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Cost Bucket Review 2025



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Taylor Fry Pty Ltd



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Abbreviations and Definitions

This section sets out abbreviations used throughout the review. Line items abbreviations have been provided separately.

Abbreviation	Definition
ADRG	Adjacent Diagnosis Related Group
AHPCS	Australian Hospital Patient Costing Standards
AR-DRG	Australian Refined Diagnosis Related Group
CT	Computed Tomography
DRG	Diagnosis Related Group
DRS	Data Request Specifications
FY	Financial year
HDU	High Dependency Unit
ICU	Intensive Care Unit
IFR	Independent Financial Review
IHACPA	Independent Health and Aged Care Pricing Authority
IT	Information Technology
KL	Kullback-Leibler
LHN	Local Health Network
MDC	Major Diagnostic Class
MRI	Magnetic Resonance Imaging
NAC	NHCDC Advisory Committee
NAP	Non-admitted Patient
NBP	IHACPA's National Benchmarking Portal
NEC	National efficient cost
NEP	National efficient price
NHCDC	National Health Cost Data Collection
NOS	Not otherwise specified
PBS	Pharmaceutical Benefits Scheme
SPS	Special Procedure Suite
Tier 2 Clinic	Tier 2 Non-Admitted Services Classification Clinic
VMO	Visiting Medical Officer

Line Items	Description
SWNurs	Nursing Salaries and Wages
SWMed	Medical Salary and Wages

Line Items	Description
SWVMO	Visiting Medical Officers (VMO) Salary and Wages
SWAH	Allied Health Salary and Wages
SWOther	Other staff Salary and Wages
Oncosts	Labour (staff) oncosts
Path	Pathology service expenses
Imag	Imaging service expenses
Pros	Goods and services used in the provision of services to implant prostheses that are specified or comparable to the Prostheses List
MS	Medical and surgical supplies costs
GS	All other Goods and Services not elsewhere described.
PharmPBS	Pharmacy pharmaceutical benefit scheme (PBS)
PharmNPBS	Non PBS pharmacy
Blood	Blood Products and Services as defined under the National Blood Agreement
DeprecB	Building Depreciation
DeprecE	Equipment Depreciation
DeprecROU	Right-of-use Depreciation
Hotel	Hotel
Corp	Corporate costs
Lease	Leasing costs
Cap	Capital works
Exclude	Excluded costs
PatTran	Patient transport

Executive summary

The Independent Health and Aged Care Pricing Authority (IHACPA) has engaged Taylor Fry to complete the Cost Bucket Review. This document outlines findings from analysis of the National Hospital Cost Data Collection (NHCDC), feedback from stakeholders, limitations of the current approach, a proposal for a new design of the cost buckets and additional recommendations.

The review included consultation with IHACPA and key jurisdiction representatives from the NHCDC Advisory Committee and private hospital groups, analysis of NHCDC data, and clinical review.

Collection overview

Jurisdictions report data to the NHCDC through a combination of cost centres and line items for each public hospital episode. There are approximately 235 cost centres, each of which can contain up to 23 line items, with both direct and indirect costs. Cost centres refer to locations where costs are incurred, and can be general (e.g. General ward) or specialist (e.g. Cardiology). Line items range from salaries and wages for different types of staff, goods and services, medical supplies, and administrative items such as depreciation and lease.

The following key statistics provide an overview of the public sector hospital costs in the NHCDC 2021-22.

\$63B	1.9B	4,450	39
Total cost reported through NHCDC	Cost centre + line item rows reported	Unique cost centre + line item combinations	rows per episode on average
83%	17%	52%	38%
Of rows relate to direct services	Of rows relate to administrative line items	Of rows are low-value (<0.1% of episode cost)	Of rows relate to General cost centres

Key findings

The scope of the review included analysis of NHCDC line items, cost centres, cost buckets, and the costs reporting process. The review identified the following key findings relating to each of the areas.

01

Line items

- **Salaries and Wages (Medical and Visiting Medical Officer)** - The mix of medical and visiting medical officer (VMO) employed varies across states and territories, complicating comparisons of medical salaries and wages.
- **Reporting of Oncosts** - There are inconsistencies across jurisdictions in the types of expenses, such as annual and long-service leave, that are included in the oncost line item, making benchmarking of oncosts challenging.
- **Depreciation** - There are three line items for depreciation (Depreciation B, E and ROU), as well as lease, generating 16% of all NHCDC rows. These line items are out of scope for pricing in the NEP and jurisdictions suggest these are generally excluded from their current benchmarking and reporting activities.
- **Capital and Exclude** - The capital and exclude line items contain information that is of low value to stakeholders, and these costs are out of scope for pricing in the NEP.

Of records containing capital and excluded costs, 99% and 72% respectively contribute less than 0.1% of an episode's total costs.

- **Patient transport** - Patient transport is currently reported as a line item that is sparsely allocated across many episodes, where 95% of cost records containing patient transport contribute to less than 0.1% of total episode cost.

02

Cost centres

- **Low-value cost centres** - We identified 71 cost centres as being low cost or low value, due to either being not used, used by only one or two jurisdictions, or being duplicative with another cost centre.
- **Imaging and pharmacy cost centres** - The review found that more valuable Imaging and Pharmacy data can be collected through cost centres. Many jurisdictions report a large proportion of their imaging, pathology and pharmacy costs to a default cost centre (general imaging, general pathology and general pharmacy). This limits the comparability and visibility of spending on different procedures and services under each of these expense categories.
- **Cost centre data definitions** - Jurisdictions have requested that definitions are developed for cost centres to ensure reporting consistency. The quantitative review found that some AR-DRGs and Tier-2 clinics had costs inconsistently spread to different cost centres across jurisdictions, and would benefit from streamlining.

03

Cost buckets

The review found that while the NHCDC cost buckets have existed since the outset of the collection, and are broadly accepted, they present some key challenges to inter-jurisdictional comparisons and meaningful interpretation:

- **Inconsistency in the use of cost bucket definitions** across jurisdictions, with some larger jurisdictions creating their own categorisation that differs from IHACPA's.
- **Mapping inconsistencies** relating to salaries and wages and corporate costs, such as the allocation of nursing salaries in across cost buckets.
- **Categorisation of costs:** The categorisation of costs into cost buckets creates some uneven splits, where some cost buckets significantly larger than others.
- **Insufficient granularity:** In some areas, such as for blood costs, the cost buckets provide insufficient detail, requiring use of the bulky cost centre by line item data set.
- While allowing flexibility in costing, the options for **cost centre and line item reporting** of key costs means that jurisdictions are not incentivised to appropriately allocate costs for imaging, pathology and pharmacy costs.

04

Reporting Process

The review found that jurisdictions use of IHACPA's NHCDC reporting was limited by:

- **Timeliness of the reports** being significantly after the costs were reported, with insights deemed potentially no longer relevant.
- The reporting uses **different cost breakdowns** that is often inconsistent with the way jurisdictions analyse their own costs.
- The **highly summarised nature** of the reporting means jurisdictions are unable to adjust the reports to match their own reporting breakdowns.
- A **lack of documentation** of jurisdictional differences in cost reporting, creating challenges with comparisons.

Recommendations

The review findings suggest the following recommendations to improve consistency and efficiency of data reporting and enhance the collection's use for benchmarking purposes.

Line item recommendations

1. Combine Depreciation and Lease line items into a single line item
2. Combine Capital and Exclude line items into a single line item
3. Combine Salaries and Wages Medical (SWMed) and VMO line items for reporting purposes
4. Combine oncosterms into Salaries and Wages line items:
 - a) In the short term, engage with jurisdictions to investigate the payroll accounts included in the Oncosterms and Salaries and Wages line items to support the transition
 - b) Approximate the allocation of oncosterms for reporting purposes using investigation insights
 - c) In the longer term, dissolve the Oncosterms line item into relevant Salaries and Wages categories.
5. Engage with jurisdictions to investigate the feasibility of structuring patient transport as a cost centre rather than a line item.

Cost centre recommendations

6. Remove the 71 identified low-value, low-use and duplicated cost centres, as listed in Appendix C, conducting an annual review of cost centre use, trimming and streamlining the cost centre list.
7. Consult with jurisdictions and clinicians to develop definitions for cost centres, starting with the ones that hold the most discrepant sets of acute admitted and non-admitted end classes.
8. Encourage more granular reporting of imaging, pathology and pharmacy costs within their cost centre groups, including ensuring that labour costs are correctly allocated to salaries and wages line items, and enabling cost tracking of specific procedure and drug type costs, such as MRI, nuclear imaging, and high cost drug costs.

Cost bucket recommendations

9. Consider streamlining the cost bucket matrix to allow for clarity in cost centre by line item reporting, enabling comparisons across jurisdictions with differing cost bucket definitions, and reducing reliance on the full cost centre by line item dataset across IHACPA.
 - a) In the short term, build engagement by shadowing the proposed solution through reporting.

Reporting process recommendations

10. Strengthen reporting and communication with jurisdictions to support meaningful benchmarking:
 - a) Reduce the NHCDC data collection timeline, supporting jurisdictions to provide data sooner.
 - b) Hold bilateral workshops with jurisdictions upon receipt of NHCDC data to discuss insights and monitor progress with alignment initiatives, sharing interim or provisional NHCDC findings
 - c) Provide NHCDC data by cost centre and line item to jurisdictions to support their comparisons
 - d) Document known jurisdictional differences in cost reporting to support benchmarking
11. Consider using future Independent Financial Reviews as an opportunity to engage with hospitals and health services to investigate areas where the NHCDC processes may be improved.

1 Introduction

1.1 Objectives and scope

The Independent Health and Aged Care Pricing Authority (IHACPA) has engaged Taylor Fry to complete the Cost Bucket Review.

The objectives of the review are to:

- Assess whether the National Hospital Costs Data Collection (NHCDC) cost buckets, line items, centres and function groups are fit for purpose
- Recommend areas where cost buckets, line items, centres and function groups can be refined, with a focus on:
 - Greater utilisation of the NHCDC
 - Improving consistency and meaningfulness of reporting
 - Enhancing process efficiency.

1.2 Approach

We build on the consultations IHACPA conducted with the NHCDC Advisory Committee (NAC) on the cost bucket review in 2023. Our review draws on three sources of information, summarised below in Figure 1.1.

Figure 1.1 - Approach to the cost bucket review

 Quantitative analysis	 Stakeholder consultation	 Clinical review
▪ Review utilisation of cost centres, line items and function group combinations ▪ Review utilisation between jurisdictions to identify inconsistencies in reporting ▪ Identify small or negative costs reported within the NHCDC	▪ Consultation with seven of the eight jurisdictions, providing summaries of results ▪ Receive feedback from jurisdictions on whether they support recommendations	▪ Review the clarity of cost centre definitions ▪ Creating sample cost centre definitions ▪ Grouping certain clinical cost centres together by specialty

The data analysis provided a means for measuring inconsistencies in reporting and suggestions for where reporting could be improved or modified to reduce the complexity of the NHCDC and the size of the NHCDC submission. Our clinical review enabled us to test the validity of any suggestions for removing cost centres or combining cost centres or line items without removing meaningful information from the NHCDC submission. Finally, stakeholder consultation provided meaningful insights regarding how the NHCDC is currently used for reporting by the jurisdictions. Stakeholder consultation also provided feedback on the feasibility of proposed changes to the NHCDC submission for each jurisdiction and what issues or challenges such changes might cause.

1.3 Review outline

This document has the following broad structure:

1. Background and consultation (Section 2 and 3)
2. Findings and recommendations (Section 4 to 7).

The background section provides an overview of the NHCDC, how it is used and how the NHCDC submission breaks down into specific costs by line item, function group and the cost bucket matrix. We also provide a summary of our discussions with the jurisdictions in Section 3 which focusses on jurisdictional responses to how they use the NHCDC for their own reporting and discussions on the NHCDC usage, including potential consolidation of cost centres and line items.

The second half focuses on our specific findings over the course of the review. This includes integrating data analysis, discussions from stakeholder consultations, and recommendations from the clinical review. Each of these sections is broken up into a discussion around the analysis, including feedback and our recommendations, and a final summary of all recommendations for that section. We have separated these sections by focussing specifically on each of:

- Line items (Section 4)
- Cost centres (Section 5)
- Cost buckets (Section 6)
- The NHCDC reporting process (Section 7).

1.4 Stakeholder engagement and acknowledgements

Stakeholder consultations are a key pillar of our approach to ensure the knowledge of all relevant parties are considered and to improve the quality and acceptability of the recommendations. Our consultation built upon IHACPA's 2023 discussions with NHCDC Advisory Committee members on reviewing cost centres. Section 3 provides a summary of the findings from the stakeholder consultations.

Representatives from the states and territories, and private sector working group were invited to participate in individual consultation sessions to understand how each jurisdiction uses the NHCDC and cost data fields. We would like to extend our gratitude to the contributors in the cost bucket review listed in Table 1.1. Their inputs were invaluable to the development of relevant recommendations to improve the utilisation of cost data fields and reporting of the NHCDC.

Table 1.1 - Stakeholders engaged for the cost bucket review

Organisation
New South Wales Ministry of Health
Victoria Health and Victorian LHN representatives
Queensland Health
South Australia Health
Western Australia Health
Tasmanian Department of Health
Northern Territory Health
St Vincent's Health Australia
IHACPA

2 Background

2.1 The National Hospital Cost Data Collection

The National Hospital Cost Data Collection (NHCDC) is an annual collection of hospital activity and cost data by states, territories and private hospitals. It was established in 1996 with the primary aim of providing Australian governments and the health care industry with a nationally consistent method of costing hospital activity relating to patient care.

The public sector data is used to develop the national efficient price (NEP), which is set by IHACPA and determines the level of funding public hospitals receive annually. It is also used for the development of cost weights and classifications, reporting, benchmarking and policy development. There is regular reporting on the public sector NHCDC by both jurisdictions and IHACPA. Each jurisdiction produces a NHCDC Data Quality Statement and IHACPA publishes a NHCDC Public Sector Report each year. IHACPA also publishes a biennial report on the NHCDC Independent Financial Review.

Each financial year, the health departments of Australia's states and territories submit their cost data to IHACPA, who collate this data to produce a national dataset. To support consistency in the costing process, IHACPA works with stakeholders to develop and implement the Australian Hospital Patient Costing Standards (AHPCS). These Standards prescribe the cost mappings and business rules used in the costing process, to ensure there is a consistent treatment of costs between hospitals.

IHACPA uses the cost data submitted by the public sector to develop the NEP to determine the level of funding public hospitals receive annually. IHACPA publishes a cost report for the public and private sector, separately, to provide information and benchmarking data to public and private hospitals. The cost report includes summaries for each jurisdiction and care stream by end class, cost buckets, line items.

2.2 Overview of current cost reporting data fields

Definition and purpose

IHACPA publishes Data Request Specifications (DRS) to provide guidance around data collections to enable activity based funding, developed in collaboration with IHACPA's committees and working groups. The NHCDC DRS requires all costs to be attributed to a line item and a cost centre, where:

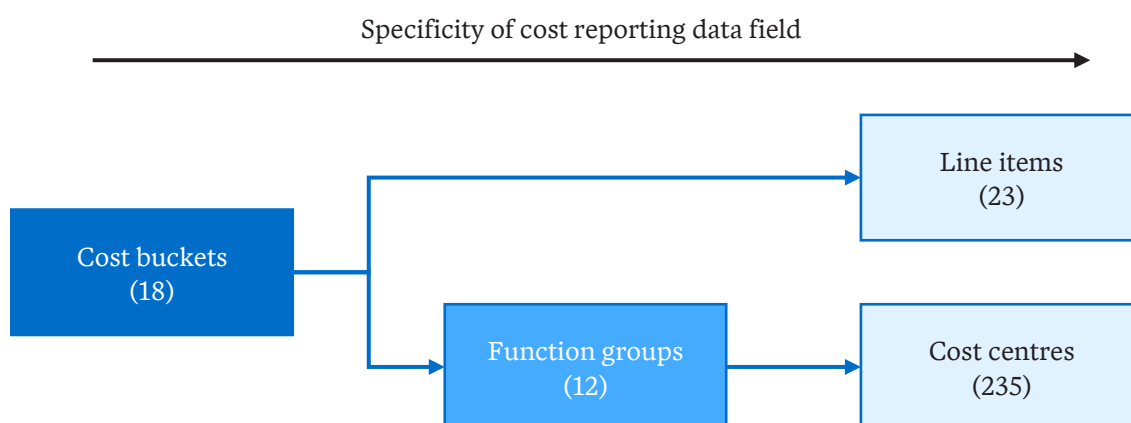
- **Line items** represent types of costs incurred by hospitals which are reported on in the general ledgers of hospitals, e.g. nursing salaries and wages, medical salaries and wages, goods and services, etc.
- **Cost centres** represent departmental cost, objects within a hospital that relate to a particular function or responsibility area of the hospital, e.g. cardiology, operating room, etc.

Throughout this document we refer to cost centres and line items using their abbreviations and codes. The NHCDC DRS provides the full list of cost centres and line items and related information.

We also define some additional cost reporting data fields that organise the fundamental line item and cost centre dimensions into broader groups. We set out the hierarchical relationship between these data fields in Figure 2.1.

- **Function groups** (or cost centre groups) are a grouping of similar cost centres, e.g. imaging, pathology, critical, etc.
- **Cost buckets** are defined by grouping cost centre and line items combinations, which can be considered to be cost pools within a hospital. We have reproduced the cost bucket matrix for the 2023-24 data collection period in Section 6, which shows the mapping of function groups (cost centres) and line combinations to cost buckets.

Figure 2.1 – Hierarchical relationship between cost data fields



States and territories health departments compile hospital cost data from local health networks and hospitals and submit a large volume of NHCDC data to IHACPA. Participating private hospital groups also submit activity and cost data for admitted acute, subacute and mental health care streams.

Each hospital service event (episode, phase, presentation, etc.) comprises costs arising from different cost centres representing functional units or departments such as imaging or intensive care units. In turn, each of these functional units or departments incur different types of costs or line items, such as medical staff salaries, medical supplies and goods and services. The basic unit for reporting cost data requires both cost centre and line item to be specified. Thus a single hospital service event contains one row for each distinct combination of these dimensions, where the average service event has 39 rows.

Additionally, direct and indirect costs are separately recorded in each row, where:

- Direct costs represent expenses incurred in the delivery of patient care allocated to a patient using evidence of resource utilisation
- Indirect costs that are allocated using a method to apportion the expense (relative value units)

Our analysis we typically consider the combined total of direct and indirect costs, unless otherwise specified.

2.3 Overview of cost buckets

Summary statistics

Our analysis primarily focuses on NHCDC 2021-22 data as this was the latest data available at the commencement of this review. We reviewed historical collections since 2018-19 and the latest dataset for 2022-23 to ensure the findings and recommendations remained relevant.

We provide cost breakdowns for cost bucket, line item and function group in Table 2.1, Table 2.2 and Table 2.3, respectively.

There is significant variation in size of each cost buckets – the largest cost bucket being Ward Nursing, at 20% of total cost, followed by Ward Medical at 9%. The smallest cost buckets are Patient travel, Prosthesis, Special Procedure Suite (at 1% of total cost each) and Exclude (0%).

Table 2.1 – Costs within each cost bucket

Cost bucket	Cost (\$M)	Proportion of NHCDC
Ward Nursing	12,531	20%
Ward Medical	9,151	15%

Cost bucket	Cost (\$M)	Proportion of NHCDC
Ward Supplies	5,918	9%
Operating Room	5,202	8%
Oncosts	5,048	8%
Non-Clinical	4,990	8%
Allied Health	3,362	5%
Pharmacy	3,248	5%
Critical Care	2,973	5%
Pathology	2,270	4%
Imaging	2,083	3%
Depreciation	2,052	3%
Hotel Costs	1,954	3%
Prosthesis	895	1%
Special Procedure Suite	647	1%
Patient Travel	350	1%
Exclude	77	0%
Total	62,751	100%

Line items show a similar breakdown to cost buckets, with Salaries and Wages holding the largest proportion of costs (Nursing at 25%, Medical at 16% and Other at 11%). Smallest total line items include Blood, Corporate, Depreciation Equipment, Imaging, and Prostheses (each at 1% of total cost) and Capital, Depreciation ROU, Lease and Exclude (each at 0%).

Table 2.2 – Costs within each line item

Line item	Cost (\$M)	Proportion of NHCDC
Salaries and Wages Nursing	15,779	25%
Salaries and Wages Medical	9,750	16%
Salaries and Wages Other	6,827	11%
Goods and Services	6,059	10%
Oncosts	5,048	8%
Salaries and Wages Allied Health	3,577	6%
Medical supplies	2,458	4%
Salaries and Wages VMO	2,286	4%
Hotel	1,954	3%
Pharmaceuticals PBS	1,575	3%
Pathology	1,476	2%
Pharmaceuticals non-PBS	1,310	2%
Depreciation Building	1,297	2%
Prostheses	895	1%

Line item	Cost (\$M)	Proportion of NHCDC
Imaging	547	1%
Depreciation Equipment	401	1%
Blood	371	1%
Corporate	361	1%
Patient Transport	350	1%
Lease	245	0%
Depreciation ROU	109	0%
Exclude	75	0%
Capital	2	0%
Total	62,751	100%

Function groups provide less visibility of costs compared to cost buckets and line items, as over half of all costs are in the Clinical function group.

Table 2.3 – Costs within each function group

Function group	Cost (\$M)	Proportion of NHCDC
Clinical	34,722	55%
Operating Room	6,487	10%
Emergency Department	5,878	9%
Critical	3,537	6%
Pharmacy	2,886	5%
Allied	2,729	4%
Imaging	2,377	4%
Pathology	2,244	4%
Special procedure suites	829	1%
Non-Patient	653	1%
Other Services	410	1%
Total	62,751	100%

Table 2.4 provides a summary of the total number of cost centres used by jurisdiction.

Table 2.4 – Cost centre utilisation by state

State	Cost centres used	Proportion of total cost centres
NSW	155	70%
VIC	162	74%
QLD	184	84%
SA	118	54%
WA	110	50%

State	Cost centres used	Proportion of total cost centres
TAS	101	46%
NT	72	33%
ACT	82	37%
National	217	99%

We discuss utilisation of line items, cost centres and cost buckets further in the subsequent sections, identifying opportunities for streamlining and improvement.

3 Stakeholder consultation

3.1 Overview

Our consultation built upon IHACPA's 2023 discussions with NHCDC Advisory Committee members on reviewing cost centres. As part of the Cost Bucket Review, representatives from the states and territories were invited to participate in individual consultation sessions to understand how NHCDC outputs and cost data fields are used. Seven jurisdictions participated in these discussions, which focussed on four main discussion areas:

1. Past jurisdictional feedback received in 2023
2. Using the NHCDC outputs for benchmarking and reporting
3. Reviewing current cost allocation practices across jurisdictions
4. Appetite for change to cost buckets, function groups, centres and line items

Additionally, we consulted with St Vincent's Health Australia representatives from the Private Sector Working Group to discuss their usage of the existing cost data fields, as well as the feedback on potential changes to the cost data fields.

3.2 Summary of consultation discussion

Cost buckets and reporting

IHACPA cost buckets are used by some but not all jurisdictions for benchmarking. The complexity of the current cost bucket matrix was cited as a reason for adopting alternative cost data fields as the basis of comparison. Some jurisdictions made use of line items as their primary reporting dimension and indicated having access to this additional level of granularity over cost buckets would be beneficial.

