at an early stage for all newly diagnosed patients, to identify and resolve at an early stage any social problems which may influence modality choice and to commence dietary intervention at an early stage in order to control symptoms, prevent malnutrition and maintain renal function. This will be provided by a specialist multidisciplinary team, from a dedicated base facility.* |
| **M60012 - Renal Medicine - In centre Dialysis project (Service)***Funding for Set up costs to deliver Renal Medicine Dialysis Projects* |
| **M60014 - CAPD Registry (Service)***Funds to maintain CAPD registry for national ESRD/CAPD clients* |
| **M60015 - Automated Peritoneal Dialysis (APD) (Patient Month)***Programme of home based treatment for patients using long term Automated Peritoneal Dialysis - treatment component only. Includes patient/family support and monitoring, ongoing equipment required including repair and maintenance.*The cost of this PUC should be dominated by CS2 DH Clinical Supplies (Renal Fluids). Some DHBs outsource the supplies and equipment and therefore costs will appear under CS2 DJ Outsourced Clinical Services. CS7 B030 Community Domiciliary Services if it is community Renal. Staff costs will typically comprise of CS2 DO Allied Health Technician Labour and DB Nursing Labour. SMO and RMO costs are excluded from this PUC. A090 Pharmacy and A040 Laboratory costs may map to this PUC. |