Many jurisdictions use tailored definitions of cost pools for benchmarking across facilities within the jurisdiction and group costs in a similar way to IHACPA's cost buckets. Adjustments were typically applied to improve comparability against the desired benchmark, e.g., removing blood and Pharmaceutical Benefit Scheme (PBS) components to align with the NEP or removing 'uncontrollable' costs to better compare across hospitals within a jurisdiction.

Due to the inconsistency with jurisdictional internal reporting, there was an appetite to see more detail beyond the existing cost bucket reporting that would allow for better comparisons:

- Some jurisdictions identified a gap in their data needs and the information published as part of the NHCDC report and benchmarking portal. Jurisdictions with access to large volumes of local health network (LHN) data prefer using this data source these over NHCDC data, noting granularity and timeliness as the main benefits.
- Some jurisdictions perceive current cost data fields to be overly general and benefit from further breakdown. Some examples include the clinical function group (e.g. by organisation structure or specialty) and good and services line item (e.g. by information technology (IT), security and utilities). Furthermore, some jurisdictions noted contracted services would appear only in the goods and services line item.

Cost centre and line items

Table 3.1 summarises the discussion around jurisdictions' usage and potential consolidation of cost centres and line items. Across jurisdictions there was broad support for adding cost centre definitions to promote national consistency, as standardised definitions do not currently exist.

Table 3.1 – Summary of cost centre and line item usage discussion

Topic	Key points
Salaries and Oncosts line item	There was some variation in how states and territories reported oncosts, and it would be more meaningful to combine oncosts with salaries and wages for comparisons across jurisdictions.
Paediatric cost centres	Some states supported separating ‘paediatric general medicine’ and ‘paediatric general surgery’ costs, whilst others preferred keeping only a single ‘paediatric general’ cost centres. Another perspective involved having paediatric hospitals report using the full set of non-paediatric clinical cost centres to improve data quality.
Mental health cost centres	All jurisdictions supported maintaining the existing set of mental health cost centres. Some jurisdictions noted that these mental health cost centres contained information that was distinct and not reproducible from other activity datasets.
ICU cost centres	Jurisdictions had varying views around: - Combining or maintaining separate High Dependency Unit (HDU) and Intensive Care Unit (ICU) cost centres - Combining or maintaining separate adult and paediatric ICU cost centres - Combining or maintaining separate paediatric and neonatal ICU cost centres.
Transplant cost centres	All jurisdictions supported consolidating individual transplant cost centres into a single cost centre as the AR-DRG of an episode contains sufficient information to distinguish between types of transplants.
Imaging cost centres	Some jurisdictions expressed support for consolidating imaging costs into a single cost centre, whilst others had access to breakdowns by various imaging services and found this useful. Plain radiation and general imaging were identified as duplicate cost centres. Smaller jurisdictions noted their imaging cost data may not be able to distinguish between imaging services, such as CT, MRI and ultrasound.
Pathology cost centres	All jurisdictions expressed support for consolidating pathology cost centres into general pathology and blood products.
Pharmacy cost centres	All jurisdictions expressed support for the consolidation of pharmacy cost centres, with many already reporting a majority of their pharmacy costs in general pharmacy. There were differing practices around recording high cost drug expenses, where some states had systems to distinguish these expenses from other drugs.
Special procedure suite cost centres	Many jurisdictions expressed support for keeping certain special procedure suite cost centres. Some examples include radiotherapy suites, angiography and cardiac catheter. Smaller jurisdictions highlighted they had fewer special procedure suites and performed similar services in wards.
Unused cost centres	There were 15 cost centres presented to jurisdictions that had not been used across any jurisdiction in the 2021-22 collection period. All jurisdictions supported removing these cost centres.
Low cost records	Very low cost records were identified across most jurisdictions where a small proportion of costs cannot be directly mapped to patients and these residual costs get apportioned across a large number of patient episodes. These appeared in the depreciation and lease, patient transport, imaging and pathology line items.
Negative costs	Negative costs were reported by some jurisdictions. These were likely to be general ledger account transactions or reversals of accrual items that were slightly misaligned to their original entries

4 Line item review

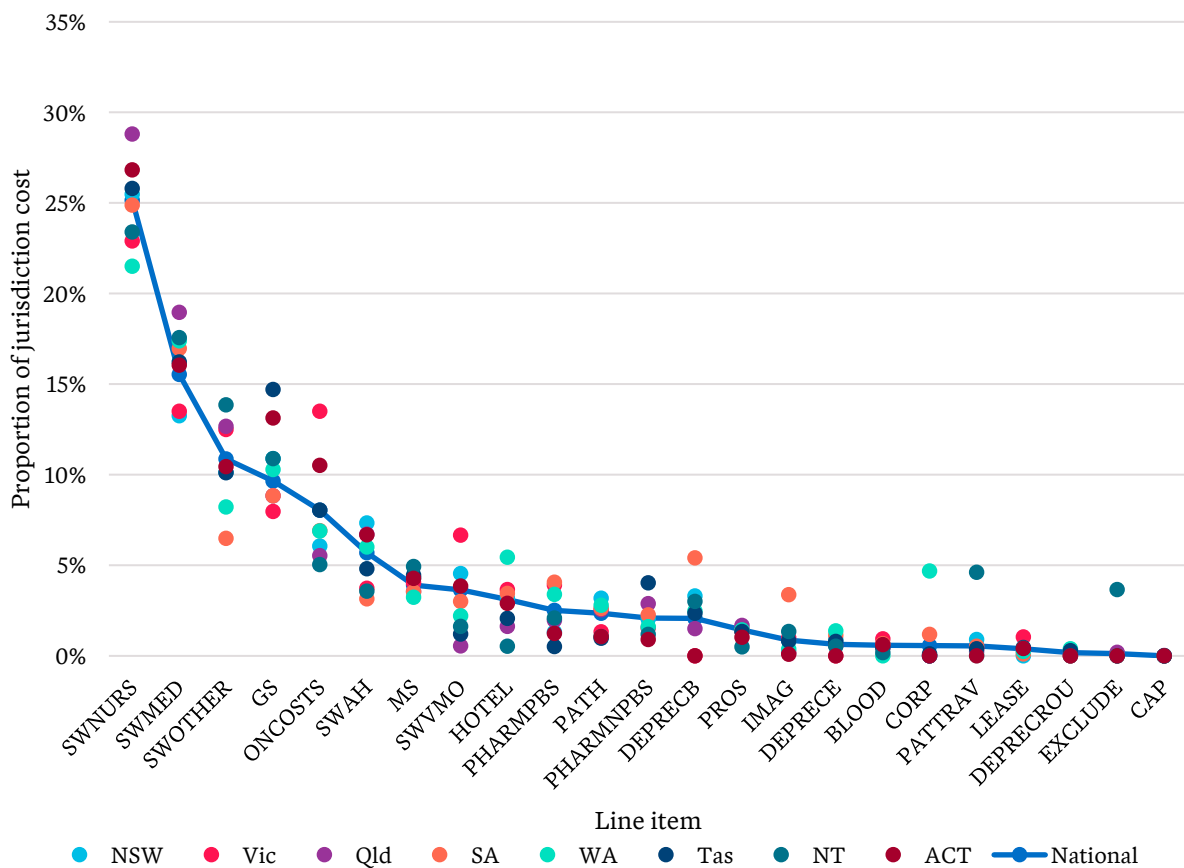
Section findings

- Medical and VMO salaries and wages are not consistently reported across jurisdictions and combining these line items would provide a more useful benchmarking comparison
- Oncosts are reported differently across jurisdictions and combining, and distributing, them into salaries and wages for reporting would provide a more useful benchmarking comparison
- Several line items contain many low cost, low value records and would be simplified by combining
- Patient transport has low value costs across many cost centres and would benefit by being pivoted to being a cost centre group rather than a line item.

4.1 Total cost distribution by line item

In this section we discuss the distribution of line item costs across the jurisdictions. Figure 4.1 shows the proportion of costs within each line item for each of the jurisdictions.

Figure 4.1 – Proportion of total cost in each line item (all streams, 2021-22)



Jurisdictional insights

Notable sources of variation by jurisdiction include reporting of Oncosts, VMO salaries and wages, Depreciation, Imaging, and Corporate expenses. Consultation with jurisdictions provided the following insights into jurisdictional variation:

- There are differences in the relative use of permanent medical staff and VMO, which is reflected in the staff salaries and wages are allocated across the line items Medical Salaries and Wages and VMO Salaries and Wages.
- Oncosts are high in Victoria due to inclusion of annual and other leave, which is not in alignment with current costing standards.
- Jurisdictions noted there can be some subjectivity in defining between hotel and non-clinical costs. In many cases, jurisdictions with high hotel costs tended to have lower non-clinical costs.
- Victoria does not report all depreciation costs, which contributed to the observed variance in depreciation costs.

Medical and VMO salaries and wages

The costs reported under the SWMed and SWVMO line items both have considerable variation between jurisdiction, with medical salaries differing by 6% between the jurisdictions with the highest and lowest proportion of costs and VMO salaries similarly also differing by 6%. However, the two jurisdictions that report the lowest proportion of costs within the SWMed line item also report the highest proportion of costs within the SWVMO line item. Similarly, the jurisdiction that reports the highest proportion of cost within the SWMed line item reports the lowest proportion of cost within the SWVMO line item.

Therefore, when comparing these line items between jurisdictions it is difficult to make reasonable insights due to the differences in staffing make-up. However, by combining the 2 line items, the total variation between the jurisdiction becomes just 3%. This allows for greater consistency in making like-for-like comparisons between jurisdictions and between a national average. This can be done for reporting purposes only, allowing for a split and tracking of VMO costs where necessary.

Key findings

The mix of medical and visiting medical officer (VMO) employed varies across states and territories, complicating comparisons of medical salaries and wages. The sum of costs across medical and VMO salaries and wages better reflect the medical labour costs associated with across a range of facilities and allow for more valid comparisons.

Distribution of Oncosts

There is large variation in the distribution of oncosts across the jurisdictions. It has been noted that Victoria reports higher oncosts due to the inclusion of annual and other types of leave within this line item. However, jurisdictions have suggested that there are differences in what costs they report within the Oncosts line item. For example, annual leave and long service leave accruals may be reported in oncosts in one jurisdiction and in the corresponding salaries and wages line item in others.

The variation within oncosts makes it difficult for jurisdictions to use this line item for any form of benchmarking. Additionally, as these costs are otherwise included within various salaries and wages, it creates difficulties in making comparisons within the salaries and wages line items also.

For equivalent benchmarking and reporting we therefore suggest that oncosts be combined within the salaries and wages line items, distributed according to the type of salary that they align with. We understand currently there are obstacles to achieving this across jurisdictions, e.g., the separation of superannuation and other labour cost accounts. This would require a long-term consultation across jurisdictions to improve consistency of reporting of oncosts and salaries and wages. The intention is to

promote national consistency and ensure a holistic representation of labour costs for comparison and benchmarking. We have thus broken up the following recommendation into stages so that submissions can be eventually updated to reflect the accurate distribution of oncosts within the salaries and wages line items, and in the interim a methodology can be produced by IHACPA to combine these costs for reporting.

Key findings

There are inconsistencies across jurisdictions in the types of expenses that are included in the oncost line item, making comparisons of salaries and oncosts challenging. Moving towards reporting of oncosts under the associated salary and wage items would alleviate these inconsistencies and provide a more comprehensive view of staffing costs.

4.2 Individual patient cost distribution by line item

Each row in the NHCDC dataset records the direct and indirect cost associated with a cost centre and line item combination. The total cost of an episode is then calculated by summing costs for all cost centres and line items. There were approximately 2 billion records across all streams in NHCDC 2021-22, with the non-admitted and acute streams accounting for 996 million and 512 million records, respectively.

Many of these records represent a very small amount of cost, and take up a large amount of storage and computational power to process. We describe these rows as low value since the level of granularity used to represent these costs in the dataset is not commensurate with the usefulness of the information. Handling this data creates additional complexities such as difficulties with file

We provide an example of a low value records for an admitted acute record with a DRG of Red Blood Cell Disorders (Q61A). The total cost of this episode is \$9,932, spread across 332 rows of distinct cost centre and line item combinations. We show how these costs are spread over function groups and line items in Figure 4.2 and similarly how rows are spread in Figure 4.3. Of the 332 rows we identify 153 low value records, each with costs of less than \$1, as indicated by the red shading. The total sum of these records is \$12, which represents 0.01% of the total cost of the episode.

Figure 4.2 – Example episode with costs breakdown by function group and line item (\$)

		Line Items												
Cost Bucket		SW	SW	SW	SW	SW	GS	MS	Corp	Imag	Path	Blood	Phrm	Phrm
Matrix (\$)		Nurs	AH	Other	Med	VMO							N_PBS	PBS
Cost Centre Group	Allied	21	575	82	9	0	81	12	-	0	0	-	1	-
	Clinical	2,114	49	487	1,016	38	479	180	-	0	0	-	100	-
	Imaging	26	85	25	49	1	49	11	-	7	0	-	2	-
	Pathology	2	1	14	1	0	36	0	-	0	266	175	0	-
	Critical	-	-	-	-	-	-	-	-	-	-	-	-	-
	OR	300	32	75	64	85	89	54	-	0	1	-	40	-
	Pharmacy	6	154	28	3	0	30	9	-	0	0	-	32	-
	Emergency	-	-	-	-	-	-	-	-	-	-	-	-	-
	Sp. Proc. suites	95	13	25	4	0	59	86	-	0	0	-	4	-
	Other Serv	0	0	5	0	0	7	0	-	0	-	-	0	-
	Other-nonpat	4	0	19	14	1	20	0	-	0	0	-	0	-
Total		2,569	910	761	1,161	126	849	352	-	8	267	175	178	-
Cost Bucket		Line Items												
Matrix (\$)		Oncosts	Pros	Hotel	Dprc B	Dprc E	Dprc ROU	Lease	Cap	Exclcd	PatTran	Total		
Cost Centre Group	Allied	71	-	42	114	11	1	-	-	-	0	1,020		
	Clinical	364	-	426	650	65	6	-	-	-	0	5,974		
	Imaging	19	0	13	37	4	0	-	-	-	0	329		
	Pathology	2	-	12	70	7	1	-	-	-	0	585		
	Critical	-	-	-	-	-	-	-	-	-	-	-		
	OR	49	-	45	108	11	1	-	-	-	0	955		
	Pharmacy	20	-	14	38	4	0	-	-	-	0	339		
	Emergency	-	-	-	-	-	-	-	-	-	-	-		
	Sp. Proc. suites	15	5	30	52	5	0	-	-	-	0	395		
	Other Serv	1	-	0	10	3	0	-	-	-	238	264		
	Other-nonpat	2	-	10	2	0	0	-	-	-	0	72		
Total		542	5	591	1,080	110	9	-	-	-	238	9,932		

Figure 4.3 - Example episode with NHCDC row breakdown by function group and line item

		Line Items												
Cost Bucket		SW Nurs	SW AH	SW Other	SW Med	SW VMO	GS	MS	Corp	Imag	Path	Blood	Phrm N_PBS	Phrm PBS
Matrix (rows)														
Cost Centre Group	Allied	4	4	4	4	4	4	4	-	4	4	-	4	-
	Clinical	4	4	4	4	4	4	4	-	4	4	-	4	-
	Imaging	2	2	2	2	2	2	2	-	2	2	-	2	-
	Pathology	2	2	2	2	2	2	2	-	2	2	1	2	-
	Critical	-	-	-	-	-	-	-	-	-	-	-	-	-
	OR	3	3	3	3	3	3	3	-	3	3	-	3	-
	Pharmacy	2	2	2	2	2	2	2	-	2	2	-	2	-
	Emergency	-	-	-	-	-	-	-	-	-	-	-	-	-
	Sp. Proc. suites	1	1	1	1	1	1	1	-	1	1	-	1	-
	Other Serv	1	1	1	1	1	1	1	-	1	-	-	1	-
	Other-nonpat	2	2	2	2	2	2	2	-	1	1	-	1	-
Total		21	21	21	21	21	21	21	-	20	19	1	20	-
		Line Items												
Cost Bucket		Oncosts	Pros	Hotel	Dprc B	Dprc E	Dprc ROU	Lease	Cap	Exclcd	PatTran	Total		
Matrix (rows)														
Cost Centre Group	Allied	4	-	4	4	4	4	-	-	-	4	64		
	Clinical	4	-	4	4	4	4	-	-	-	4	64		
	Imaging	2	2	2	2	2	2	-	-	-	2	34		
	Pathology	2	-	2	2	2	2	-	-	-	2	33		
	Critical	-	-	-	-	-	-	-	-	-	-	-		
	OR	3	-	3	3	3	3	-	-	-	3	48		
	Pharmacy	2	-	2	2	2	2	-	-	-	2	32		
	Emergency	-	-	-	-	-	-	-	-	-	-	-		
	Sp. Proc. suites	1	1	1	1	1	1	-	-	-	1	17		
	Other Serv	1	-	1	1	1	1	-	-	-	1	15		
	Other-nonpat	2	-	2	1	1	1	-	-	-	1	25		
Total		21	3	21	20	20	20	-	-	-	20	332		

In the following analysis we define low value records to be those rows in the NHCDC dataset that contain less than 0.1% of the total episode cost. For example if an episode had a total cost of \$10,000, any cost data for that episode with less than \$10 would be flagged as a low value record.

Table 4.1 shows an analysis of low value records in the admitted acute across all jurisdictions. For each line item, the table summarises records flagged as low value as a proportion of the total number of records submitted for that line item and the costs attached to low value records as a proportion of total costs reported. The findings are:

- 62% of records cover only 1.4% of the cost.
- Low value records are most often observed in administrative line items across all cost centres. These are seen in the Depreciation B, E and ROU, Patient Travel, Lease and Capital line items.
- Low value records are also present in Hotel, Prostheses, Pathology, Imaging, and Blood line items – however these often reflect low-cost services, or challenges in allocation of these services to specific patients.

Table 4.1 - Low value line items in admitted acute

Line item	Proportion of low value records (<0.1% total episode cost)	Proportion of cost in low value records
CAP	99%	74.9%
DEPRECROU	90%	22.5%
LEASE	82%	14.2%
DEPRECE	77%	9.5%
EXCLUDE	72%	8.7%
CORP	61%	4.4%
PATTRAV	95%	3.9%
DEPRECB	57%	3.8%
IMAG	92%	3.8%
HOTEL	60%	3.4%
SWAH	63%	2.6%
PHARMNPBS	74%	2.1%
MS	63%	2.0%
PATH	83%	1.9%
ONCOSTS	38%	1.6%
GS	32%	1.5%
SWOTHER	30%	1.2%
SWVMO	73%	1.0%
BLOOD	88%	0.9%
SWMED	58%	0.5%
PHARMPBS	69%	0.5%
SWNURS	50%	0.4%
PROS	89%	0.3%

Line item	Proportion of low value records (<0.1% total episode cost)	Proportion of cost in low value records
Total (admitted acute)	62%	1.4%

Jurisdictional insights

Most jurisdictions spread costs across a large number of patients when costs are not able to be directly matched to a patient, resulting in low value records. There is variation between jurisdictions in how costs are spread using relative value units. One jurisdiction finds that the data volume for the non-admitted stream is onerous due to the time taken to export and submit files to IHACPA.

Administrative line items: Depreciation, lease, capital and excluded costs

Table 4.1 shows that each of the administrative line items of depreciation (Depreciation B, E, ROU), Lease, Capital and Exclude have a high proportion of their records being low value while also have a high proportion of the total cost within that line item being made up of low value records. During consultation, jurisdictions suggested that this is because these costs are spread across all patients and, often, across cost centres as well. This results in large volumes of data being used for little meaningful information.

There are currently three separate line items for depreciation (Depreciation B, E and ROU) and a further line item for lease expenses. The depreciation and lease line items are out of scope for pricing in the NEP and state and territory feedback suggests these are generally excluded from their benchmarking and reporting.

The volume of this depreciation data in the NHCDC is disproportionately large compared to the value that the information provides to stakeholders as each episode's cost centres will typically contain an entry for each of the three depreciation line items.

The capital line and exclude line items contain information that is of low value to stakeholders and these costs are out of scope for pricing in the NEP. We also identified that these costs are sparsely allocated across many episodes, where 99% of cost records containing capital and 72% of cost records containing exclude contribute less than 0.1% of an episode's total costs, respectively.

Key findings

There are currently three separate line items for depreciation (Depreciation B, E and ROU) and a further line item for lease expenses. The depreciation and lease line items are out of scope for pricing in the NEP and the volume of this depreciation data in the NHCDC is disproportionately large compared to the value that the information provides.

The capital line and exclude line items contain information that is sparsely allocated across many episodes, of low value to stakeholders, and these costs are out of scope for pricing in the NEP.

Supporting services line items: Imaging, pathology, pharmacy, blood

Each of the imaging, pathology, pharmacy and blood line items similarly have a significant proportion of their records being low value. The reason for this is most jurisdictions tend to spread costs across all, or most, patients and each cost centre attributed to that patient when costs are not able to be directly matched to a singular patient.

As part of our review we discussed whether these line items could instead be pivoted to cost centre groups. This would reduce bulk in the size of the NHCDC submission while also keeping all imaging, pathology, pharmacy, and blood costs within a cost bucket of the same name. This is discussed further in Section 6.

Patient Transport

Patient transport is currently reported as a line item that is sparsely allocated across many episodes, where 95% of cost records containing patient transport contribute to less than 0.1% of total episode cost. We understand that in many cases direct patient matching cannot occur and these costs are spread across multiple cost centre groups and patients, leading to a small amount of costs being spread across a large number of episodes.

Key findings

Patient transport is sparsely allocated across many episodes. In many cases direct patient matching cannot occur and these costs are spread across multiple cost centre groups and patients, leading to a small amount of costs being spread across a large number of episodes.

4.3 Recommendations

Recommendation 1: Combine S&W Med and VMO line items for reporting purposes

We recommend combining the S&W Med and VMO line items for salaries and wages reporting purposes to provide a like-for-like comparisons for medical salaries and wages. Jurisdictions should continue to report separate line items for S&W Med and VMO in the NHCDC submission to maintain visibility of VMO costs.

Recommendation 2: Combine oncosts into salaries and wages line items

We recommend IHACPA work to combine oncosts into Salaries and Wages line items over the long term. We understand currently there are obstacles to achieving this across jurisdictions, e.g., the separation of superannuation and other labour cost accounts. This would require a long-term consultation across jurisdictions to improve consistency of reporting of oncosts and salaries and wages. The intention is to promote national consistency and ensure a holistic representation of labour costs for comparison and benchmarking.

We recommend the following steps:

- a) In the short term, engage with jurisdictions to investigate the payroll accounts included in the Oncosts and Salaries and Wages to support the transition
- b) Approximate the allocation of oncosts to each salary and wage type line item for reporting purposes using investigation insights
- c) In the longer term, dissolve the Oncosts line item into relevant Salaries and Wages categories.

Recommendation 3: Combine depreciation and lease line items

We recommend combining the depreciation and lease line items into a single line item in the states and territories' NHCDC submissions to reduce data volumes and streamline reporting, whilst maintaining visibility of total system costs.

Recommendation 4: Combine capital and exclude line items

We recommend combining the capital and exclude line items into a single line item in the states and territories' NHCDC submissions to reduce data volumes and streamline reporting, whilst maintaining visibility of total system costs.

Recommendation 5: Pivot patient transport line item to a cost centre

Patient transport can be considered as a hospital support function, and organised such that expenses are charged to a cost centre rather than across a large range of existing cost centres.

We recommend IHACPA engage with state and territory health services to investigate the feasibility of structuring patient transport as a cost centre rather than a line item to reduce data volumes.

5 Cost centres review

Section findings

- We identified 71 cost centres as being low cost or low value, due to either being not used, used by only one or two jurisdictions, or being duplicative with another cost centre.
- The review found that more valuable Imaging and Pharmacy data can be collected through cost centres. Many jurisdictions report a large proportion of their imaging, pathology and pharmacy costs to a default cost centre (general imaging, general pathology and general pharmacy). This limits the comparability and visibility of spending on different procedures and services under each of these expense categories.
- Jurisdictions have requested that definitions are developed for cost centres to ensure reporting consistency. The quantitative review found that some AR-DRGs and Tier-2 clinics had costs inconsistently spread to different cost centres across jurisdictions, and would benefit from streamlining.

5.1 Cost centres utilisation by jurisdictions

5.1.1 Overview

The NHCDC DRS 2021-22 contains 235 cost centres for classifying hospital costs. Of these, 220 were used by states and territories to organise their costs, with the number of cost centres used by individual hospitals and jurisdictions varying considerably according to a number of factors.

Figure 5.1 compares the number of cost centres used by each state and territory in the 2021-22 submission. The range of cost centres utilised by a jurisdiction varied from 72 to 184 unique cost centres. Larger states tended to use a wider range of cost centres than smaller states and territories.

Figure 5.1 – Number of cost centres reported by jurisdiction (2021-22)

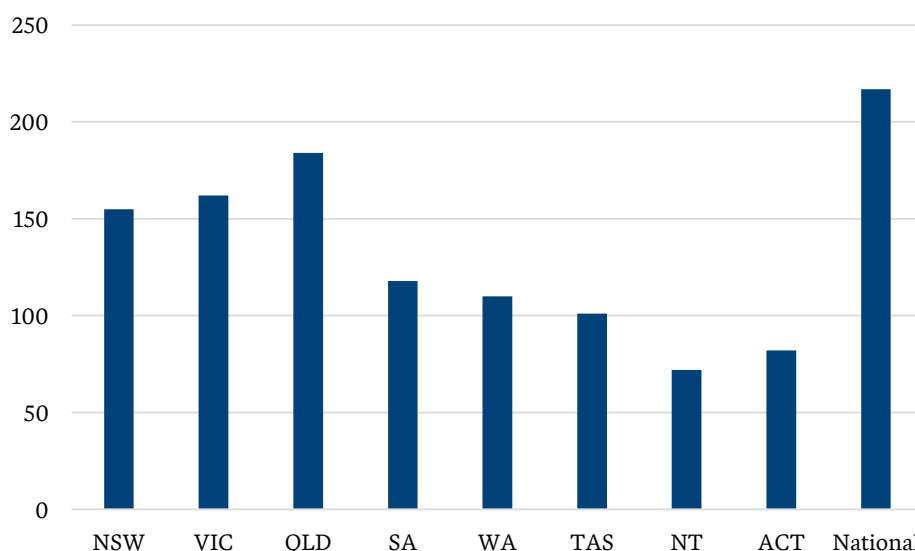


Figure 5.2 presents an alternative angle of cost centre consistency from the perspective of the number of jurisdictions that report each cost centre. The columns are coloured in a gradient by number of jurisdictions that include a given cost centre in its NHCDC submission, with darker blues indicating more widespread usage. The height of each column indicates the number of cost centres falling into each

category. Cost centres have been separated into the clinical function group and other cost centres. For example, in 2021-22 28 cost centres

Figure 5.2 – Cost centre by number of jurisdictions reporting (2021-22)

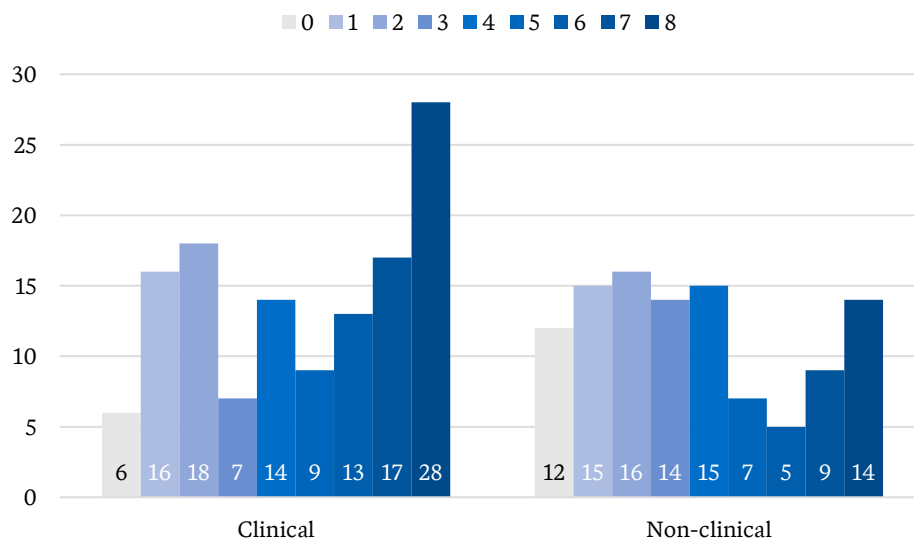


Figure 5.2 shows:

- Only 42 cost centres (28 clinical and 14 non-clinical) are used by all jurisdictions, with 86 cost centres used by 6 or more states or territories, across clinical and non-clinical cost centres.
- 18 cost centres (6 clinical and 12 non-clinical) are not used any jurisdiction. We note 3 of these are COVID-19 cost centres that have since been removed since the DRS 2022-23.
- Around 30% of cost centres are reported across only one or two jurisdictions.

We understand there are several contributing factors that lead to variations in cost centre usage, and many of these arise naturally while providing services to patients in different facilities and contexts. We present some of the reasons that were revealed over the course of the review and in discussions with jurisdictions' costing teams below:

- A range of alternative cost centres may be used for similar underlying services as a result of services being provided under different models of care. For example, paediatric hospitals tend to operate in metropolitan areas and use a different set of cost centres from hospitals without a dedicate paediatric team or unit.
- Costing capabilities vary substantially between hospitals in the means of data collection, data granularity and cost allocation processes. For example, feeder systems may be implemented widely in some hospitals to services provided to patients but other hospitals may rely on more manual allocation or interpretation of less detailed system records to allocate costs to patients.
- Cost centres have may have reduced in relevance over time and become deprecated as services provided and operational models continue to evolve.
- Legacy decisions around the use of certain NHCDC cost centres in reporting may have persisted. For example, some jurisdiction noted that a certain cost centre was selected over another for reporting in the NHCDC based on the relevance and similarity to the naming of their accounts.
- Individual practitioner preferences in costing and reporting practices can also contribute to a degree. One jurisdiction noted their desire to reduce individual practitioner variation by implementing a set of rules based on feeder data to inform the cost centre selection.

We understand the variation that exists between jurisdictions can lead to a less meaningful and comparable collection that reduces the utilisation of the NHCDC, particularly by jurisdictions.

5.1.2 Specialised and general clinical cost centres

Clinical cost centres can be broadly broken up into two categories:

- **Specialised cost centres** contain costs for patients with a similar clinical conditions and resource needs. These cost centres are typically associated with diagnostic or treatment procedures that are performed in a specialised ward or unit or by specialised practitioners. Specialised cost centres form the majority of the clinical cost centres.
- **General cost centres** are used when treatment occurs in a general or mixed usage ward for patients that do not require intensive or specialised care, or where no specialised cost centre exists. There can be a large range of procedures occurring in these cost centres. There are only a small number of general cost centres but they attract a large proportion of cost. General cost centres include 'General and acute medicine', 'General other', 'General surgery', 'General ward' and 'Non-admitted patient'.

Analysis

We analysed the degree to which jurisdictions utilise specialised and general cost centres and the extent to which these can be substitutes for each other. Each cost centre was approximately mapped to a Major Diagnostic Category (MDC) based on the MDC that contributed the largest share of cost to the cost centre. For example, this results in the intuitive mapping of the:

- Cardiology cost centre to MDC 05, Circulatory
- Orthopaedics cost centre to MDC 08, Musculoskeletal.

Some cost centres naturally include cost from several MDCs. Therefore we considered a mapping where several MDCs were potential candidates based clinical relevance and similarity. There were also cost centres that were associated with a large number MDCs, without any MDC dominating the share of costs. We refer to these as general cost centres and these remain unmapped.

In order to measure the differences in allocation between MDCs in admitted acute, we apply this approach to costs under the admitted acute stream and present a summary of the proportion of costs in each MDC (columns) by cost centres mapped to MDC (rows) in Table 5.1. The table is interpreted column by column, where at the extremes:

- When all costs for an MDC are allocated to specialised cost centres, there would be 100% values where the column and row MDC is the same.
- When all costs for an MDC are allocated to general cost centres, there would be 100% values within the box in towards the bottom of the table.

We observe for admitted acute nationally:

- A strong diagonal pattern indicating that for each patient MDC (column) there are a number of associated cost centres that are nearly exclusively used for that MDC.
- The majority of costs are reported in the general cost centres. Occasionally there is more agreement and concentration in one of the cost centres. For example, there are MDCs that tend to feature surgical interventions so that more costs are in the general surgical cost centre.
- Some MDCs stand out as having a larger share of cost in specialised cost centres on a national basis. These include pregnancy, newborns and neonates, kidney and urinary and neoplastic MDCs. This suggests that there is more uniformity in how costs are coded for these MDCs across jurisdictions.

Table 5.1 - Clinical function group – Acute heat map

Patient MDC																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
	01. Nervous System		02. Eye		03. ENT		04. Respiratory		05. Circulatory		06. Digestive		07. Hepatobiliary/pancr.		08. Musculoskeletal et al.		09. Skin, subcut. breast		10. Endocrine et al.		11. Kidney and Urinary		12. Male Reproductive		13. Female reproductive		14. Pregnancy et al.		15. Newborns/neonates		16. Blood and immunology		17. Neoplastic		18. Infectious et al.		19. Mental, behav et al.		20. Alcohol/drug		21A. Injuries/poison et al A		21B. Injuries/poison et al B		22. Burns		23. Factors influencing health status		(All) - all patients		National - all patients		Difference																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
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Table 5.2 - Clinical function group – Non-admitted heat map

[illegible]

We replicate the analysis for non-admitted costs with the results shown in Table 5.2. Tier 2 Clinics were mapped to MDCs according to IHACPA's *Tier 2 Non-admitted Definition Manual*, which indicates the MDC most relevant to each Tier 2 Clinic. Where a straightforward mapping exists it was adopted, but some Tier 2 Clinics did not have a straightforward mapping, and these are grouped into several categories that appear in the second column panel, including General surgery and Subacute Tier 2 clinics.

We observe for the Non-Admitted care stream nationally:

- There is an even stronger diagonal pattern in non-admitted compared to admitted acute indicating that each patient MDC (column) has a distinct set of cost centres associated with that MDC. Among the specialised cost centres, individual cost centres were generally not used for different MDCs.
- In non-admitted nearly half of all costs were reported in general cost centres, with most directed to the 'Non-admitted patient' cost centre. There were a couple of Tier 2 clinic exceptions including surgical procedures which went to general surgery and Aged care which was reported in other general cost centres.

Reproducing the analysis in Table 5.1 and Table 5.2 for each jurisdiction individually provides a picture of the degree to which jurisdictions use specific and general cost centres in their reporting. Jurisdiction splits were largely consistent with the national heatmap trends with some notable differences:

- In admitted acute there is some variance in the degree of specialisation by MDC, as indicated by the proportion of costs. Kidney and urinary, pregnancy, newborns and neonates and neoplastic were more consistently reported in specialised cost centres across most jurisdictions. Some other MDCs such as Alcohol/Drug have mixed specialisation, e.g. reported in specialised cost centres in NSW, Queensland, Tasmania and Northern Territory, but as part of the general cost centres in other jurisdictions.
- For non-admitted, within each jurisdiction, there is a common level of general vs specialised cost centre usage which does not vary as much between MDCs. However between jurisdictions there can be substantial differences in the amount of specialised reporting.

We summarise the differences in specialisation by jurisdiction in Table 5.3 and compare states and territories to the national average. Tables for each jurisdiction are available in the tables in Appendix A.1 and A.2 for admitted acute and non-admitted, respectively.

Table 5.3 - Allocation of costs to general clinical cost centres, by stream

Jurisdiction	Admitted acute	Non-admitted
NSW	70%	48%
VIC	44%	40%
QLD	49%	55%
SA	63%	25%
WA	38%	26%
NT	62%	38%
TAS	56%	28%
ACT	43%	92%
National	54%	45%

Nationally, 54% of cost in admitted acute was reported in general cost centres. This compares to 70% in New South Wales which had the largest proportion of costs in the general cost centres and Western Australia having the least at 38% of costs in general cost centres. In non-admitted, South Australia, Western Australia and Tasmania had approximately 75% of costs in specialised cost centres whilst Australian Capital Territory reported 92% costs in general cost centres.

We attribute most of the variation to be a natural consequence of hospital design. A hospital's categorisation of activity in specialised or general cost centres primarily depends on the operational model implemented, which is linked to remoteness and size of the hospital. The means of data collection or reporting practices can also be secondary factor.

In general, larger metropolitan hospitals have specialised wards or units for different types of care, whilst smaller regional hospitals are more likely to have a range of procedure performed in a general ward setting. For instance, a patient presenting with burn injuries in a larger metropolitan hospital may be provided care in a burns unit and the hospital would report these costs to a Burns cost centre, whilst the same care in a regional hospital may occur in a general ward setting or ICU, with costs allocated to the corresponding cost centres.

Key findings

Clinical cost centres can be categorised into specialised or general cost centres, where specialised cost centres are typically associated one MDC and general cost centres accept costs from a range of MDCs. Approximately half of all costs are reported in general cost centres.

The relative use of specialised and general cost centres at a hospital and jurisdiction level varies as a natural consequence of hospital design. The degree of specialisation largely depends on a hospitals operational model and resource allocation, which is associated with remoteness and size of the hospital.

Cost centre variation can reflect differences in hospital design and models of care, making cost centres more difficult to compare between hospitals and jurisdictions. For example, similar service activity can be reported in a general cost centre in one hospital and specialised cost centres in another hospital.

5.1.3 Redundant, unused and infrequently used cost centres

There are several other sources of unnecessary variance in cost centre reporting stemming from the existence of redundant or effectively duplicated cost centres. Costs of similar nature may be distributed across different cost centres without any meaningful gain of information. Cases where this occurs includes when:

- Cost centres are unused for reporting by all jurisdictions
- Only one or two jurisdictions are reporting under a given cost centre
- 'Other' and 'General' cost centres within each function group are redundant

Unused cost centres

We understand the core list of cost centres set out in the NHCDC DRS has remained largely unchanged since the beginning of the collection. Over time the list of cost centres used for reporting have evolved as organisational practices, models of care and services provided have changed over time. Some cost centres in the DRS that were originally specified are no longer used for reporting by any state or territory.

Table 5.4 shows the 15 cost centres that were unused by any state or territory in 2021-22.

Table 5.4 – Unused cost centres

Function group	Cost Centre Code	Cost Centre Description
Allied	Acup	Acupuncture
Allied	Orthapp	Orthopaedic appliances
Clinical	Occupatmed	Occupational medicine
Clinical	Surghdu	Surgical High Dependency Unit

Function group	Cost Centre Code	Cost Centre Description
Clinical	Metbone	Metabolic bone
Clinical	Craniofacial	Craniofacial
Clinical	Epilepsy	Epilepsy
Clinical	Clindec	Clinical Decision Units
Non-allocated Overheads (other services)	Resser	Respite Services
Special procedure suites	Lithotrip	Lithotripsy Suites
Pathology	Autopsy	Autopsy
Pathology	Clinchem	Clinical Chemistry
Pathology	AnimHou	Animal House
Pathology	Toxic	Toxicology
Pharmacy	MfedDrugs	Manufacturing

As part of our stakeholder consultation, we queried jurisdictions about their usage of these cost centres and any potential implications of removing them. All jurisdictions were supportive of removing these cost centres and confirmed that they did not envisage any foreseeable reporting need for these cost centres or that an adequate alternative cost centres existed for these costs.

Key findings

The cost centre list in the NHCDC DRS submission had not seen significant review since the inception of the NHCDC. 15 cost centres that were originally included were not used by any jurisdiction in the 2021-22 collection. Jurisdictions were supportive of removing these and did not anticipate any foreseeable need for these in the future.

We propose removing these unused cost centres in Recommendation 6.

Infrequently used cost centres

The previous section identified 15 cost centres that are no longer used by any jurisdiction. While a cost centre can fall out of use in some jurisdictions, the underlying cost may still exist and be reported under another cost centre.

Table 5.5 provides a detailed breakdown of cost centres by number of jurisdictions using them, for each function group. For example, of the 11 cost centres in the Critical function group, there are 2 cost centres are used by a single jurisdiction and a further 3 cost centres used by two cost centres.

Table 5.5 – Critical cost centres proportion of jurisdictional cost

Function group	Number of jurisdictions using cost centre									
	0	1	2	3	4	5	6	7	8	Total
Allied	2	1	1	1	1	0	0	4	6	14
Clinical	6	16	18	7	14	9	13	17	28	122
Critical	0	2	3	2	1	0	0	0	3	11
Emergency	0	1	0	2	1	0	0	0	1	5
Imaging	0	1	1	2	4	2	0	0	1	11

Number of jurisdictions using cost centre										
Non-allocated Overheads	1	1	0	0	0	0	1	0	0	2
Operating Room	0	1	1	0	1	0	1	0	2	6
Other - nonpatient	3	2	2	0	2	1	1	0	0	8
Other Services	0	0	0	0	0	1	0	0	0	1
Pathology	4	3	4	6	2	1	0	1	1	18
Pharmacy	1	2	1	0	2	1	0	1	0	7
Special procedure suites	1	1	3	1	1	1	2	3	0	12
All	18	31	34	21	29	16	18	26	42	217

We observe that in 2021-22 only 42 cost centres are used by all jurisdictions, with 30% of cost centres only used by either one (31 cost centres) or two jurisdictions (34 cost centres). For each of the cost centres that were used by two or fewer jurisdictions we queried jurisdictions about their usage of the cost centre and the impact of potentially removing these cost centres.

We provide some examples of the information shown to jurisdictions in their consultation sessions below for the Critical and Transplant. A similar analysis was presented for all the remaining non-clinical function groups. Selected cost centres under the Critical and Transplant function groups that were used by two or fewer jurisdictions and didn't not account for a large proportion of cost. Cells that are completely unused by a jurisdiction, i.e. have zero reported cost, are shown with pale grey text values. We provide the full set of tables presented to jurisdictions for the remaining function groups in Appendix B.

Critical function group

Table 5.6 shows a breakdown of the distribution of cost centre usage in the critical function group. We note the following:

- Cardiothoracic Intensive Care, General Critical Care and Psychiatric Intensive Care are used by New South Wales and one other state (Victoria, Queensland and South Australia, respectively).
- High Dependency Unit (attached to ICU) is only used by New South Wales.

Table 5.6 – Critical cost centres proportion of jurisdictional cost

Cost Centre	NSW	Vic	Qld	SA	WA	Tas	NT	ACT	Nat
Adult Intensive Care Unit	3.3%	4.3%	3.1%	3.8%	3.1%	3.9%	3.3%	4.9%	3.6%
Coronary Care Units	0.4%	0.7%	0.3%	0.6%	0.3%	0.1%	0.4%	0.9%	0.5%
Cardiothoracic Intensive Care	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
General Critical Care	0.1%	0.0%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%
High Dependency Unit (attached to ICU)	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%
Neonatal Intensive Care Units	0.8%	1.0%	0.6%	0.5%	0.4%	1.1%	0.5%	1.8%	0.7%
Paediatric Intensive Care Units	0.4%	0.0%	0.5%	0.3%	0.0%	0.0%	0.0%	0.0%	0.2%
Psychiatric Intensive Care	0.1%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
All other Critical	0.6%	0.3%	0.3%	0.0%	0.0%	0.0%	0.2%	0.0%	0.3%
Total	6.2%	6.3%	5.1%	5.3%	3.8%	5.1%	4.5%	7.5%	5.6%

Transplant function group

Table 5.7 shows the corresponding breakdown for the transplant function group, where all transplant cost centres are used by one, two or three jurisdictions, with the exception of the non-specific Transplant cost centre, which is used across all jurisdictions that report transplant costs except for Western Australia.

Table 5.7 – Transplant cost centres proportion of jurisdictional cost

Cost Centre	NSW	Vic	Qld	SA	WA	Tas	NT	ACT	Nat
Bone Marrow Transplant	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Heart Transplant Services	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Liver transplant	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Lung transplant	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Renal transplant	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%
Transplants	0.1%	0.1%	0.2%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%
Total	0.1%	0.2%	0.2%	0.0%	0.0%	0.0%	0.2%	0.0%	0.1%

IHACPA is supportive of consolidating cost centres to only include those that are actively used by jurisdictions to allow for better comparisons by reducing the degree of variation that exists in cost centre reporting. While some jurisdictions preferred keeping infrequently used cost centres, reporting this way reduces the ability to benchmark across jurisdictions.

The jurisdictions, for the most part, expressed support for removing cost centres they did not use themselves. For cost centres that were identified as being infrequently used (by only one or two jurisdictions), jurisdictions were supportive of redirecting their existing reporting to another cost centre, where an appropriate alternative existed. The main exception to the above was in mental health care, where all jurisdictions were supportive of retaining mental health care cost centres as they identified reporting mental health care costs as an upcoming priority area.

Key findings

There are many cost centres that infrequently used, with two or fewer jurisdictions using the cost centres for reporting. The dispersion of costs in these cost centres makes comparisons on a cost centre basis less meaningful. Jurisdictions were amenable to removing these cost centres when an appropriate alternative cost centre was available.

As part of Recommendation 6, we propose removing infrequently used cost centres where they are used by one or two jurisdictions, and providing guidance for an alternative cost centre for the jurisdictions that use it.

‘Other’ cost centres

Some function groups (cost centre groups) feature an ‘other’ cost centre that is intended for reporting costs that are not otherwise specified in the list of available cost centres of that function group. However, many of these same function groups also have a ‘general’ cost centre that acts as the standard cost centre where costs cannot be assigned.

For instance, the Pharmacy function group contains the ‘Other Pharmacy’, ‘General pharmacy’ and five other cost centres—Parenteral / Enteral Nutrition (goods & services only), Cytotoxic drugs, Dispensing costs of drugs, High Cost drugs and Imprest (Ward). In 2021-22, \$1,773 million was reported in ‘General pharmacy’ and only \$22 million in ‘Other Pharmacy’. However, the difference in types of expenses that are allocated between ‘Other Pharmacy’ and ‘General pharmacy’ is not necessarily clear as they are both defined on an exception basis.

We discuss the alignment of costs centres later in this section but argue while a small proportion of costs exists in ‘Other Pharmacy’, the existence of two cost centres essentially defined on an exceptions basis creates an unnecessary avenue for different cost reporting practices to influence the alignment of costs reported across hospitals and jurisdictions.

The cost centres specified in Table 5.8 face similar issues, where there is more than one catch-all cost centre in the same function group.

Table 5.8 – Unused cost centres

Function group	Current ‘other’ cost centre code	Proposed ‘general’ cost centre code
Clinical	Otherclinserv	Genmed
Clinical	Specialty	Genmed
Clinical	Specmed	Genmed
Clinical	Specsurg	Gensurg
Critical	Othercritcare	Aicu
Emergency	Otheremed	Emergmed
Imaging	Otherimag	Genimag
Operating Room	Otheror	Or
Pathology	Otherpath	Genpath
Pharmacy	Otherpharm	Genpharm

Key findings

Some function groups contain more than one cost centre that acts as a catch-all cost centre for costs that do not fall into the remaining cost centres. This creates an additional way for variation in different cost reporting practices to influence the cost centre reporting consistency across hospitals and jurisdictions.

We propose replacing the list of cost centres ‘other’ cost centres with the ‘general’ cost centre counterparts in each function group as part of Recommendation 6.

5.1.4 Cost centre definitions

Another source of variance in cost centre reporting is that even in the case of similar operating models, accurate data collection and mature cost reporting practices, there may be differences in the choice of cost centres used by jurisdictions. For example, the Cardiology and Cardio-thoracic cost centres have overlapping applicability for a range of cardiac diagnosis and treatment procedures. Jurisdictions can make independent decisions around the appropriate cost centre for reporting costs.

The current allocation of costs over cost centres reflects historical reporting decisions that continue to be carried forward in absence of comprehensive guidance in cost centre usage. In our discussions, jurisdictions unanimously supported increasing standardisation and consistency through the introduction of cost centre definitions. Additionally, states and territories confirmed that reallocating costs to an alternative cost centre could be easily implemented with minimal disruption to their existing processes.

Usage by ADRG and Tier 2 clinic

As a way to prioritise the alignment of cost centre definitions, we have conducted analysis based on a metric that ranks variation in cost buckets across admitted acute Adjacent Diagnosis Related Group (ADRG) and non-admitted Tier 2 Clinics (Tier 2). We construct an indicator based on Kullback-Leibler (KL) divergence to measure the degree of variation that exists between jurisdictions across different slices of the data.

The metric was constructed based on the difference between the cost centre reporting pattern in a jurisdiction, compared to the aggregated national reporting pattern. By calculating this indicator for each combination of submission year and end class we rank the degree of variation that exists in each for each

ADRG and Tier 2 Clinic, as well as time trends between 2018-19 to 2022-23. Further details of how the KL divergence indicator was constructed is provided in Appendix D.

We list out the ADRGs with the 20 highest KL scores in Table 5.9, with higher scores indicating greater variation between jurisdictions.

We note that the indicator takes into account the relative differences in cost centres rather than absolute dollar values, i.e. the KL scores are calculated for each DRG based only on the distributional difference. We append a total cost column corresponding to the cost of each DRG to supplement the KL score to give an indication of the variation in dollars. Furthermore the scores were calculated on a proposed cost centre basis to show the residual variation after account for variation due to infrequently used cost centres and 'other' cost centres, as per the proposed column in Table 5.14.

Table 5.9 – Top 20 KL scores by DRG based on proposed cost centres

ADRG	Description	KL score	Cost (\$M)
V63	Opioid Use and Dependence	1.86	24
960	Ungroupable	1.57	9
V64	Other Drug Use and Dependence	1.13	60
Z66	Sleep Disorders	1.08	33
B40	Plasmapheresis with Neurological Disease, Sameday	1.05	11
L68	Peritoneal Dialysis	0.99	34
B68	Multiple Sclerosis and Cerebellar Ataxia	0.94	489
V62	Alcohol Use and Dependence	0.94	230
U40	Mental Health Treatment with ECT, Sameday	0.91	50
Y01	Ventilation >= 96 Hours or Tracheostomy for Burns or GI for Severe Full Thickness Burns	0.90	165
U68	Neurodevelopmental Disorders and Symbolic Dysfunctions	0.86	30
P01	Neonate with Significant GI or Ventilation >= 96 Hours, Died or Transfer to Acute Facility < 5 Days	0.86	17
B62	Apheresis	0.83	5
N11	Other Female Reproductive System GIs	0.77	57
Y02	Skin Grafts for Other Burns	0.77	275
E63	Sleep Apnoea	0.76	130
R63	Pharmacotherapy for Neoplastic Disorders	0.74	3,422
K63	Inborn Errors of Metabolism	0.73	96
Y61	Severe Burns	0.72	16
B65	Cerebral Palsy	0.69	30

We outline key findings based on KL indicator analysis to identify cost centres which have the most inconsistency in cost centre reporting between jurisdictions by ADRG:

- There are several DRGs that share the same MDC that are more prevalent in this list:
 - Alcohol and drug use (V62, V63 and V64) has a few jurisdictions spreading costs in Alcohol/drug use, but others spread costs across, Mental health, Oncology, Pain management, Psychiatry, Neurosurgery

- Burns (Y01, Y02 and Y61) features jurisdictional allocation differences with each reporting in one or two of the following cost centres: Burns, General ward, Specialty NOS, Trauma service, Orthopaedics.
- Multiple Sclerosis and Cerebellar Ataxia (B68) costs are split in the way that jurisdictions allocate to pharmacy and non-pharmacy costs in addition to the allocation to cost centres general procedure suites and Neurology and Stroke.
- Pharmacotherapy for Neoplastic Disorders (R63) cost allocation varies across general ward, oncology, Medical oncology and among the pharmacy cost centres of general pharmacy, dispense and high cost drugs.

We provide an example of the case for the ADRG Y01 in Table 5.10. For example, approximately 25% of cost in each jurisdiction is mapped to one of two of a range of clinical cost centres:

- NSW uses Specialty NOS
- Victoria spreads across General ward and Burns
- Queensland uses Burns
- South Australia uses general ward and Plastic Surgery
- Western Australia spreads across Burns and Trauma service
- Tasmania spreads across Orthopaedics and Plastic Surgery
- Australian Capital Territory and Northern Territory primarily allocates cost outside of the Clinical function group.

This example provides the case for greater consistency and standardisation as jurisdictions report a similar total proportion of costs in the clinical function group, but each uses a different set of cost centres. There may be scope to reduce the amount variation through standardisation using cost centre definitions.

Table 5.10 – Cost centre variation in Y01 Ventilation >= 96 Hours or Tracheostomy for Burns or GI for Severe Full Thickness Burns

Function group		NSW	VIC	QLD	SA	WA	TAS	ACT	NT	AUS
Cost centre										
Clinical	GENWARD	0.8%	7.9%	0.0%	26.7%	0.0%	0.0%	0.2%	0.0%	4.6%
	SPECIALTY	27.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	10.1%
	ORTHPAED	0.0%	0.0%	0.3%	0.0%	0.0%	24.3%	0.0%	7.3%	0.6%
	BURNS	0.7%	6.4%	23.1%	0.0%	11.2%	0.0%	0.0%	0.0%	7.5%
	TRAUMSERV	0.0%	0.0%	0.0%	0.0%	21.3%	0.0%	0.0%	0.0%	1.5%
	PLASTICSURG	5.2%	0.0%	0.1%	5.0%	0.0%	9.4%	0.0%	0.0%	2.7%
Other Clinical		5.0%	3.5%	7.9%	0.8%	2.9%	1.1%	5.3%	0.0%	4.6%
Other Non-Clinical		60.8%	82.2%	68.6%	67.6%	64.6%	65.1%	94.5%	92.7%	68.4%

We apply the same calculation procedure to calculate the KL score by non-admitted Tier 2 Clinics. Table 5.11 shows the Tier 2 clinics with the 10 highest KL scores on a proposed cost centre basis.

Table 5.11 – Top 10 KL scores by Tier 2 clinic based on proposed cost centres

Tier 2	Description	KL score	Cost (\$M)
20.57	COVID-19 Response	2.16	147

Tier 2	Description	KL score	Cost (\$M)
40.02	Aged care assessment	2.05	164
40.08	Primary health care	2.03	821
40.61	Telehealth – patient location	1.95	113
10.06	Endoscopy – gastrointestinal	1.94	1,168
40.31	Burns	1.83	32
40.59	Post-acute care	1.79	449
40.30	Alcohol and other drugs	1.78	254
40.58	Hospital avoidance programs	1.69	708
40.54	General surgery	1.53	107

Key findings based on the KL indicator analysis on Tier 2 Clinics include the following:

- The Tier 2 clinics with the most variation tend to be those in the Allied health and/or clinical nurse specialist intervention services (40 series). These make up 8 of the highest top 10 clinics. The majority of the list is formed by Tier 2 clinics that are rather general in nature and encompass a wide range of diagnostic procedures and interventions. These include the Tier 2 clinics Aged care assessment, Primary health care, Telehealth – patient location, Post-acute care, Hospital avoidance programs, General surgery
- Notably, ‘Burns’ and ‘Alcohol and other drugs’ appear in both the admitted acute and non-admitted lists. The cost centres with a high KL score are largely consistent between in both cases, these include Burns, General ward, Specialty NOS, Trauma service, Orthopaedics.
- Endoscopy – gastrointestinal saw mixed usage of the following cost centres: Other Non Admitted Patient Services. Gastroenterology, ENT Services, General Day Surgery Suite, Endoscopic Suites.

Key findings

IHACPA currently does not provide guidance on the types of costs that should be included in each cost centre. A greater degree of standardisation and consistency can be achieved by introducing cost centre definitions.

Additionally, we constructed an indicator of the amount of variation to rank ADRGs and Tier 2 clinics by variability. We envisage this will assist IHACPA in prioritising the alignment of definitions.

Recommendation 7 proposes that IHACPA works with the NHCDC Advisory Committee to develop draft cost centre definitions.

5.2 Imaging and Pharmacy cost centres

There is potential to collect valuable data through the imaging and pharmacy cost centres, however these cost centres are not consistently used across all jurisdictions. We observe approximately two-thirds of costs in each of the imaging and pharmaceutical cost centre groups are reported in the general cost centre of each function group, as opposed to more descriptive cost centres in each of the function groups.

Pharmacy

Table 5.12 shows Pharmacy cost by cost centre as a proportion of total cost by jurisdiction.

In pharmacy the usage of the high cost drugs and dispensing cost centres are inconsistent. Many jurisdictions combine high cost drugs and labour costs into general pharmacy when submitting to the

NHCDC. By separating these costs, benchmarking of high cost drugs and non-high cost drugs can be improved across all jurisdictions.

Additionally, the NEP currently removes PBS costs through a matching process as this expenditure is funded by a separate Commonwealth funding program. A jurisdiction's efforts in improving pharmaceutical cost attribution would also improve the existing dataset used for matching PBS costs to patients in the NEP process.

Table 5.12 – Pharmacy cost centres proportion of jurisdictional cost

Pharmacy function group	NSW	VIC	QLD	SA	WA	TAS	NT	ACT	AUS
Cytotoxic drugs	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Imprest (Ward)	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
High Cost drugs	1.1%	0.2%	0.0%	0.0%	0.0%	2.1%	0.0%	1.2%	0.5%
Other Pharmacy	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dispensing costs of drugs	0.6%	3.2%	0.3%	0.0%	0.0%	0.0%	0.0%	0.3%	1.0%
General pharmacy	1.3%	2.8%	4.4%	5.4%	4.4%	2.0%	3.4%	0.0%	3.0%
Manufacturing	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Parenteral / Enteral Nutrition (goods & services only)	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Total	3.1%	6.4%	4.7%	5.5%	4.4%	4.1%	3.4%	1.6%	4.6%
Jurisdiction cost (\$M)	557.6	980.2	663.8	265.7	283.8	68.4	43.7	23.0	2,886.2

Imaging

Jurisdictions use a wide set of diagnostic and imaging tools but, a large proportion of costs are reported in general imaging and plain radiology cost centres. Several other cost centres are available but reporting only happens for some LHDs and some jurisdictions. These cost centres include angiography, computed tomography (CT), ultrasound and magnetic resonance imaging (MRI) and others. This is shown in Table 5.13.

We see value in encouraging jurisdiction to improve their reporting in these imaging cost centres as there is currently no other public health dataset that contains information of this nature. Having imaging and diagnostic service costs by the major types of diagnostic services, would aid future pricing and costing analysis. In addition, the separation of diagnostic service costs from labour cost would further enrich this dataset.

Table 5.13 – Imaging cost centres proportion of jurisdictional cost

Imaging function group	NSW	VIC	QLD	SA	WA	TAS	NT	ACT	AUS
Angiography	0.1%	0.5%	0.2%	0.0%	0.0%	0.2%	0.0%	0.0%	0.2%
Computed Tomography (CT)	0.1%	0.1%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%
General imaging	3.2%	1.5%	2.2%	3.8%	2.5%	0.7%	3.4%	0.2%	2.4%
Medical Illustration (including medical photography)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Nuclear Medicine	0.1%	0.2%	0.1%	0.0%	0.3%	0.1%	0.0%	0.0%	0.1%
Other Imaging (please specify)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Plain radiology	0.0%	1.8%	0.2%	0.0%	0.7%	2.3%	0.0%	3.7%	0.7%
Ultrasound	0.0%	0.0%	0.3%	0.0%	0.1%	0.0%	0.0%	0.0%	0.1%
All other Imaging	0.0%	0.1%	0.2%	0.0%	0.1%	0.0%	0.0%	0.0%	0.1%

Total	3.5%	4.3%	3.7%	3.8%	3.7%	3.3%	3.4%	3.9%	3.8%
Jurisdiction cost (\$M)	627.1	652.8	519.5	181.2	238.3	55.2	44.5	57.9	2,376.5

Jurisdiction feedback

While some jurisdictions responded that they were able to provide this data, others highlighted some practical challenges with extracting data with enough granularity to populate the range of imaging and pharmacy cost centres. The attribution of pharmacy costs into detailed cost centres was generally seen to be easier compared to imaging costs. Some of the challenges discussed include:

- A lack of feeder system data to support the breakdown of costs into goods and services associated with different imaging cost centres
- Varying staff practices in different LHDs, for example some jurisdictions outsource imaging services to an external organisation or use a centralised imaging and diagnostic service state-wide, limiting access to granular cost data and a breakdown of labour and non-labour costs
- Resource limitations in imaging and diagnostic departments and the administrative burden of allocating costs of services delivered.

Key findings

We found that more valuable Imaging and Pharmacy information can be collected through better use of existing cost centres. Many jurisdictions report a large proportion of their imaging, pathology and pharmacy costs to the corresponding catch-all cost centre (general imaging, general pathology and general pharmacy). This limits the comparability and visibility of spending on different procedures and services under each of these expense categories.

5.3 Recommendations

Recommendation 6: Remove low cost and/or low value cost centres

We identify 71 cost centres as being low cost or low value. These include cost centres that:

- Were completely unused
- Were only reported to by only one or two jurisdictions, where a suitable alternative can be found
- Can be considered duplicative with another cost centre in the same function group

We recommend the removal cost centres and list suitable alternatives of removed and/or consolidated cost centres as listed in Table 5.14. Additionally, we recommend that IHACPA conducts an annual review of cost centres and investigate potential candidates for consolidation when cost centres become infrequently used.

Recommendation 7: IHACPA to consult with jurisdictions and clinicians to update cost centre definitions

Jurisdictions have unanimously provided feedback that the data request specification would benefit from cost centres definitions. We recommend IHACPA develop a program of work to develop a comprehensive standard for a set of cost centres and/or AR-DRGs each year, working with jurisdictions and clinicians to agree upon a definition for each cost centre. In arriving at a set of definitions, IHACPA should consider the balance having principles vs rules-based definitions in guiding consistency in cost centre reporting.

Recommendation 8: Encourage more granular reporting of imaging and pharmacy costs within their cost centre groups

More valuable imaging and pharmacy data can be collected through granular cost centres. Many jurisdictions report a large proportion of their imaging, and pharmacy costs to general catch-all cost centre (general imaging and general pharmacy). This practice limits the visibility of spending on different procedures and services under each of these expense categories and the capacity to evaluate different type of costs and activity within these function groups in benchmarking.

We recommend IHACPA take a long-term view towards encouraging jurisdictions to report imaging and pharmacy costs consistently and in a more granular way. This includes ensuring that labour costs are correctly allocated to the salaries and wages line items, a review of the cost centres under these function groups and limitations of existing feeder systems in allocating expense types to patients. We recommend increasing the granularity of data collection in these areas:

- Imaging (MRI, CT, nuclear, etc.)
- Pharmacy (drug and wage costs and high cost drugs).

Table 5.14 – Cost centres recommended for removal

Unused cost centres	‘Other’ cost centres	Infrequently used cost centres		
ACUP	OTHERCLINSERV	ALLERGY	FORENSIC	MEDHOT
ORTHAPP	SPECIALTY	ANAESTHESIAAREA	FRACTURE	PLAINRAD
OCCUPATMED	SPECMED	ANGIOSPS	GAITLAB	MEDILL
SURGHDU	SPECSURG	ANTICO	OUTPATOTHER	MHCLOZCLIN
METBONE	OTHERCRITCARE	ASSTECH	BONEMAR	MHEMERPECC
CRANIOFACIAL	OTHEREMED	ASTHMA	HEARTTRANS	CYTOLOGY
EPILEPSY	OTHERIMAG	CLINMEAS	LIVERTRANS	OBSBED
CLINDEC	OTHEROR	CONSLIAS	GENCRITCARE	MORGUE
RESSER	OTHERPATH	CTICU	HDICU	OPTOMETRY
LITHOTRIP	OTHERPHARM	CYTOGEN	HEACHEST	PHYSIOLABS
AUTOPSY		CYTOXIC	HEADINJURY	RENALTRANSP
CLINCHEM		DEMENTIA	HYPERTENSION	IMPREST
ANIMHOU		DEVDISSER	LITHO	SCNICU
TOXIC		EDMU	LUNGFUNC	SPECIMEN
MFEDDRUGS		EMERGTRAUMA	LUNGTRANS	TRANSFUSION
		FALLS		

6 Cost bucket review

Section findings

The review found that while the NHCDC cost buckets have existed since the outset of the collection, and are broadly accepted, they present some key challenges to inter-jurisdictional comparisons and meaningful interpretation:

- **Inconsistency in the use of cost bucket definitions** across jurisdictions, with some larger jurisdictions creating their own categorisation that differs from IHACPA's.
- **Mapping inconsistencies** relating to salaries and wages and corporate costs, such as inconsistent grouping of salaries and wages costs.
- **Categorisation of costs:** The categorisation of costs into cost buckets creates some uneven splits, where some cost buckets significantly larger than others.
- **Insufficient granularity:** In some areas, such as for blood costs, the cost buckets provide insufficient detail, requiring use of the bulky cost centre by line item data set.
- While allowing flexibility in costing, the options for **cost centre and line item reporting** of key costs means that jurisdictions are not incentivised to appropriately allocate costs for imaging, pathology and pharmacy costs.

Costs are broadly reported, compared, and analysed using the cost bucket system. This includes the following key uses:

- Reporting costs back to jurisdictions for comparison
- Creating a unit-record analysis dataset, with one cost row per hospital episode of care, with cost bucket breakdowns, for analysis and for the calculation of the NEP and NEC
- Public reporting of costs.

The cost buckets have therefore been a particularly visible component of the NHCDC, and have largely persisted in their current form since the NHCDC's inception.

Cost distribution

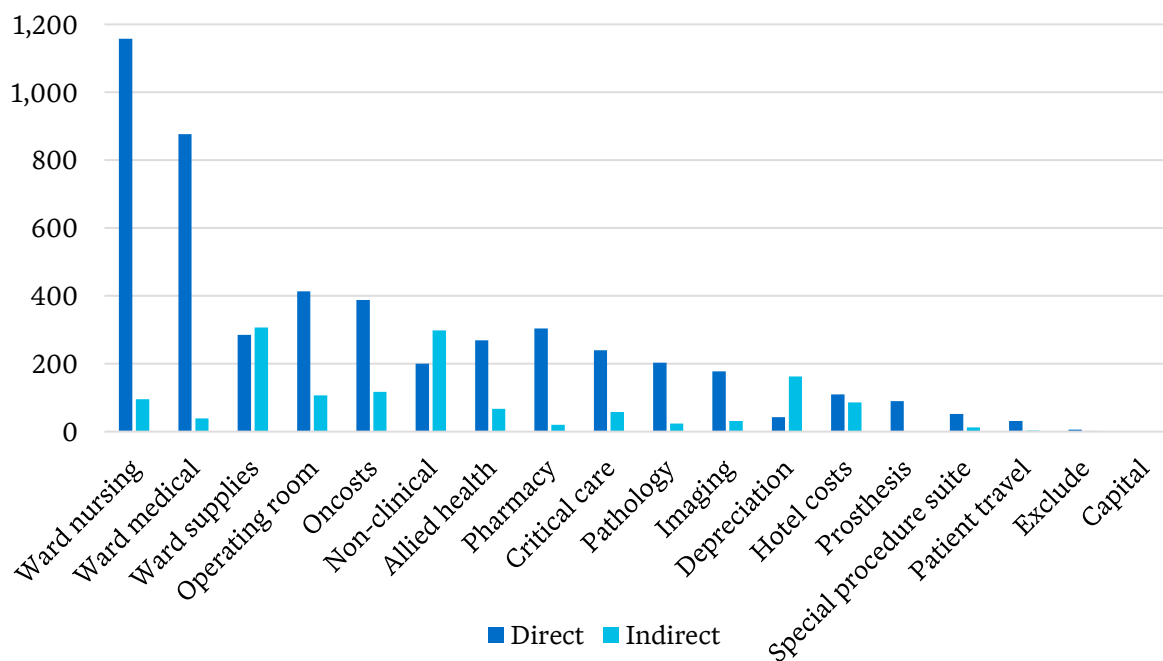
The cost bucket matrix groups up cost centre and line item combinations into 18 cost buckets, each of which is divided into two categories—direct and indirect costs.

The total cost across all care steams split by cost bucket is outlined in Table 6.1 and Figure 6.1 below. The distribution of cost among the cost buckets is skewed, with over 50% of total costs in the largest 4 cost buckets (Ward nursing, Ward medical, Ward supplies and Operating room) and less than 5% in the smallest 5 (Hotel costs, Prosthesis, Special procedure suite, Patient travel and Exclude).

Table 6.1 – Costs within each cost bucket

Cost bucket	Cost (\$M)	Proportion of NHCDC
Ward nursing	12,531	20%
Ward medical	9,151	15%
Ward supplies	5,918	9%
Operating room	5,202	8%
Oncosts	5,048	8%
Non-clinical	4,990	8%
Allied health	3,362	5%
Pharmacy	3,248	5%
Critical care	2,973	5%
Pathology	2,270	4%
Imaging	2,083	3%
Depreciation	2,052	3%
Hotel costs	1,954	3%
Prosthesis	895	1%
Special procedure suite	647	1%
Patient travel	350	1%
Exclude	77	0%
Total	62,751	100%

Figure 6.1 – Total cost by cost bucket (\$ million)



Key findings

The distribution of costs across cost buckets is heavily skewed towards several large cost buckets, providing insufficient granularity for some of the highest cost items.

6.1 Benefits and challenges of the current cost bucket matrix

As a key feature of the NHCDC, benefits of the current cost bucket matrix include:

- A large degree of familiarity with stakeholders, including jurisdictions
- A manageable number of cost buckets, so that costs for each episode can be broken down into consistent categories without creating large data volumes
- Significant analytical basis of processes and codes that utilise the existing cost buckets
- Flexibility in reporting costs for imaging, pathology and pharmacy costs either as a cost centre or a line item.

However, the current system also creates challenges both for jurisdictions and IHACPA's analysis capability:

- **Jurisdictional inconsistencies:** There is inconsistency in cost bucket definitions across jurisdictions, with some larger jurisdictions relying on their own categorisation – which reduces their deference to IHACPA's cost bucket system and limits how much those jurisdictions use it for comparisons.
- **Mapping inconsistencies** relating to salaries and wages and corporate costs. For example, the cost bucket system does not allow for visibility of total cost of key salaries and wages costs, as these line items form individual cost buckets for some function groups such as clinical and emergency department, but not operating room, specialist procedure suites, imaging, pathology and pharmacy. Further, the cost of salaries and wages is incomplete, as breakdown of oncosts is not possible due to oncosts being combined across all types of labour costs.
- **Categorisation of costs:** The categorisation of costs into cost buckets creates some uneven splits, where some cost buckets are significantly larger than others.
- **Insufficient granularity:** In some areas, such as for blood costs, the cost buckets provide insufficient detail, so the more granular and significantly larger raw cost centre by line item data set is required.
- On the other side of the benefit of flexibility, the options for **cost centre and line item reporting** of key costs means that jurisdictions are not incentivised to appropriately allocate costs for imaging, pathology and pharmacy costs.

In the subsequent sections we discuss some of these challenges.

Mapping inconsistencies

Cost buckets provide a way to simplify costs from the cost centre and line item combinations into a single dimension consisting of 18 categories. However, the definition of the cost bucket matrix features a number of inconsistencies in its design that limits its flexibility for not only benchmarking and analysis in a costing context, but especially for broader adoption in hospitals such as in financial reporting and performance measurement.

We reproduce the cost bucket matrix in Figure 6.2 and provide a high level summary of the costs comprising each function group and line item combination in Figure 6.3, where each colour represents a different cost bucket. We note there are some apparent complexities in the mapping, particularly in the left half of the matrix, where disconnected regions of the matrix correspond to the same cost bucket.

Figure 6.2 – NHCDC cost bucket matrix mapping

Cost Bucket Matrix		Line Items																								
		SW Nurs	SW AH	SW Other	SW Med	SW VMO	GS	MS	Corp	Imag	Path	Blood	Phrm N_PBS	Phrm PBS	Oncsts	Pros	Hotel	Dprc B	Dprc E	Dprc ROU	Lease	Cap	Exclcd	PatTran		
Cost Centre Group	Allied	Allied							Imag	Path		Phrm		Oncsts	Pros	Hotel	Dprc							Exclcd		PatTra n
	Clinical	Nursin	Allied	Non Cncl	Medical	Clinical supplies		Phrm																		
	Imag	Imag								Imag																
	Path	Path								Path																
	Crtcl	Critical										Critical														
	OR	OR							OR																	
	Phrm	Pharmacy										Pharmacy														
	ED	Nursin	Allied	Non Cncl	Medical	Clinical supplies		Imag	Path	Pharmacy																
	SPS	SPS							SPS																	
	Other Serv	Non Cncl										Non Cncl														
	Non-Patient	Nursin	Allied	Non Cncl	Medical	Clinical supplies		Imag	Path	Pharmacy																

Figure 6.3 – NHCDC cost bucket matrix cost (2021-22)

Cost Bucket Matrix (\$M)		Line Items																							
		SW Nurs	SW AH	SW Other	SW Med	SW VMO	GS	MS	Corp	Imag	Path	Blood	Phrm N PBS	Phrm PBS	Oncsts	Pros	Hotel	Dprc B	Dprc E	Dprc ROU	Lease	Cap	Exclcd	PatTran	Total
Cost Centre Group	Allied	47	1,375	309	16	4	197	47	18	1	1	0	3	1	247	344	38	58	11	5	6	0	1	1	2,729
	Clinical	10,866	1,289	4,057	5,842	1,373	3,733	1,132	180	33	123	4	368	43	3,062	71	1,341	778	164	62	134	1	19	46	34,722
	Imag	114	359	285	300	84	288	90	10	485	2	0	16	2	156	18	37	48	48	9	25	0	1	0	2,377
	Path	17	35	145	46	13	81	27	70	5	1,324	364	5	0	58	0	11	28	4	1	8	0	0	0	2,244
	Crtcl	1,503	28	291	566	53	269	162	12	2	5	1	74	7	342	0	93	77	31	4	12	0	2	3	3,537
	OR	1,365	113	574	1,224	480	593	695	32	6	8	1	100	11	478	399	142	134	93	12	24	0	2	2	6,487
	Phrm	11	261	205	4	1	86	14	3	0	1	0	675	1,504	81	0	13	18	4	1	4	0	0	0	2,886
	ED	1,594	50	662	1,645	257	522	159	32	11	8	1	53	6	536	0	148	126	28	10	20	0	2	6	5,878
	SPS	172	55	93	74	15	101	120	3	5	1	0	6	1	55	63	17	18	17	4	8	0	0	0	829
	Other Serv	19	1	17	5	1	37	2	0	0	0	0	0	0	6	0	2	3	1	1	2	0	47	264	410
	Non-Patient	71	10	187	29	5	150	9	1	0	3	0	10	0	27	0	110	9	1	0	3	0	1	27	653
Total		15,779	3,577	6,827	9,750	2,286	6,059	2,458	361	547	1,476	371	1,310	1,575	5,048	895	1,954	1,297	401	109	245	2	75	350	62,751

As a general rule, cost buckets are typically defined by a dominant cost centre group (row) or line item (column) in the cost bucket matrix. However, when a row- and column-based definition intersects, the intersecting cell is allocated to one cost bucket and excluded from the other, creating a number of exceptions to the general rule. The cost bucket definitions often include some types of expenses and exclude others in a way that is not always in alignment with users' expectations.

Some examples include:

- The Nursing cost bucket only includes nursing salaries and wages costs in the Clinical, ED and non-patient cost centre groups but nursing costs in the Critical and Operating Room cost buckets can be significant and are excluded in this cost bucket. These inclusion and exclusion rules also apply for the Allied, Non-Clinical, Medical and Clinical Supplies cost buckets, which only include Clinical, ED and non-patient cost centre groups, excluding all others.
- The Imaging, Pathology and Pharmaceutical line items are included in the Critical, Operating Room, Pharmacy, SPS cost buckets but not in the Ward buckets (including Clinical and Allied cost centres). These Clinical costs are fairly substantial relative to the size of corresponding cost buckets.
- The Other services cost bucket includes is treated differently than the Non-patient cost bucket, where the Other services function group aligns to the cost bucket but the Non-patient function group is broken into eight separate buckets across corresponding line items.
- The Corporate line item is considered to be part of the Clinical Supply cost bucket but this may not be appropriate as corporate costs include non-clinical management expenses that would be better attributed to another cost bucket.

Consequently, cost bucket definitions often do not align with the most practical or natural interpretation of the name of the cost bucket. In the Nursing cost bucket inconsistency identified above, the nursing cost bucket does not include all nursing costs in a hospital but only those from specific settings, making for more complicated communication and requiring increased communication overhead when communicating to other stakeholders such as clinicians and financial controllers.

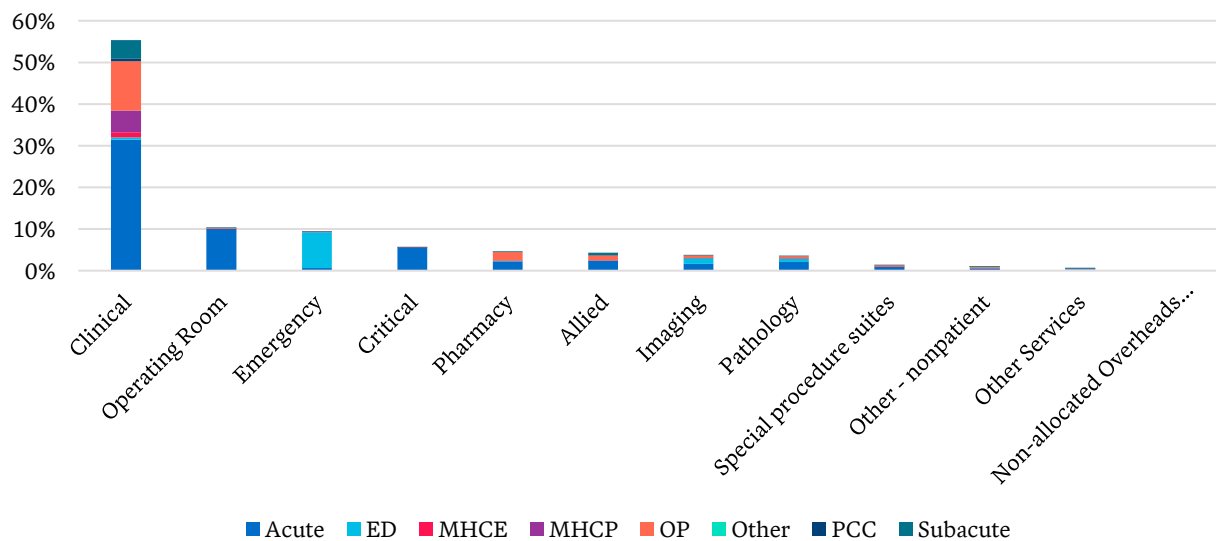
Key findings

The current cost bucket matrix definitions create a number of inconsistencies in its design that limits its flexibility for not only benchmarking and analysis in a costing context, but also broader adoption in financial reporting and performance measurement contexts.

Categorisation of costs

Function groups have been defined to group cost centres into similar responsibility centres or locations. Figure 6.4 shows the proportion of total costs that are reported in each function group by stream, where over half of all NHCDC cost is reported in the clinical function group, with much of this coming from the admitted acute and non-admitted care streams.

Figure 6.4 – Percentage of total cost in each function group, by stream



The large proportion of costs in the clinical function group makes the cost buckets less meaningful as a means of cost reporting and analysis. There is opportunity to split the clinical function group further into more categories and many ways to organise the clinical function group. For example, one split to consider is assigning cost centres in the existing Clinical function into:

- General Medical/Ward – e.g. general ward, general med, NAP
- Specialised Medical/Ward – e.g. oncology, respiratory medicine, paediatrics
- Surgical, e.g. general surgical, which may be combined with the Operating Room function group.

In this example there could be benefits in applying this breakdown as nursing costs for general medical procedures may be significantly different in nature to those in specialised medical or surgical wards.

Key findings

The clinical function group contains over half of the total cost among all the function groups, limiting the usability of function groups as a benchmarking dimension.

Insufficient granularity

Feedback from IHACPA's classification and pricing teams has suggested that the current cost bucket matrix does not distinguish some cost information that is key to other classification and pricing development processes at IHACPA and to robust jurisdictional comparisons. Some jurisdictions have also echoed this sentiment in their desire to create a cost basis that is comparable to that in IHACPA's NEP, which excludes some NHCDC costs that are not visible in the cost bucket matrix.

Key cost information that is not distinguished in the current set of cost buckets includes the following:

- Blood costs appear in the NHCDC but are excluded from pricing in the NEP due to other funding arrangements.
- PBS and non-PBS costs should be distinguished from each other in the pharmacy cost bucket since PBS costs are funded by other means and are excluded from pricing in the NEP.
- Operating Room (OR) and Critical Care Costs
- Spending on specialised activity

Flexibility in cost centre vs line item reporting for supporting service costs

The imaging, pharmacy and pathology function groups exist as cost centres and line items. This creates the situation where there can be multiple ways of recording costs through combinations of cost centre and line-item combinations. For example, the costs incurred for a diagnostic x-ray in a general ward could be recorded as a general ward cost in the imaging line item or as a general imaging cost broken down over salaries and wages, goods and services and the imaging line item.

The existence of multiple ways to record costs provides flexibility around the reporting of these services as they can be reported in association with a particular ward or speciality cost centre, or in terms of the type of diagnostic and imaging service provided. However, this degree of flexibility leads to reduced consistency and standardisation. In this way cost imaging, pharmacy and pathology costs cannot be compared by either cost centre or line item and instead requires summation across both dimensions in order to make sense of costs. The cost bucket matrix isolated to imaging, pharmacy and pathology related cells is shown in Figure 6.5, with NHCDC 2021-22 costs shown.

Figure 6.5 – Imaging, pharmacy and pathology related cost bucket matrix data fields (2021-22)

Cost Bucket Matrix (\$M)		Line items													
		SW Nurs	SW AH	SW Other	SW Med	SW VMO	GS	MS	Corp	Imag	Path	Blood	Phrm NPBS	Phrm PBS	...
Cost Centre Group	Allied									1	1	0	3	1	
	Clinical									33	123	4	368	43	
	Imag	114	359	285	300	84	288	90	10	485	2	0	16	2	
	Path	17	35	145	46	13	81	27	70	5	1,324	364	5	0	
	Crtcl														
	OR														
	Phrm	11	261	205	4	1	86	14	3	0	1	0	675	1,504	
	ED									11	8	1	53	6	
	SPS									5	1	0	6	1	
	Other Serv														
	Non-Patient									0	3	0	10	0	

Legend:	Imaging	Pathology	Blood
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Key findings

Excess flexibility in imaging, pathology and pharmacy cost allocation limits the ability to benchmark these costs at more granular levels such as by line item or cost centre.

6.2 Alternative cost bucket system

We propose an alternative new cost bucket matrix system that addresses the issues we raised in this section. Table 6.2 illustrates how costs are spread in this new cost bucket matrix where each cell is a cost bucket, with a total 68 cost buckets.

Building on the suggestions in Sections 4 and 5, key features of the proposed cost bucket matrix system include:

- More cost buckets to alleviate previously mentioned inconsistencies in cost bucket definition and allow users to have access to many cost centre and line item combinations
- Improved visibility into key costs and clinical cost centre including Blood and PBS
- Splitting the clinical function group into general, specialised and surgical cost centres
- Reducing imaging, pathology and pharmacy costs to be cost centre-based and removing the imaging pathology and pharmacy line items
- No longer splitting costs by direct and indirect costs for each cost bucket, but including an overall percentage split as a new field in the NHCDC.

We recommend IHACPA consider changes in the cost bucket matrix with a long-term view to improve both consistency and resolution when reporting. We believe that shadowing a proposed cost bucket matrix would provide a view of how the methodology might operate in practice, and allow for feedback on any proposed future change prior to implementation.

Table 6.2 – New cost bucket matrix illustration (2021-22 NHCDC costs)

Function group (\$M)	Line Items						
	SW Nurs	SW AH	SW Other	SW Med + VMO	GS	MS	Other
Allied	53	1,570	352	22	197	47	
General Medical/Ward	7,284	624	2,796	4,534	2,257	691	
Specialised Medical/Ward	4,933	810	1,867	3,802	1,450	402	
Imag	130	408	324	436	836	90	
Path	21	44	179	72	1,558	27	
Crtcl	1,714	32	332	706	269	162	
OR, Surgical	3,404	210	1,317	3,887	1,142	893	
SPS	196	62	106	101	101	120	
Pharmacy - PBS	7	167	131	3	1,622	8	
Pharmacy - Non-PBS	6	139	109	3	1,348	7	
Corp + non-patient	90	11	210	37	514	10	
Pros							895
Hotel							1,953
Pat Trans							471
Blood							371
Depreciation/Lease							2,045
Exclude and capital							30

6.3 Recommendations

Recommendation 9: New cost bucket matrix with long term view

We recommend IHACPA consider streamlining the cost bucket matrix to allow for clarity in cost centre by line item reporting, enabling comparisons across jurisdictions with differing cost bucket definitions, and reducing reliance on the full cost centre by line item dataset across IHACPA.

In the short term, build engagement by shadowing the proposed solution through reporting. There may also be scope for IHACPA to pilot some of the recommended changes in their internal usage of the cost bucket matrix, for example, separating blood from pathology.

7 Reporting process review

Section findings

We find that the following challenges provide a barrier to jurisdictional engagement with cost benchmarking using the collection:

- timeliness of reporting
- the nature of the cost buckets differing from jurisdictional definitions
- lack of understanding of costing differences, and
- lack of flexibility in the reporting provide challenges.

7.1 Key barriers to jurisdictions in using NHCDC reporting

Many jurisdictions used the NHCDC in some capacity for benchmarking and analysis. Smaller jurisdictions may compare their costs to the NHCDC at the cost bucket or line item level, usually by some designation of medical specialty. Jurisdictions with a larger activity base tended to express a preference towards using data collected from the LHN in their respective state or territory over IHACPA's national NHCDC reporting.

Discussions with jurisdictions revealed some shortcomings of the current reporting process that reduce the overall usefulness of NHCDC data for benchmarking and analysis. There is currently a gap in the information that jurisdictions provide to IHACPA and the data that returns to them via IHACPA's reports and tools. We aim to bridge the gap in the data so that jurisdictions have visibility over the improvements in consistency and get more value out of the data collection.

In this section we discuss the issues presented and provide some recommendations to expand the usefulness of the NHCDC across states and territories. We identify a few key limitations of the current NHCDC reporting process which limit the usefulness of the NHCDC to the jurisdictions. These include:

- Timeliness of national data
- Granularity in data feedback
- Awareness of differences in reported data.

Our recommendations aim to increase engagement, with IHACPA working more closely with states and territories to facilitate more timely feedback of useful information.

Timeliness of national data

The timeline between collecting and reporting NHCDC data can be substantial. For example, the 2021-22 NHCDC includes cost and activity data collected between 1 July 2021 and 30 June 2022. We understand that jurisdictions typically provide their data submissions 8-12 months after the end of the data collection period. IHACPA then takes this data and feeds back data to jurisdictions via the National Benchmarking Portal (NBP) when the submissions have been finalised. IHACPA also publishes the NHCDC Public Sector Report with data collected states and territories which was released in March 2024.

Several jurisdictions noted the gap in their operational planning horizon and the period of the data reported by the NHCDC. This gap makes the data less useful for forward planning and decision making because any insights that might be gained by an analysis of the national data become less relevant as time passes, since operational changes may have come in effect in the period since the data collection.

Consequently, jurisdictions supported the notion that NHCDC data be provided back to jurisdictions in a timelier manner. One jurisdiction supported sharing of a draft NHCDC submissions to facilitate timely data release as they deemed the changes from draft to final to be immaterial such that the timeliness of

data sharing was the main impediment to its use. IHACPA may consider this as an option to reduce the data collection timeline, subject to feasibility and feedback from other jurisdictions.

In Recommendation 10 we propose to shorten the data collection and feedback cycle through a combination of compressing jurisdiction data submission timelines as well as the time to relay data from IHACPA to the jurisdictions as part of the benchmarking portal. We also recommend IHACPA set up workshops with jurisdictions upon receipt of NHCDC data to incentivise earlier data collection cycles, discuss features of the data and monitor progress with alignment initiatives in cost centres and line items. Lastly, we recommend IHACPA reduce the time between health service submission and sharing of NHCDC data back to the jurisdictions.

Granularity in data feedback

IHACPA provides a NHCDC Public Sector Report and NBP with costs cross tabulated by cost buckets and line item, and jurisdiction, stream and end class. We understand IHACPA plans to also provide reporting by line item for the 2024-25 data collection year.

Jurisdictions use a range of approaches for benchmarking. Larger jurisdictions tend to utilise all of the above cost data fields and explore their own data in detail, with some using their own tailored variations of cost buckets or general ledger cost centres as the basis of comparison. Others look at selected DRGs and Tier 2 clinics through the lens of cost buckets and line items, which IHACPA provides in the NHCDC Public Sector Report. However, jurisdictions note they would benefit from having more granularity in the data that gets fed back to them, particularly smaller jurisdictions that are more reliant on IHACPA's reporting materials.

There is also a benefit to providing data in a dynamic and flexible way with the large number of dimensions of interest as well as each jurisdiction having their own preferred way to aggregate or drill into the current cost bucket matrix. For example, some jurisdictions will also benchmark on the basis of 'controllable' cost, where adjustment are made so that only costs that are deemed to be under the control of operational staff are reported and non-controllable costs, e.g. depreciation and lease costs are excluded in the comparison. Other jurisdictions removed costs in their submissions that are excluded in the NEP, such as blood and PBS costs.

In Recommendation 10, we propose providing additional levels of granularity to jurisdictions to support their analysis and benchmarking activities. We suggest leveraging the existing infrastructure of the benchmarking portal to provide information at both cost centre and line item level, and applying appropriate user access control and granularity thresholds to control the retrieval of potentially sensitive data.

Awareness of differences in reported data

Section 2.2 shows there can be significant variation in the NHCDC costs across various cost data field levels. There are many sources of variation including:

- Models of care and services provided
- Patient case mix
- Granularity of data capture
- Mapping from LHD accounts to NHCDC cost centre and line items
- Reporting related factors such as jurisdictional and LHD reporting conventions and individual costing practitioner differences.

All of these potentially contribute to a reduced understanding of other jurisdictions' data and less usage of the national NHCDC data as an additional point of reference amongst jurisdictions.

In our discussions, jurisdictions demonstrated a broad awareness of differences between their own costing and reporting practices and those of other jurisdictions. For example, one jurisdiction recognised that

prostheses were reported under a different cost bucket in another jurisdiction. While some of these idiosyncrasies are established amongst the jurisdictions, the potential for differences in data capturing and reporting practices to influence reported costs reduces the usefulness of comparisons made using the dataset.

In Recommendation 10, we propose IHACPA build a catalogue of known jurisdictional differences in cost reporting to promote consistency between jurisdictions and encourage benchmarking where possible.

Leveraging the Independent Financial Review

IHACPA undertakes an annual Independent Financial Review (IFR) to provide assurance of NHCDC public data. The IFR includes a reconciliation of costs submitted by a sample of health services across jurisdictions and looks to capture information on the hospital costing approach. The deep dive into focus areas during the IFR present an opportunity for IHACPA to better understand and review the data collection and transformation process from hospitals, including the journey of cost data from data capture to the general ledger and then to state and territory health services.

In Recommendation 11, we propose IHACPA consider integrating future IFRs as an opportunity to investigate potential areas where reporting processes may be improved and progress initiatives to improve alignment between jurisdictions.

Key findings

We found that jurisdictions use of IHACPA's NHCDC reporting was limited by:

- **Timeliness of the reports** being significantly after the costs were reported, with insights deemed potentially no longer relevant
- The reporting uses **different cost breakdowns** that is often inconsistent with the way jurisdictions analyse their own costs.
- The **highly summarised nature** of the reporting means jurisdictions are unable to adjust the reports to match their own reporting breakdowns.
- A **lack of documentation** of jurisdictional differences in cost reporting, creating challenges with comparisons.

7.2 Recommendations

Recommendation 10: Strengthen reporting and communication with jurisdictions

We recommend strengthening reporting to jurisdictions to provide more meaningful information which can be used for benchmarking and comparison, through:

- a) Reduce the NHCDC data collection timeline, supporting jurisdictions to provide data sooner.
- b) Hold bilateral workshops with jurisdictions upon receipt of NHCDC data to discuss insights and monitor progress with alignment initiatives, sharing interim or provisional NHCDC findings
- c) Provide NHCDC data by cost centre and line item to jurisdictions to support their comparisons
- d) Document known jurisdictional differences in cost reporting to support benchmarking.

Recommendation 11: Use the IFR process to understand costing process challenges

We recommend that IHACPA consider using future IFRs to engage more deeply with hospitals and health services on their costing process. In the IFR deep dives IHACPA may integrate investigations into potential areas where costing and reporting processes may be improved and progress initiatives to improve alignment between jurisdictions.

8 Implementation roadmap

The recommendations lend themselves to short-term, medium-term and long-term implementation to improve consistency and efficiency of data reporting and enhance the collection's use for benchmarking purposes over time, shown in Table 8.1.

In particular, most of the line item recommendations and cost centre list trimming, which has gathered agreement from jurisdictions, can be implemented by IHACPA in the short-term. Similarly, recommendations regarding IHACPA's engagement with jurisdictions through an improved reporting process can be begun immediately as resources allow.

Some of the more complex recommendations will require engagement with jurisdictions over the medium-term. This includes the program of work to develop detailed cost centre definitions, with cost centres prioritised using the tools provided alongside this review, and working with jurisdictions on restructuring oncosts and patient transport reporting.

IHACPA can also begin working towards building engagement and consensus around some of the longer-term recommendations, such as reporting using a simplified proposed cost bucket matrix structure to build familiarity, and investigating barriers to more granular imaging, pathology and pharmacy reporting.

Table 8.1 – Timeframe categorisation of recommendations

Line item recommendations	Timeframe
1. Combine Depreciation and Lease line items into a single line item	Short-term
2. Combine Capital and Exclude line items into a single line item	Short-term
3. Combine Salaries and Wages Medical (SWMed) and VMO line items for reporting purposes	Short-term
4. Combine oncosts into Salaries and Wages line items:	
a) In the short term, engage with jurisdictions to investigate the payroll accounts included in the Oncosts and Salaries and Wages line items to support the transition	Short-term
b) Approximate the allocation of oncosts for reporting purposes using investigation insights	Short-term
c) In the longer term, dissolve the Oncosts line item into relevant Salaries and Wages categories.	Medium-term
5. Engage with jurisdictions to investigate the feasibility of structuring patient transport as a cost centre rather than a line item.	Medium-term
Cost centre recommendations	Timeframe
6. Remove the 71 identified low-value, low-use and duplicated cost centres, as listed in Appendix C, conducting an annual review of cost centre use, trimming and streamlining the cost centre list.	Short-term
7. Consult with jurisdictions and clinicians to develop definitions for cost centres, starting with the ones that hold the most discrepant sets of acute admitted and non-admitted end classes.	Medium-term

- | | | |
|----|---|-----------|
| 8. | Encourage more granular reporting of imaging and pharmacy costs within their cost centre groups, including ensuring that labour costs are correctly allocated to salaries and wages line items, and enabling cost tracking of specific procedure and drug type costs, such as MRI, nuclear imaging, and high cost drug costs. | Long-term |
|----|---|-----------|

Cost bucket recommendations

Timeframe

- | | | |
|----|--|-----------|
| 9. | Consider streamlining the cost bucket matrix to allow for clarity in cost centre by line item reporting, enabling comparisons across jurisdictions with differing cost bucket definitions, and reducing reliance on the full cost centre by line item dataset across IHACPA. | Long-term |
| a) | In the short term, build engagement by shadowing the proposed solution through reporting. | |

Reporting process recommendations

Timeframe

- | | | |
|-----|---|------------|
| 10. | Strengthen reporting and communication with jurisdictions to support meaningful benchmarking: | Short-term |
| a) | Reduce the NHCDC data collection timeline, supporting jurisdictions to provide data sooner. | |
| b) | Hold bilateral workshops with jurisdictions upon receipt of NHCDC data to discuss insights and monitor progress with alignment initiatives, sharing interim or provisional NHCDC findings | |
| c) | Provide NHCDC data by cost centre and line item to jurisdictions to support their comparisons | |
| d) | Document known jurisdictional differences in cost reporting to support benchmarking | |
| 11. | Consider using future Independent Financial Reviews as an opportunity to engage with hospitals and health services to investigate areas where the NHCDC processes may be improved. | |

9 Reliances and limitations

Reliance on IHACPA data and stakeholder observations

In preparing this review, Taylor Fry has relied on data and information provided by IHACPA, and observations from other parties in good faith. We have not verified the accuracy of the National Hospital Costs Data Collection data provided. Results may be unreliable if raw data provided by IHACPA is inaccurate.

Limitations on use

The data and insights presented in this document are intended for the purposes described in Section 1.1. Judgements about the methodology, analyses, assumptions and recommendations presented in this document should be made only after considering the document and appendices in their entirety. Sections of this document could be misinterpreted if they were only considered in isolation.

This document has been prepared for the specific purpose of assisting IHACPA review the NHCDC Cost Bucket matrix, cost centres and line items. No reliance should be placed on this document for any other purpose without first confirming with us that such a purpose is appropriate. Taylor Fry specifically disclaims any responsibility or liability to any party which might claim to suffer any loss as a direct or indirect consequence.

Appendix A Generalised and specialised cost centres

A.1 Admitted Acute

New South Wales

Cost Centre MDC (where applicable)	MDCs																							NSW - all patients			National - all patients		
	01. Nervous System	02. Eye	03. ENT	04. Respiratory	05. Circulatory	06. Digestive	07. Hepatobiliary/pancr.	08. Musculoskeletal et al.	09. Skin, subcut., breast	10. Endocrine et al.	11. Kidney and Urinary	12. Male Reproductive	13. Female reproductive	14. Pregnancy et al.	15. Newborns/neonates	16. Blood and immunology	17. Neoplastic	18. Infectious et al.	19. Mental, behav et al.	20. Alcohol/drug	21A. Injuries/poison et al A	21B. Injuries/poison et al B	22. Burns	23. Factors influencing health status	Difference				
01. Nervous System	11%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	0%	5%	1%	0%	1%	1%	3%	-1%			
02. Eye	0%	45%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	0%		
03. ENT	0%	0%	16%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	1%	1%	-0%		
04. Respiratory	0%	0%	1%	6%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	1%	1%	-1%		
05. Circulatory	0%	0%	1%	2%	21%	0%	0%	1%	1%	4%	0%	0%	0%	2%	1%	0%	1%	0%	0%	0%	1%	2%	0%	1%	3%	4%	-1%		
06. Digestive	0%	0%	0%	0%	0%	6%	5%	1%	1%	1%	0%	0%	1%	0%	3%	0%	1%	1%	0%	0%	1%	0%	2%	1%	1%	-0%			
07. Hepatobiliary and pancreas	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%		
08. Musculoskeletal and connective tissue	1%	0%	0%	0%	0%	0%	0%	17%	3%	1%	0%	0%	0%	0%	0%	0%	1%	0%	0%	11%	7%	0%	0%	3%	3%	-1%			
09. Skin, subcutaneous and breast	0%	0%	2%	0%	0%	0%	0%	1%	5%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	4%	11%	0%	1%	1%	-0%			
10. Endocrine, nutrition, metabolic	0%	0%	0%	0%	0%	0%	0%	1%	7%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	-0%			
11. Kidney and Urinary	0%	0%	0%	0%	1%	0%	0%	0%	0%	1%	24%	23%	0%	0%	1%	1%	2%	0%	0%	0%	1%	0%	2%	2%	5%	-3%			
13. Female reproductive	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	7%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-0%			
14. Pregnancy, childbirth and puerperium	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	25%	53%	8%	0%	0%	0%	0%	0%	0%	1%	1%	0%	6%	8%	-2%			
15. Newborns and neonates	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	44%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	2%	-0%			
16. Blood and immunology	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%			
17. Neoplastic	1%	0%	2%	1%	0%	1%	1%	1%	1%	1%	1%	4%	0%	0%	9%	17%	2%	0%	0%	0%	0%	0%	1%	1%	4%	-3%			
18. Infectious and parasitic	0%	0%	1%	1%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	0%	0%	0%	2%	0%	2%	-1%			
19. Mental, behavioural and neurodevel.	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	53%	0%	0%	0%	0%	1%	0%	0%			
20. Alcohol/drug	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	15%	0%	0%	0%	0%	0%	0%	0%			
22. Burns	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	0%	0%			
23. Factors influencing health status	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%			
Critical Care	1%	0%	0%	3%	2%	1%	1%	1%	2%	0%	0%	1%	0%	0%	1%	0%	2%	0%	0%	11%	2%	0%	1%	1%	1%	0%			
General and acute medicine	35%	9%	20%	37%	30%	18%	18%	19%	26%	32%	34%	12%	7%	16%	7%	39%	47%	37%	42%	11%	14%	24%	4%	32%	26%	17%	8%		
General other	7%	18%	13%	8%	17%	10%	10%	13%	10%	8%	12%	21%	20%	6%	3%	6%	4%	5%	6%	1%	8%	7%	67%	9%	10%	6%	4%		
General surgery	13%	17%	15%	9%	11%	43%	48%	26%	27%	17%	11%	27%	21%	1%	2%	12%	8%	15%	6%	2%	31%	24%	6%	16%	18%	14%	4%		
General ward	23%	6%	16%	22%	13%	14%	12%	14%	14%	15%	14%	9%	11%	24%	10%	19%	20%	18%	19%	17%	15%	18%	4%	20%	17%	17%	-0%		
NAP	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%		
Paediatric general	1%	1%	9%	5%	0%	3%	0%	1%	2%	4%	1%	4%	1%	0%	24%	3%	1%	5%	17%	0%	1%	3%	4%	4%	3%	4%	-1%		
Subacute	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	1%	-1%			
Transplants	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%		
Other, eg HITH, Wound Mgmt, GEM	4%	1%	3%	3%	2%	1%	1%	4%	5%	3%	1%	1%	0%	0%	1%	0%	5%	1%	0%	1%	3%	0%	4%	2%	2%	0%	0%		
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	0%		

Cost Centre MDC (where applicable)	01. Nervous System	02. Eye	03. ENT	04. Respiratory	05. Circulatory	06. Digestive	07. Hepatobiliary/pancr.	08. Musculoskeletal et al.	09. Skin, subcut., breast	10. Endocrine et al.	11. Kidney and Urinary	12. Male Reproductive	13. Female reproductive	14. Pregnancy et al.	15. Newborns/neonates	16. Blood and immunology	17. Neoplastic	18. Infectious et al.	19. Mental, behav et al.	20. Alcohol/drug	21A. Injuries/poison et al A	21B. Injuries/poison et al B	22. Burns	23. Factors influencing health status	VIC- all patients	National - all patients	Difference
01. Nervous System	23%	2%	2%	1%	1%	0%	0%	2%	1%	2%	0%	0%	0%	0%	0%	0%	1%	3%	1%	9%	1%	0%	2%	3%	3%	0%	
02. Eye	0%	27%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	-0%	
03. ENT	0%	0%	16%	0%	0%	0%	0%	0%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	-0%	
04. Respiratory	0%	0%	1%	9%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	1%	1%	0%	0%	0%	0%	0%	3%	1%	1%	-0%	
05. Circulatory	1%	0%	0%	2%	27%	1%	1%	1%	3%	1%	1%	0%	0%	2%	1%	0%	2%	0%	0%	1%	2%	0%	1%	3%	4%	-1%	
06. Digestive	0%	0%	0%	0%	0%	6%	7%	0%	0%	1%	0%	1%	0%	0%	3%	0%	1%	0%	1%	0%	1%	0%	2%	1%	1%	-0%	
07. Hepatobiliary and pancreas	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-0%	
08. Musculoskeletal and connective tissue	1%	0%	2%	2%	1%	1%	1%	23%	2%	1%	0%	1%	1%	0%	0%	0%	2%	0%	1%	1%	22%	4%	2%	1%	3%	3%	-0%
09. Skin, subcutaneous and breast	0%	0%	2%	0%	0%	0%	1%	1%	8%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	8%	6%	0%	1%	1%	0%	
10. Endocrine, nutrition, metabolic	0%	0%	0%	0%	0%	0%	0%	0%	7%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-0%	
11. Kidney and Urinary	1%	0%	1%	1%	3%	1%	1%	1%	4%	58%	20%	0%	0%	0%	1%	2%	3%	1%	1%	1%	1%	0%	4%	6%	5%	1%	
13. Female reproductive	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	16%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	
14. Pregnancy, childbirth and puerperium	0%	0%	0%	0%	0%	1%	1%	0%	0%	0%	0%	35%	85%	11%	0%	0%	1%	0%	1%	0%	1%	0%	1%	10%	8%	2%	
15. Newborns and neonates	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	51%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	2%	0%	
16. Blood and immunology	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-0%	
17. Neoplastic	5%	1%	5%	4%	2%	7%	5%	3%	6%	3%	11%	5%	0%	0%	28%	69%	8%	0%	1%	0%	2%	0%	4%	7%	4%	3%	
18. Infectious and parasitic	4%	1%	4%	15%	4%	2%	2%	2%	3%	1%	1%	0%	1%	0%	2%	1%	13%	3%	3%	2%	3%	1%	6%	4%	2%	2%	
19. Mental, behavioural and neurodevel.	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	15%	5%	0%	2%	0%	4%	0%	0%	0%	
20. Alcohol/drug	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-0%	
22. Burns	0%	0%	0%	1%	1%	1%	0%	1%	0%	0%	0%	0%	0%	0%	1%	0%	1%	0%	0%	0%	1%	22%	0%	0%	0%	0%	
23. Factors influencing health status	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-0%	
Critical Care	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	-1%	
General and acute medicine	33%	25%	17%	34%	29%	17%	16%	20%	22%	27%	15%	18%	9%	4%	2%	25%	8%	32%	21%	36%	8%	22%	4%	30%	20%	17%	3%
General other	3%	2%	7%	2%	5%	2%	1%	3%	3%	2%	2%	1%	0%	0%	2%	0%	2%	6%	24%	1%	8%	2%	4%	2%	2%	6%	-4%
General surgery	6%	28%	16%	7%	8%	39%	41%	18%	25%	13%	9%	26%	23%	4%	0%	12%	3%	7%	4%	4%	39%	20%	8%	15%	14%	14%	0%
General ward	13%	11%	9%	10%	11%	9%	10%	12%	9%	9%	6%	8%	5%	3%	1%	7%	3%	9%	7%	14%	11%	10%	42%	9%	8%	17%	-9%
NAP	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Paediatric general	4%	2%	13%	7%	2%	6%	2%	4%	12%	2%	5%	2%	0%	29%	7%	6%	6%	34%	0%	3%	6%	5%	6%	6%	4%	2%	
Subacute	2%	0%	1%	1%	1%	1%	1%	2%	1%	1%	1%	0%	0%	0%	1%	0%	1%	1%	5%	1%	1%	1%	2%	1%	1%	0%	
Transplants	0%	0%	0%	0%	0%	0%	4%	2%	0%	0%	0%	0%	0%	0%	2%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Other, eg HITH, Wound Mgmt, GEM	2%	0%	2%	3%	3%	3%	5%	11%	5%	1%	3%	0%	0%	1%	2%	3%	7%	3%	1%	2%	6%	7%	4%	3%	2%	1%	
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	0%

Cost Centre MDC (where applicable)	01. Nervous System	02. Eye	03. ENT	04. Respiratory	05. Circulatory	06. Digestive	07. Hepatobiliary/pancr.	08. Musculoskeletal (et al.	09. Skin, subcut., breast	10. Endocrine et al.	11. Kidney and Urinary	12. Male Reproductive	13. Female reproductive	14. Pregnancy et al.	15. Newborns/neonates	16. Blood and immunology	17. Neoplastic	18. Infectious et al.	19. Mental, behav et al.	20. Alcohol/drug	21A. Inj/poison et al. A	21B. Inj/poison et al. B	22. Burns	23. Factors influencing health status	Old - all patients	National - all patients	Difference
01. Nervous System	21%	2%	1%	0%	0%	0%	3%	1%	2%	0%	0%	0%	0%	1%	2%	1%	1%	4%	0%	10%	1%	0%	1%	3%	3%	0%	
02. Eye	0%	41%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	0%	
03. ENT	0%	0%	18%	0%	0%	0%	0%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	2%	1%	1%	0%
04. Respiratory	1%	0%	2%	15%	1%	1%	1%	0%	1%	0%	0%	0%	0%	0%	2%	1%	2%	0%	0%	0%	0%	1%	0%	2%	2%	1%	1%
05. Circulatory	3%	1%	1%	3%	41%	1%	1%	1%	7%	1%	0%	0%	0%	5%	1%	0%	3%	1%	1%	2%	3%	0%	1%	6%	4%	2%	
06. Digestive	1%	0%	0%	0%	0%	8%	10%	0%	2%	0%	1%	0%	0%	0%	4%	1%	1%	0%	1%	1%	0%	3%	2%	1%	0%		
07. Hepatobiliary and pancreas	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
08. Musculoskeletal and connective tissue	2%	0%	1%	1%	1%	1%	37%	5%	3%	1%	2%	1%	0%	0%	1%	0%	2%	0%	0%	35%	12%	0%	1%	5%	3%	2%	
09. Skin, subcutaneous and breast	0%	0%	1%	0%	0%	0%	0%	1%	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	0%	0%	1%	0%	
10. Endocrine, nutrition, metabolic	0%	0%	0%	0%	0%	0%	0%	0%	6%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
11. Kidney and Urinary	1%	1%	0%	1%	2%	1%	1%	1%	2%	50%	31%	0%	0%	0%	1%	1%	2%	0%	0%	1%	2%	0%	3%	5%	5%	0%	
13. Female reproductive	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	12%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	
14. Pregnancy, childbirth and puerperium	0%	0%	1%	0%	0%	1%	1%	1%	0%	0%	0%	30%	77%	12%	1%	0%	1%	1%	0%	2%	0%	2%	8%	8%	0%		
15. Newborns and neonates	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	32%	0%	0%	0%	0%	0%	0%	0%	0%	1%	2%	0%	-1%	
16. Blood and immunology	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
17. Neoplastic	4%	1%	3%	3%	1%	3%	2%	2%	0%	6%	1%	3%	5%	0%	0%	31%	78%	6%	1%	1%	1%	0%	8%	6%	4%	2%	
18. Infectious and parasitic	2%	0%	6%	8%	1%	1%	1%	1%	1%	1%	0%	0%	0%	0%	1%	0%	10%	1%	1%	1%	1%	1%	4%	2%	2%	0%	
19. Mental, behavioural and neurodevel.	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	21%	2%	0%	1%	0%	1%	0%	0%	0%	
20. Alcohol/drug	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	38%	0%	0%	0%	0%	0%	0%	0%	
22. Burns	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	49%	0%	0%	0%	0%	
23. Factors influencing health status	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Critical Care	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	6%	1%	0%	0%	0%	1%	-1%	
General and acute medicine	15%	5%	11%	16%	12%	9%	7%	7%	11%	13%	7%	4%	5%	2%	4%	13%	3%	19%	15%	16%	3%	10%	1%	11%	10%	17%	-8%
General other	12%	9%	10%	14%	12%	13%	10%	13%	14%	12%	8%	11%	7%	13%	15%	7%	12%	11%	12%	7%	15%	5%	17%	12%	6%	5%	
General surgery	6%	27%	18%	5%	9%	38%	44%	11%	26%	13%	7%	28%	21%	1%	0%	5%	2%	7%	2%	2%	23%	18%	12%	9%	13%	14%	-1%
General ward	24%	7%	14%	23%	16%	14%	13%	12%	20%	21%	14%	10%	8%	10%	10%	13%	3%	23%	24%	24%	7%	20%	6%	26%	15%	17%	-1%
NAP	0%	1%	2%	0%	1%	1%	0%	1%	1%	1%	1%	5%	1%	1%	1%	1%	2%	1%	1%	0%	1%	0%	3%	1%	0%	1%	
Paediatric general	2%	1%	9%	6%	0%	5%	1%	2%	4%	6%	2%	9%	2%	0%	21%	4%	0%	4%	14%	0%	1%	4%	23%	3%	4%	4%	-1%
Subacute	4%	0%	1%	1%	0%	1%	1%	1%	1%	0%	1%	0%	0%	0%	1%	1%	3%	0%	1%	1%	1%	0%	1%	1%	1%	0%	
Transplants	0%	0%	0%	0%	0%	4%	0%	0%	0%	2%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Other, eg HiTH, Wound Mgmt, GEM	2%	1%	1%	2%	1%	1%	4%	4%	1%	1%	1%	0%	0%	0%	2%	0%	4%	0%	0%	1%	2%	1%	2%	2%	2%	-1%	
Wound management	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	0%

South Australia

Cost Centre MDC (where applicable)	01. Nervous System	02. Eye	03. ENT	04. Respiratory	05. Circulatory	06. Digestive	07. Hepatobiliary/pancr.	08. Musculoskeletal et al.	09. Skin, subcut., breast	10. Endocrine et al.	11. Kidney and Urinary	12. Male Reproductive	13. Female reproductive	14. Pregnancy et al.	15. Newborns/neonates	16. Blood and immunology	17. Neoplastic	18. Infectious et al.	19. Mental, behav et al.	20. Alcohol/drug	21A. Injuries/poison et al A	21B. Injuries/poison et al B	22. Burns	23. Factors influencing health status	SA - all patients	National - all patients	Difference
01. Nervous System	15%	2%	2%	1%	2%	1%	1%	2%	1%	2%	0%	0%	0%	0%	0%	1%	2%	3%	3%	5%	2%	0%	0%	3%	3%	-0%	
02. Eye	0%	26%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	-0%	
03. ENT	0%	0%	10%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	1%	-0%	
04. Respiratory	0%	0%	0%	6%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	1%	1%	-1%
05. Circulatory	1%	0%	1%	6%	27%	1%	1%	1%	2%	10%	3%	4%	0%	0%	1%	1%	2%	1%	1%	2%	3%	0%	1%	4%	4%	0%	
06. Digestive	0%	0%	0%	0%	0%	12%	15%	0%	1%	1%	0%	0%	1%	0%	3%	0%	0%	0%	0%	1%	2%	0%	2%	2%	1%	1%	
07. Hepatobiliary and pancreas	0%	0%	0%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
08. Musculoskeletal and connective tissue	1%	0%	1%	1%	1%	1%	16%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	10%	4%	1%	2%	2%	3%	-1%	
09. Skin, subcutaneous and breast	0%	0%	1%	0%	0%	0%	0%	8%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	9%	0%	1%	1%	0%	
10. Endocrine, nutrition, metabolic	0%	0%	0%	0%	0%	0%	0%	0%	9%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
11. Kidney and Urinary	1%	0%	2%	2%	2%	1%	1%	1%	3%	51%	12%	0%	0%	0%	1%	1%	6%	1%	2%	0%	2%	0%	2%	5%	5%	0%	
13. Female reproductive	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	8%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-0%	
14. Pregnancy, childbirth and puerperium	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	22%	67%	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	6%	8%	-2%	
15. Newborns and neonates	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	56%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	2%	0%	
16. Blood and immunology	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	6%	0%	0%	0%	
17. Neoplastic	1%	0%	1%	2%	1%	2%	1%	1%	0%	0%	3%	2%	0%	0%	17%	29%	3%	0%	0%	0%	0%	0%	0%	2%	4%	-2%	
18. Infectious and parasitic	0%	0%	5%	3%	0%	1%	0%	1%	1%	0%	0%	0%	0%	0%	1%	0%	12%	0%	0%	0%	1%	0%	2%	1%	2%	-0%	
19. Mental, behavioural and neurodevel.	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	7%	2%	0%	2%	0%	0%	0%	0%	-0%	
20. Alcohol/drug	1%	0%	1%	0%	0%	1%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-0%	
22. Burns	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	8%	0%	0%	0%	-0%	
23. Factors influencing health status	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Critical Care	1%	0%	1%	1%	1%	3%	3%	1%	0%	1%	2%	0%	0%	0%	1%	0%	1%	0%	0%	2%	1%	0%	0%	1%	1%	0%	
General and acute medicine	13%	24%	11%	16%	12%	8%	5%	9%	13%	8%	6%	8%	8%	3%	9%	5%	13%	15%	26%	3%	13%	1%	11%	10%	17%	-8%	
General other	0%	0%	1%	0%	0%	0%	0%	1%	0%	1%	2%	2%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	6%	-6%
General surgery	1%	16%	7%	1%	1%	11%	15%	4%	8%	2%	2%	11%	9%	1%	2%	2%	1%	0%	1%	15%	4%	1%	3%	4%	14%	-10%	
General ward	59%	28%	50%	58%	51%	55%	53%	58%	54%	33%	54%	44%	28%	25%	59%	57%	51%	54%	62%	55%	55%	78%	65%	50%	17%	33%	
NAP	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-0%	
Paediatric general	1%	1%	5%	3%	0%	2%	1%	1%	2%	3%	1%	2%	1%	0%	11%	1%	0%	3%	16%	0%	1%	2%	0%	1%	2%	4%	-2%
Subacute	1%	0%	0%	1%	0%	1%	1%	0%	0%	0%	1%	1%	0%	0%	1%	0%	0%	0%	0%	3%	0%	0%	0%	0%	1%	-0%	
Transplants	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-0%	
Other, eg HITH, Wound Mgmt, GEM	3%	0%	1%	2%	2%	1%	1%	2%	2%	1%	0%	0%	0%	1%	2%	2%	2%	2%	0%	1%	3%	0%	2%	2%	2%	-1%	
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	0%

Western Australia

Cost Centre MDC (where applicable)																								Factors influencing health status			
	01. Nervous System	02. Eye	03. ENT	04. Respiratory	05. Circulatory	06. Digestive	07. Hepatobiliary/pancr.	08. Musculoskeletal et al.	09. Skin, subcut., breast	10. Endocrine et al.	11. Kidney and Urinary	12. Male Reproductive	13. Female reproductive	14. Pregnancy et al.	15. Newborns/neonates	16. Blood and immunology	17. Neoplastic	18. Infectious et al.	19. Mental, behav et al.	20. Alcohol/drug	21A. Injuries/poison et al A	21B. Injuries/poison et al B	22. Burns	23.	WA- all patients	National - all patients	Difference
01. Nervous System	35%	3%	1%	1%	1%	1%	3%	5%	2%	0%	0%	0%	0%	0%	1%	1%	2%	4%	0%	3%	1%	0%	3%	5%	3%	2%	
02. Eye	0%	22%	3%	0%	0%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	1%	1%	0%	
03. ENT	0%	0%	18%	0%	0%	0%	0%	1%	1%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	1%	0%	0%	1%	1%	0%	
04. Respiratory	1%	0%	2%	17%	1%	1%	1%	1%	1%	1%	1%	0%	0%	1%	1%	2%	3%	0%	1%	0%	1%	0%	2%	2%	1%	1%	
05. Circulatory	1%	0%	1%	7%	50%	1%	2%	2%	1%	9%	2%	3%	0%	0%	1%	3%	1%	4%	0%	0%	0%	3%	0%	2%	7%	4%	3%
06. Digestive	2%	1%	1%	1%	1%	8%	14%	0%	2%	1%	0%	0%	0%	0%	3%	0%	2%	1%	1%	0%	1%	0%	5%	2%	1%	1%	
07. Hepatobiliary and pancreas	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-0%	
08. Musculoskeletal and connective tissue	1%	1%	0%	0%	0%	0%	1%	28%	2%	1%	0%	0%	0%	0%	0%	1%	0%	2%	0%	0%	15%	4%	0%	1%	3%	3%	-0%
09. Skin, subcutaneous and breast	0%	1%	5%	0%	0%	0%	2%	8%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	8%	0%	0%	1%	1%	0%	
10. Endocrine, nutrition, metabolic	0%	0%	0%	1%	0%	1%	1%	1%	11%	0%	0%	0%	0%	0%	2%	4%	3%	0%	0%	0%	1%	0%	0%	1%	0%	1%	
11. Kidney and Urinary	2%	2%	0%	1%	2%	1%	1%	3%	1%	4%	59%	19%	3%	0%	0%	1%	1%	4%	0%	0%	6%	1%	0%	6%	5%	1%	
13. Female reproductive	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	28%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	
14. Pregnancy, childbirth and puerperium	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	7%	87%	9%	0%	0%	0%	0%	0%	1%	0%	0%	0%	8%	8%	0%	
15. Newborns and neonates	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	73%	0%	0%	0%	0%	0%	0%	0%	0%	0%	4%	2%	2%	
16. Blood and immunology	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	3%	4%	2%	0%	0%	0%	0%	0%	3%	0%	0%	0%	
17. Neoplastic	2%	0%	3%	2%	1%	2%	2%	2%	0%	4%	1%	4%	9%	0%	0%	26%	59%	5%	1%	1%	0%	1%	0%	3%	4%	4%	0%
18. Infectious and parasitic	1%	0%	1%	1%	1%	1%	0%	1%	1%	1%	1%	2%	1%	0%	1%	1%	2%	0%	1%	0%	1%	0%	2%	1%	2%	-1%	
19. Mental, behavioural and neurodevel.	0%	1%	1%	0%	0%	1%	0%	0%	1%	0%	1%	0%	0%	0%	1%	1%	0%	0%	2%	0%	1%	0%	1%	0%	0%	0%	
20. Alcohol/drug	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-0%	
22. Burns	0%	1%	1%	0%	0%	0%	2%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	39%	0%	1%	0%	0%	
23. Factors influencing health status	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-0%	
Critical Care	2%	0%	6%	4%	2%	1%	3%	3%	3%	2%	3%	5%	1%	3%	1%	1%	3%	0%	1%	47%	6%	42%	2%	3%	1%	2%	
General and acute medicine	19%	26%	9%	24%	18%	19%	17%	11%	17%	19%	10%	8%	4%	3%	1%	19%	4%	26%	22%	41%	8%	16%	3%	13%	14%	17%	-3%
General other	1%	4%	2%	1%	1%	2%	2%	1%	2%	1%	1%	2%	1%	0%	0%	1%	0%	1%	0%	5%	0%	3%	0%	2%	1%	6%	-5%
General surgery	4%	23%	9%	4%	4%	36%	40%	18%	19%	14%	7%	30%	26%	3%	0%	7%	2%	8%	7%	8%	10%	19%	2%	20%	12%	14%	-2%
General ward	12%	6%	10%	17%	12%	11%	11%	12%	21%	13%	7%	9%	8%	2%	1%	12%	12%	16%	23%	31%	3%	16%	3%	28%	11%	17%	-6%
NAP	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Paediatric general	5%	6%	24%	12%	2%	11%	2%	5%	8%	10%	4%	16%	3%	0%	11%	10%	3%	9%	37%	2%	1%	9%	7%	10%	7%	4%	3%
Subacute	5%	0%	1%	2%	1%	1%	1%	2%	2%	1%	1%	0%	1%	0%	1%	0%	2%	1%	1%	2%	2%	0%	1%	1%	1%	1%	
Transplants	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Other, eg HITH, Wound Mgmt, GEM	4%	1%	2%	3%	2%	2%	1%	3%	2%	1%	2%	1%	0%	0%	2%	1%	3%	1%	2%	2%	2%	1%	2%	2%	2%	0%	
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	0%

Cost Centre MDC (where applicable)	01. Nervous System	02. Eye	03. ENT	04. Respiratory	05. Circulatory	06. Digestive	07. Hepatobiliary/pancr.	08. Musculoskeletal et al.	09. Skin, subcut., breast	10. Endocrine et al.	11. Kidney and Urinary	12. Male Reproductive	13. Female reproductive	14. Pregnancy et al.	15. Newborns/neonates	16. Blood and immunology	17. Neoplastic	18. Infectious et al.	19. Mental, behav et al.	20. Alcohol/drug	21A. Injuries/poison et al.A	21B. Injuries/poison et al.B	22. Burns	23. Factors influencing health status	TAS - all patients	National - all patients	Difference
01. Nervous System	19%	1%	1%	0%	0%	0%	0%	5%	0%	3%	0%	0%	0%	1%	0%	1%	3%	1%	0%	14%	1%	0%	1%	3%	3%	1%	
02. Eye	0%	60%	0%	0%	0%	0%	0%	1%	3%	1%	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	1%	2%	
03. ENT	0%	0%	20%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	0%	0%	1%	1%	0%	
04. Respiratory	0%	0%	0%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	-1%	
05. Circulatory	1%	0%	1%	4%	28%	1%	0%	1%	3%	1%	0%	0%	0%	0%	1%	1%	2%	1%	0%	1%	4%	0%	0%	4%	4%	0%	
06. Digestive	0%	0%	0%	0%	0%	7%	4%	0%	0%	1%	0%	0%	0%	0%	4%	0%	0%	0%	0%	0%	0%	0%	4%	1%	1%	-0%	
07. Hepatobiliary and pancreas	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-0%	
08. Musculoskeletal and connective tissue	1%	0%	5%	0%	0%	0%	1%	21%	4%	1%	2%	2%	0%	0%	0%	1%	0%	2%	0%	15%	5%	29%	1%	4%	3%	1%	
09. Skin, subcutaneous and breast	0%	0%	1%	0%	0%	0%	0%	1%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	4%	19%	0%	1%	1%	-0%	
10. Endocrine, nutrition, metabolic	0%	0%	0%	0%	0%	0%	0%	0%	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-0%	
11. Kidney and Urinary	1%	0%	0%	1%	1%	1%	0%	1%	0%	2%	49%	20%	0%	0%	1%	1%	3%	0%	0%	0%	1%	0%	3%	4%	5%	-1%	
13. Female reproductive	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	13%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-0%	
14. Pregnancy, childbirth and puerperium	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	12%	88%	36%	0%	0%	0%	0%	0%	0%	0%	0%	0%	7%	8%	-1%	
15. Newborns and neonates	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	24%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	-2%	
16. Blood and immunology	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-0%	
17. Neoplastic	2%	1%	2%	4%	1%	4%	4%	1%	3%	3%	1%	4%	4%	0%	0%	29%	74%	4%	0%	0%	0%	1%	0%	4%	5%	4%	1%
18. Infectious and parasitic	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	2%	-2%	
19. Mental, behavioural and neurodevel.	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	12%	2%	0%	1%	0%	0%	1%	0%	0%	
20. Alcohol/drug	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	72%	0%	0%	0%	0%	0%	1%	0%	0%	
22. Burns	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-0%	
23. Factors influencing health status	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-0%
Critical Care	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	-1%	
General and acute medicine	17%	1%	9%	24%	17%	8%	9%	7%	14%	15%	9%	3%	14%	7%	13%	13%	3%	21%	9%	7%	6%	11%	15%	12%	17%	-5%	
General other	3%	1%	8%	2%	5%	4%	2%	3%	5%	2%	3%	1%	3%	0%	0%	3%	0%	2%	1%	4%	0%	9%	2%	2%	3%	6%	-3%
General surgery	3%	21%	20%	4%	8%	42%	48%	33%	20%	16%	9%	35%	34%	1%	0%	8%	3%	12%	0%	1%	33%	16%	14%	10%	16%	14%	3%
General ward	42%	13%	15%	44%	31%	21%	23%	20%	32%	30%	18%	15%	9%	1%	0%	24%	11%	38%	20%	11%	18%	28%	9%	46%	25%	17%	8%
NAP	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-0%
Paediatric general	5%	1%	14%	8%	1%	9%	3%	3%	4%	16%	3%	14%	6%	1%	26%	10%	3%	6%	54%	1%	8%	15%	24%	9%	6%	4%	2%
Subacute	5%	0%	1%	4%	3%	2%	2%	3%	2%	1%	1%	1%	0%	0%	1%	2%	4%	1%	2%	1%	1%	0%	1%	2%	2%	1%	1%
Transplants	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-0%
Other, eg HITH, Wound Mgmt, GEM	0%	0%	1%	1%	2%	1%	0%	0%	4%	1%	2%	1%	0%	0%	0%	1%	1%	1%	0%	0%	0%	1%	0%	0%	1%	2%	-1%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	0%

Northern Territory

Cost Centre MDC (where applicable)	MDCs																							NT - all patients			National - all patients	Difference
	01. Nervous System	02. Eye	03. ENT	04. Respiratory	05. Circulatory	06. Digestive	07. Hepatobiliary/pancr.	08. Musculoskeletal et al.	09. Skin, subcut., breast	10. Endocrine et al.	11. Kidney and Urinary	12. Male Reproductive	13. Female reproductive	14. Pregnancy, et al.	15. Newborns/neonates	16. Blood and immunology	17. Neoplastic	18. Infectious et al.	19. Mental, behav et al.	20. Alcohol/drug	21A. Injuries/poison et al A	21B. Injuries/poison et al B	22. Burns	23. Factors influencing health status				
01. Nervous System	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	-3%
02. Eye	0%	16%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	-0%
03. ENT	0%	0%	5%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	1%	0%	0%	1%	-0%
04. Respiratory	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	-1%
05. Circulatory	1%	0%	0%	1%	25%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	1%	0%	0%	1%	0%	0%	1%	0%	2%	4%	-2%
06. Digestive	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	-1%
07. Hepatobiliary and pancreas	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
08. Musculoskeletal and connective tissue	0%	0%	0%	0%	0%	0%	0%	5%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	1%	0%	0%	0%	1%	3%	-3%
09. Skin, subcutaneous and breast	0%	0%	1%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	1%	-0%
10. Endocrine, nutrition, metabolic	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-0%
11. Kidney and Urinary	5%	3%	5%	10%	8%	4%	2%	4%	3%	15%	74%	2%	3%	0%	0%	8%	0%	9%	2%	0%	0%	2%	1%	9%	15%	5%	10%	0%
13. Female reproductive	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-0%
14. Pregnancy, childbirth and puerperium	0%	1%	1%	1%	0%	1%	1%	1%	2%	1%	0%	24%	85%	14%	2%	0%	0%	1%	2%	0%	0%	1%	1%	1%	1%	10%	8%	2%
15. Newborns and neonates	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	44%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	2%	-1%
16. Blood and immunology	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-0%
17. Neoplastic	1%	0%	1%	1%	1%	1%	1%	0%	1%	1%	0%	2%	0%	0%	0%	10%	20%	1%	0%	0%	0%	0%	0%	0%	0%	1%	4%	-3%
18. Infectious and parasitic	1%	0%	1%	3%	1%	0%	0%	0%	1%	0%	0%	1%	0%	0%	0%	0%	0%	6%	0%	0%	0%	0%	0%	2%	0%	1%	2%	-1%
19. Mental, behavioural and neurodevel.	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	7%	1%	0%	0%	0%	2%	0%	0%	-0%	
20. Alcohol/drug	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	63%	0%	0%	0%	0%	2%	0%	0%	2%
22. Burns	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-0%
23. Factors influencing health status	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-0%
Critical Care	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	-1%
General and acute medicine	14%	7%	10%	13%	10%	8%	7%	7%	8%	7%	3%	5%	4%	2%	1%	7%	1%	9%	12%	7%	3%	12%	3%	12%	7%	17%	-10%	0%
General other	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	6%	-6%
General surgery	8%	37%	24%	2%	5%	31%	32%	23%	26%	17%	4%	44%	41%	9%	0%	10%	2%	6%	1%	1%	37%	20%	40%	9%	13%	14%	-1%	0%
General ward	66%	33%	49%	63%	46%	52%	55%	56%	54%	51%	17%	44%	28%	4%	15%	56%	76%	61%	66%	17%	53%	57%	53%	57%	42%	17%	25%	0%
NAP	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-0%
Paediatric general	2%	1%	3%	3%	2%	2%	0%	1%	2%	3%	1%	0%	0%	1%	26%	4%	0%	2%	8%	0%	0%	1%	1%	3%	0%	2%	4%	-2%
Subacute	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	11%	0%	0%	0%	0%	0%	0%	0%	1%	-0%
Transplants	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	4%	0%	0%	0%	0%	0%	0%	0%	0%
Other, eg HITH, Wound Mgmt, GEM	0%	1%	1%	1%	0%	0%	1%	2%	2%	2%	0%	1%	0%	0%	2%	0%	3%	0%	0%	0%	1%	0%	2%	0%	1%	2%	-1%	0%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	0%

Australian Capital Territory

Cost Centre MDC (where applicable)	01. Nervous System	02. Eye	03. ENT	04. Respiratory	05. Circulatory	06. Digestive	07. Hepatobiliary/pancr.	08. Musculoskeletal et al.	09. Skin, subcut., breast	10. Endocrine et al.	11. Kidney and Urinary	12. Male Reproductive	13. Female reproductive	14. Pregnancy, et al.	15. Newborns/ neonates	16. Blood and immunology	17. Neoplastic	18. Infectious et al.	19. Mental, behav et al.	20. Alcohol/drug	21A. Injuries/poison et al. A	21B. Injuries/poison et al. B	22. Burns	23. Factors influencing health status	ACT - all patients	National - all patients	Difference
01. Nervous System	36%	3%	6%	2%	2%	1%	2%	4%	2%	3%	1%	2%	1%	0%	0%	1%	1%	2%	6%	1%	30%	4%	9%	2%	5%	3%	3%
02. Eye	0%	22%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	-0%
03. ENT	0%	0%	11%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	1%	0%
04. Respiratory	0%	0%	0%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	-1%
05. Circulatory	0%	0%	0%	1%	12%	0%	0%	0%	2%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	1%	2%	1%	1%	1%	4%	-3%
06. Digestive	1%	0%	0%	1%	1%	9%	29%	0%	1%	1%	1%	1%	0%	0%	3%	2%	1%	1%	0%	0%	2%	4%	4%	3%	1%	1%	
07. Hepatobiliary and pancreas	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-0%
08. Musculoskeletal and connective tissue	0%	0%	1%	1%	0%	0%	0%	43%	1%	0%	1%	0%	0%	0%	0%	1%	1%	0%	15%	2%	17%	1%	7%	3%	4%		
09. Skin, subcutaneous and breast	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	2%	0%	0%	0%	1%	0%	
10. Endocrine, nutrition, metabolic	0%	0%	0%	0%	0%	0%	0%	0%	9%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	-0%
11. Kidney and Urinary	1%	0%	0%	2%	4%	1%	2%	1%	2%	5%	46%	10%	1%	0%	0%	4%	2%	4%	5%	1%	0%	3%	0%	5%	5%	5%	0%
13. Female reproductive	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-0%
14. Pregnancy, childbirth and puerperium	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	51%	94%	18%	0%	0%	0%	0%	0%	0%	1%	0%	1%	9%	8%	1%	
15. Newborns and neonates	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	63%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	2%	1%
16. Blood and immunology	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-0%
17. Neoplastic	6%	1%	11%	9%	3%	10%	7%	4%	7%	8%	4%	15%	8%	0%	0%	48%	78%	15%	2%	0%	0%	5%	3%	12%	8%	4%	3%
18. Infectious and parasitic	2%	4%	2%	15%	1%	1%	0%	0%	1%	2%	1%	1%	0%	0%	1%	0%	6%	1%	0%	0%	1%	0%	2%	3%	2%	1%	
19. Mental, behavioural and neurodevel.	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	20%	0%	0%	0%	0%	0%	0%	0%	0%	-0%
20. Alcohol/drug	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	63%	1%	1%	0%	1%	1%	0%	1%	0%	1%
22. Burns	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-0%
23. Factors influencing health status	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-0%
Critical Care	1%	1%	5%	4%	0%	3%	1%	1%	2%	4%	2%	1%	0%	0%	6%	5%	0%	3%	6%	0%	0%	3%	11%	4%	2%	1%	1%
General and acute medicine	32%	6%	10%	37%	19%	13%	19%	11%	21%	31%	12%	5%	2%	0%	0%	13%	7%	33%	28%	9%	4%	17%	2%	27%	17%	17%	0%
General other	3%	35%	6%	2%	34%	6%	3%	3%	4%	2%	3%	2%	5%	1%	0%	3%	1%	2%	3%	2%	1%	7%	2%	4%	6%	6%	-0%
General surgery	4%	23%	22%	6%	17%	39%	30%	14%	26%	16%	20%	48%	28%	2%	0%	3%	4%	10%	2%	1%	29%	25%	22%	13%	15%	14%	1%
General ward	6%	2%	9%	3%	2%	6%	3%	9%	11%	4%	2%	1%	1%	0%	0%	5%	2%	2%	2%	1%	16%	13%	4%	3%	5%	17%	-12%
NAP	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-0%
Paediatric general	2%	2%	12%	8%	0%	7%	1%	2%	4%	7%	3%	11%	2%	0%	13%	5%	1%	4%	41%	0%	0%	7%	17%	11%	4%	4%	0%
Subacute	1%	0%	1%	1%	1%	0%	0%	1%	1%	1%	1%	0%	0%	0%	0%	0%	1%	1%	0%	0%	1%	1%	0%	2%	1%	1%	-0%
Transplants	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-0%
Other, eg HITH, Wound Mgmt, GEM	3%	1%	2%	4%	3%	2%	2%	4%	14%	5%	4%	2%	0%	2%	0%	7%	0%	12%	1%	0%	2%	4%	3%	6%	4%	2%	2%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	0%

A.2 Non-admitted

New South Wales

Cost Centre MDC (where applicable)	01 Nervous System	02 Eye	03 ENT	04 Respiratory	05 Circulatory	06 Digestive	07 Hepatobiliary/pancr.	08 Musculoskeletal et al	09 Skin, subcut. breast	10 Endocrine et al.	11 Kidney and Urinary	12 Male Reproductive	13 Female reproductive	14 Pregnancy et al.	15 Newborns/neonates	16 Blood and immunology	17 Neoplastic	18 Infectious et al	19 Mental, behav et al.	20 Alcohol/drug	21A. Injuries/trauma et al. A	21B. Injuries/trauma et al. B	22 Burns	23 Factors influencing health status	General surgery	General medicine	Paediatric general	Wound management	Subacute	Pain management	Transplants	Telereath	Alld Care	Alld Health	Imaging and pathology	Other NAP	Not Stated	NSW - all patients	National - all patients	Difference	
01. Nervous System	46%																							2%															1%	2%	-1%
02. Eye		69%																							4%														1%	1%	
03. ENT			46%																																				1%	1%	-1%
04. Respiratory				50%																																			1%	2%	-1%
05. Circulatory					48%																																		1%	2%	-1%
06. Digestive						26%	28%																															1%	2%	-1%	
07. Hepatobiliary and pancreas							35%																																2%	2%	-1%
08. Musculoskeletal and connective tissue	0%	0%	0%	0%	0%	0%		41%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%															2%	2%	-1%	
09. Skin, subcutaneous and breast	0%	0%	0%	0%	0%	0%			56%															36%															1%	2%	-1%
10. Endocrine, nutrition, metabolic	0%	0%	0%	0%	0%	0%				52%																												2%	2%		
11. Kidney and Urinary	0%	0%	0%	0%	3%						59%																											2%	3%	-1%	
13. Female reproductive	0%	0%	0%	0%	2%							14%	21%																									7%	7%		
14. Pregnancy, childbirth and puerperium	0%	0%	0%	0%	0%	0%			2%			80%	35%	63%																											
15. Newborns and neonates	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%																		
16. Blood and immunology	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	26%																						1%			
17. Neoplastic	0%	0%	0%	0%	0%	0%	0%	7%	0%	1%	0%	10%	0%	0%	0%	27%	68%		8%	0%	0%	0%	0%																10%	8%	2%
18. Infectious and parasitic	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	88%	5%																					7%	6%	1%
19. Mental, behavioural and neurodevel.	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	19%																					0%	1%	
20. Alcohol/drug	0%	0%	0%	0%	0%	0%	0%	0%	4%																														3%	1%	2%
22. Burns	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%																			
23. Factors influencing health status	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%																			
Critical Care	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%																			
General and acute medicine	2%	7%	0%	3%	3%	4%	2%	0%	12%	1%	1%	0%	1%	0%	0%	2%	0%	1%	0%	0%	0%	0%																			
General other	5%	4%	5%	4%	4%	12%	7%	5%	5%	5%	7%	4%	4%	7%	0%	12%	4%	1%	4%	5%	0%	0%	4%	39%																	
General surgery																																									
General ward																																									
NAP	41%	19%	47%	38%	40%	48%	14%	48%	19%	31%	29%	2%	28%	29%		31%	26%	4%	35%	24%			23%	29%																	
Paediatric general	2%																																								
Pain Management																																									
Subacute	1%	0%	0%	3%	4%	0%		2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%																			
Transplants	0%	0%	0%	0%	0%	13%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%																			
Other, eg HITH, Wound Mgmt, GEM	3%	0%	0%	1%	1%	0%					2%																														
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	0%

	01 Nervous System	02 Eye	03 ENT	04 Respiratory	05 Circulatory	06 Digestive	07 Hepatobiliary/pancr.	08 Musculoskeletal et al	09 Skin, subcut. breast	10 Endocrine et al.	11 Kidney and Urinary	12 Male Reproductive	13 Female reproductive	14 Pregnancy et al.	15 Newborns/neonates	16 Blood and Immunology	17 Neoplastic	18 Infectious et al.	19 Mental, behaviour et al.	20 Alcohol/drug	21A Injuries/poison et al.A	21B Injuries/poison et al.B	22 Burns	23 Factors influencing health status	General surgery	General medicine	Paediatric general	Wound management	Subacute	Pain management	Transplants	Telehealth	Aged Care	Alfred Health	Infecting and pathology	Other NAP	Not Stated	VIC - all patients	National - all patients	Difference	
Cost Centre MDC (where applicable)																																									
01 Nervous System	74%																							2%																	
02 Eye		72%	3%																						2%																
03 ENT		2%	56%																																						
04 Respiratory				80%	2%										4%				2%																						
05 Circulatory					55%																																				
06 Digestive						49%	6%																																		
07 Hepatobiliary and pancreas																																									
08 Musculoskeletal and connective tissue								57%																																	
09 Skin, subcutaneous and breast			3%					60%																																	
10 Endocrine, nutrition, metabolic							2%		60%					3%		3%																									
11 Kidney and Urinary					13%					61%																															
13 Female reproductive									7%	18%	41%	3%																													
14 Pregnancy, childbirth and puerperium								2%	2%	21%	64%																														
15 Newborns and neonates																																									
16 Blood and immunology																																									
17 Neoplastic	1%	0%	0%	3%	3%	25%	1%	9%	0%	2%	9%				9%	68%	69%																								
18 Infectious and parasitic	0%	0%	0%	0%	0%	2%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%																									
19 Mental, behavioural and neurodevel.																																									
20 Alcohol/drug																																									
22 Burns																																									
23 Factors influencing health status																																									
Critical Care																																									
General and acute medicine	1%	19%	7%	2%	9%	3%	0%	2%	5%	2%	0%	0%	0%	2%	1%	0%	9%	0%	0%	0%	0%	1%																			
General other	0%	0%	0%	1%	1%	1%	0%	1%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%																		
General surgery	0%	0%	2%	0%	1%	2%	49%	1%	4%																																
General ward											2%																														
NAP	13%	7%	24%	11%	20%	22%	18%	23%	22%	24%	20%	82%	24%	30%	0%	10%	23%	10%	41%	71%			10%	50%	17%	14%	10%	64%	42%	7%	8%			61%		38%	31%	28%	36%	-7%	
Paediatric general	2%		4%	2%	3%	2%		11%		6%	2%					2%	3%	3%	17%																						
Pain Management																																									
Subacute	4%	0%	0%	1%	5%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%																			
Transplants	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%																			
Other, eg HITH, Wound Mgmt, GEM	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%																				
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	0%

Cost Centre MDC (where applicable)	01.Nervous System	02.Eye	03.ENT	04.Respiratory	05.Circulatory	06.Digestive	07.Hepatobiliary/pancr.	08.Musculoskeletal et al.	09.Skin, subcut., breast	10.Endocrine et al.	11.Kidney and Urinary	12.Male Reproductive	13.Female reproductive	14.Pregnancy et al.	15.Blood and immunology	17.Neoplastic	18.Infectious et al.	19.Mental,behav et al.	20.Alcohol/drug	22.Burns	23.Factors influencing health status	General surgery	General medicine	Paediatric general	Wound management	Subacute	Allied Health	Other NAP	Qld. all patients	National - all patients	Difference
01. Nervous System	54%															2%												1%	2%		
02. Eye		51%	2%																										1%	1%	
03. ENT			43%																										1%	1%	
04. Respiratory				4%	60%																						2%	7%	2%	2%	
05. Circulatory					41%																					2%	6%	2%	2%		
06. Digestive						53%	45%															2%					2%	2%	1%		
07. Hepatobiliary and pancreas							10%																								
08. Musculoskeletal and connective tissue								40%																			2%	2%	2%		
09. Skin, subcutaneous and breast									35%																			1%	2%	-1%	
10. Endocrine, nutrition, metabolic										28%																		1%	2%	-1%	
11. Kidney and Urinary											57%					2%												3%	3%		
13. Female reproductive												29%																1%	1%		
14. Pregnancy, childbirth and puerperium			2%									25%	19%	33%										5%				4%	7%	-3%	
15. Newborns and neonates																															
16. Blood and immunology															9%																
17. Neoplastic			3%												45%	51%						2%							4%	8%	-4%
18. Infectious and parasitic																	38%												6%	6%	
19. Mental, behavioural and neurodevel.																													0%	1%	-1%
20. Alcohol/drug																															
22. Burns																															
23. Factors influencing health status																	56%												8%	2%	6%
Critical Care																															
General and acute medicine	6%		1%	4%	3%	8%		2%	10%	8%	2%	3%	8%	1%	14%	4%		3%				2%	4%	5%		4%			3%	2%	1%
General other					3%	5%		6%		2%	6%		8%	3%		5%						7%	5%	5%	6%	4%	5%	15%	5%	5%	-1%
General surgery																						21%							2%	2%	
General ward	2%																												1%	1%	
NAP	35%	45%	42%	31%	49%	29%	38%	46%	35%	58%	31%	61%	34%	59%	25%	39%	5%	82%	21%	46%	56%	59%	86%	59%	87%	45%	85%	51%	45%	36%	9%
Paediatric general																	6%							24%					1%	3%	-1%
Pain Management																															
Subacute																													1%	1%	
Transplants				3%	1%		3%		1%		1%			3%															1%	3%	-2%
Other, eg HITH, Wound Mgmt, GEM	1%				1%				1%														2%		2%	10%		4%	1%	3%	-2%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	0%

South Australia

Cost Centre MDC (where applicable)	01. Nervous System	02. Eye	03. ENT	04. Respiratory	05. Circulatory	06. Digestive	07. Hepatobiliary/pancr.	08. Musculoskeletal et al.	09. Skin, subcut. breast	10. Endocrine et al.	11. Kidney and Urinary	12. Male Reproductive	13. Female reproductive	14. Pregnancy et al.	15. Newborns/neonates	16. Blood and Immunology	17. Neoplastic	18. Infectious et al.	19. Mental, behavior et al.	20. Alcohol/drug	21A. Injuries/poison et al.A	21B. Injuries/poison et al.B	22. Burns	23. Factors influencing health status	General medicine										Paediatric, general										Wound management										Pain management										Transplants										Telehealth										Aged Care										Altered Health										Imaging and pathology										Other NAP										Not Stated										SA - all patients										National - all patients										Difference																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
01. Nervous System	79%																								2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Western Australia

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Northern Territory

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Australian Capital Territory

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Appendix B Cost centre tables

Allied function group	NSW	VIC	QLD	SA	WA	TAS	NT	ACT	National
Emergency Department / Emergency Medicine	8.7%	8.5%	9.6%	8.7%	11.7%	10.1%	7.9%	7.7%	9.2%
Trauma	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Psychiatric Emergency Care Centre PECC	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%
Other Emergency Departments (please specify)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
All other Emergency	0.1%	0.3%	0.1%	0.0%	0.0%	0.0%	0.0%	0.3%	0.1%
Total	8.9%	8.9%	9.8%	8.7%	11.7%	10.1%	7.9%	8.0%	9.4%
Jurisdiction cost (\$M)	1,586.2	1,355.8	1,371.6	420.8	754.8	168.0	102.4	118.1	5,877.6
Imaging function group	NSW	VIC	QLD	SA	WA	TAS	NT	ACT	National
Angiography	0.1%	0.5%	0.2%	0.0%	0.0%	0.2%	0.0%	0.0%	0.2%
Computed Tomography (CT)	0.1%	0.1%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%
General imaging	3.2%	1.5%	2.2%	3.8%	2.5%	0.7%	3.4%	0.2%	2.4%
Medical Illustration (including medical photography)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Nuclear Medicine	0.1%	0.2%	0.1%	0.0%	0.3%	0.1%	0.0%	0.0%	0.1%
Other Imaging (please specify)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Plain radiology	0.0%	1.8%	0.2%	0.0%	0.7%	2.3%	0.0%	3.7%	0.7%
Ultrasound	0.0%	0.0%	0.3%	0.0%	0.1%	0.0%	0.0%	0.0%	0.1%
All other Imaging	0.0%	0.1%	0.2%	0.0%	0.1%	0.0%	0.0%	0.0%	0.1%
Total	3.5%	4.3%	3.7%	3.8%	3.7%	3.3%	3.4%	3.9%	3.8%
Jurisdiction cost (\$M)	627.1	652.8	519.5	181.2	238.3	55.2	44.5	57.9	2,376.5

Non-allocated Overheads (other services) function group	NSW	VIC	QLD	SA	WA	TAS	NT	ACT	National
Transit lounge	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%
Medihotel	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%
Jurisdiction cost (\$M)	0.0	9.2	12.0	0.0	2.1	0.0	1.0	0.1	24.4
Operating Room function group	NSW	VIC	QLD	SA	WA	TAS	NT	ACT	National
Patient Induction / Anaesthesia area	0.0%	0.0%	0.0%	0.0%	0.0%	0.7%	0.0%	0.0%	0.0%
Anaesthesia	2.9%	3.8%	2.8%	2.1%	3.6%	2.8%	1.8%	2.8%	3.1%
General Day Surgery Suite	0.0%	0.0%	0.5%	0.0%	0.1%	1.2%	0.0%	0.0%	0.2%
Operating suite	4.9%	7.9%	6.5%	10.6%	6.5%	7.3%	3.0%	8.7%	6.7%
Other Operating Rooms (please specify)	0.0%	0.0%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%
Recovery Rooms	0.6%	0.1%	0.2%	0.4%	0.0%	0.0%	0.6%	0.0%	0.3%
All other Operating Room	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total	8.3%	11.8%	10.5%	13.1%	10.2%	11.9%	5.3%	11.5%	10.3%
Jurisdiction cost (\$M)	1,477.4	1,809.3	1,477.2	630.3	656.2	198.1	68.9	170.0	6,487.3
Other Services function group	NSW	VIC	QLD	SA	WA	TAS	NT	ACT	National
Patient transport	1.0%	0.4%	0.1%	0.0%	0.0%	0.0%	9.1%	0.0%	0.6%
Jurisdiction cost (\$M)	185.8	65.9	16.3	0.0	0.0	0.0	117.4	0.0	385.4

Pathology function group	NSW	VIC	QLD	SA	WA	TAS	NT	ACT	National
Blood Products	0.7%	1.1%	0.4%	0.7%	0.0%	0.5%	0.3%	0.6%	0.6%
Cytology	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Forensic	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Transfusion services (incl. blood bank / autologist services)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Microbiology	0.0%	0.2%	0.0%	0.0%	0.0%	0.4%	0.0%	0.0%	0.1%
Mortuary	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other Pathology (please specify)	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Specimen collection services	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
General pathology	2.7%	1.7%	2.2%	2.8%	3.7%	2.3%	2.4%	3.9%	2.5%
All other Pathology	0.6%	0.6%	0.2%	0.0%	0.1%	0.1%	0.0%	0.3%	0.4%
Total	3.9%	3.7%	2.9%	3.5%	3.8%	3.3%	2.7%	4.9%	3.6%
Jurisdiction cost (\$M)	693.3	567.5	409.0	167.6	243.5	55.6	34.9	72.3	2,243.8
Pharmacy function group	NSW	VIC	QLD	SA	WA	TAS	NT	ACT	National
Cytotoxic drugs	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Imprest (Ward)	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
High Cost drugs	1.1%	0.2%	0.0%	0.0%	0.0%	2.1%	0.0%	1.2%	0.5%
Other Pharmacy	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dispensing costs of drugs	0.6%	3.2%	0.3%	0.0%	0.0%	0.0%	0.0%	0.3%	1.0%
General pharmacy	1.3%	2.8%	4.4%	5.4%	4.4%	2.0%	3.4%	0.0%	3.0%
Manufacturing	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Parenteral / Enteral Nutrition (goods & services only)	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Total	3.1%	6.4%	4.7%	5.5%	4.4%	4.1%	3.4%	1.6%	4.6%
Jurisdiction cost (\$M)	557.6	980.2	663.8	265.7	283.8	68.4	43.7	23.0	2,886.2

Special procedure suites function group	NSW	VIC	QLD	SA	WA	TAS	NT	ACT	National
Angiography	0.0%	0.0%	0.0%	0.2%	0.0%	1.5%	0.0%	0.0%	0.1%
Cardiac Catheter Suites	0.6%	0.5%	0.5%	0.9%	0.4%	0.0%	0.1%	0.4%	0.5%
Endoscopic Suites	0.3%	0.2%	0.7%	0.7%	0.4%	0.0%	0.0%	0.4%	0.4%
General procedure suites	0.0%	0.0%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%
Lung function laboratories	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Physiology Laboratories	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Radiotherapy Suites	0.0%	0.2%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%
All other Special procedure suites	0.1%	0.4%	0.2%	0.2%	0.1%	0.3%	0.1%	0.0%	0.2%
Total	1.0%	1.2%	1.8%	2.2%	0.9%	1.8%	0.2%	0.8%	1.3%
Jurisdiction cost (\$M)	175.7	186.8	258.1	104.0	60.1	29.7	2.4	12.6	829.3
Critical function group	NSW	VIC	QLD	SA	WA	TAS	NT	ACT	National
Adult Intensive Care Unit	3.3%	4.3%	3.1%	3.8%	3.1%	3.9%	3.3%	4.9%	3.6%
Coronary Care Units	0.4%	0.7%	0.3%	0.6%	0.3%	0.1%	0.4%	0.9%	0.5%
Cardiothoracic Intensive Care	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
General Critical Care	0.1%	0.0%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%
High Dependency Unit (attached to ICU)	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%
Neonatal Intensive Care Units	0.8%	1.0%	0.6%	0.5%	0.4%	1.1%	0.5%	1.8%	0.7%
Paediatric Intensive Care Units	0.4%	0.0%	0.5%	0.3%	0.0%	0.0%	0.0%	0.0%	0.2%
Psychiatric Intensive Care	0.1%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
All other Critical	0.6%	0.3%	0.3%	0.0%	0.0%	0.0%	0.2%	0.0%	0.3%
Total	6.2%	6.3%	5.1%	5.3%	3.8%	5.1%	4.5%	7.5%	5.6%
Jurisdiction cost (\$M)	1,101.3	956.2	721.3	256.9	247.7	84.9	57.5	111.3	3,537.1

Mental Health function group	NSW	VIC	QLD	SA	WA	TAS	NT	ACT	National
Clozapine Clinic	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Community Mental Health - Adult/General	2.0%	1.8%	1.5%	0.0%	0.0%	0.6%	0.0%	0.0%	1.4%
Assertive Outreach Team	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Community Mental Health - Child and Adolescent	0.4%	0.6%	0.3%	0.0%	0.0%	0.2%	0.0%	0.0%	0.3%
Early Intervention	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Community Mental Health - Older Person	0.1%	0.2%	0.1%	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%
Mental Health Community Residential - Adult/General	0.0%	0.0%	0.0%	0.0%	0.0%	0.8%	0.0%	0.0%	0.0%
Mental Health Community Residential - Child and Adolescent	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Mental Health Community Residential - Older Person	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Mental Health Transitional Behavioural Assessment and Intervention Service for Older People	0.0%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%
Mental Health Day Program	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Mental Health Inpatient Acute - Adult/General	2.5%	2.3%	1.9%	0.7%	0.0%	2.6%	0.0%	0.7%	1.8%
Mental Health Inpatient Acute - Child and Adolescent	0.3%	0.3%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%
Mental Health Forensic Inpatient Unit	0.0%	0.0%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%
Mental Health Inpatient Acute - Older Person	0.2%	0.5%	0.2%	0.4%	0.0%	0.7%	0.0%	0.3%	0.3%
Mental Health Inpatient - Peri-Natal Unit	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Mental Health Inpatient Sub -Acute - Adult/General	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Mental Health Inpatient Sub-Acute - Child and Adolescent	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Mental Health Inpatient Sub-Acute - Older Person	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Psychiatry	1.1%	1.5%	0.4%	2.7%	6.1%	0.0%	1.4%	3.7%	1.7%
All other MH	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total	6.8%	7.7%	5.3%	3.8%	6.1%	5.0%	1.4%	4.8%	6.2%
Jurisdiction cost (\$M)	1,198.5	1,182.2	746.4	181.9	395.0	83.3	18.5	71.1	3,876.8

Transplants function group	NSW	VIC	QLD	SA	WA	TAS	NT	ACT	National
Bone Marrow Transplant	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Heart Transplant Services	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Liver transplant	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Lung transplant	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Renal transplant	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%
Transplants	0.1%	0.1%	0.2%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%
Total	0.1%	0.2%	0.2%	0.0%	0.0%	0.0%	0.2%	0.0%	0.1%
Jurisdiction cost (\$M)	557.6	980.2	663.8	265.7	283.8	68.4	43.7	23.0	2,886.2
Other – nonpatient function group	NSW	VIC	QLD	SA	WA	TAS	NT	ACT	National
Clinical Care Trials	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other services	1.0%	0.0%	1.1%	1.1%	0.0%	3.1%	0.9%	0.2%	0.7%
Research	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%
Teaching	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	3.3%	0.0%	0.1%
All other Other - nonpatient	0.7%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.2%
Total	1.7%	0.1%	1.2%	1.1%	0.1%	3.2%	4.2%	0.2%	1.0%
Jurisdiction cost (\$M)	301.0	10.3	172.5	52.5	4.9	53.5	54.7	3.6	653.0

Appendix C Cost centres for removal

Table 9.1 – Cost centres recommended for removal

Unused cost centres	‘Other’ cost centres	Infrequently used cost centres		
ACUP	OTHERCLINSERV	ALLERGY	FORENSIC	MEDHOT
ORTHAPP	SPECIALTY	ANAESTHESIAAREA	FRACTURE	PLAINRAD
OCCUPATMED	SPECMED	ANGIOSPS	GAITLAB	MEDILL
SURGHDU	SPECSURG	ANTICO	OUTPATOTHER	MHCLOZCLIN
METBONE	OTHERCRITCARE	ASSTECH	BONEMAR	MHEMERPECC
CRANIOFACIAL	OTHEREMED	ASTHMA	HEARTTRANS	CYTOLOGY
EPILEPSY	OTHERIMAG	CLINMEAS	LIVERTRANS	OBSBED
CLINDEC	OTHEROR	CONSLIAS	GENCRITCARE	MORGUE
RESSER	OTHERPATH	CTICU	HDICU	OPTOMETRY
LITHOTRIP	OTHERPHARM	CYTOGEN	HEACHEST	PHYSIOLABS
AUTOPSY		CYTOXIC	HEADINJURY	RENALTRANSP
CLINCHEM		DEMENTIA	HYPERTENSION	IMPREST
ANIMHOU		DEVDISSER	LITHO	SCNICU
TOXIC		EDMU	LUNGFUNC	SPECIMEN
MFEDDRUGS		EMERGTRAUMA	LUNGTRANS	TRANSFUSION
		FALLS		

Appendix D Kullback-Leibler divergence

D.1 Overview

We have adopted a Kullback-Leibler (KL) divergence based metric which is a measure of the degree to which two probability distributions differ. The formula below describes the calculation of the divergence metric for each jurisdiction j , where p indicates a probably distribution for jurisdiction j and q indicates the national probability distribution over a measure k .

$$d_{j,k} = \sum_k p_{j,k} \log \frac{p_{j,k}}{q_k}$$

By dividing the data into subgroups, calculating this metric and aggregating results across jurisdictions, we can rank the subgroups according where there is most variation or divergence between jurisdictions.

We applied this formula according to Table D.1, separately for each jurisdiction and unique combination of the subgroups. For example, the first row indicates that for each combination of end class (admitted acute ADRG or non-admitted Tier 2 Clinic) and submission year, we calculate a score that measures the divergence between jurisdictional distribution of cost by cost centre and the corresponding national distribution.

Table D.1 - KL divergence investigations

Subgroups	Measure (k)	Probability distribution values
ADRG/Tier 2 clinic and submission year	Proposed cost centres	Distribution of cost by cost centre
	Cost centre groups	Distribution of cost by cost centre group (excluding administrative line items)
	Line items	Distribution of cost by line item
	Cost buckets	Distribution of cost by cost bucket (excluding administrative line items)

This provides a ranking of variation in cost centres by DRG in addition to the trend.

Sydney

Level 22
45 Clarence Street
Sydney NSW 2000

Melbourne

Level 27
459 Collins Street
Melbourne VIC 3000

Wellington

Level 6
22 The Terrace
Wellington 6011