Independent Hospital Pricing Authority

National Hospital Cost Data Collection Report

Public Sector, Round 21 (Financial Year 2016-17)

March 2019

IHPA

National Hospital Cost Data Collection Report: Public Sector, Round 21 Financial Year 2016-17

Contents

Tables

Figures

Purpose of the NHCDC Report

The purpose of this report is to provide an overview of the results from the Round 21 National Hospital Cost Data Collection (NHCDC). The report gives a clear picture of hospital cost data submitted by jurisdictions to the Independent Hospital Pricing Authority (IHPA) for the Financial Year 2016-17.

The NHCDC is the cornerstone of IHPA's work. The collection, which is undertaken annually, captures detailed information about the types of services provided to hospital patients and the associated costs borne by the hospital. The cost information it captures is the key source of information about costs of treating patients in Australian hospitals and is the main input in IHPA's determination of the levels of Commonwealth funding for public hospital services in Australia. IHPA will use the data from Round 21 NHHDC to inform hospital funding for the period 2019-20.

After each round of the NHCDC, IHPA publishes the NHCDC Report. The report allows benchmarking across hospitals and jurisdictions and, through reporting multiple years of cost data, identifies change over time.

Specifically, the NHCDC Report answers the following questions:

- What is the NHCDC?
- How does IHPA use the NHCDC?
- In Round 21:
    - How many hospitals participated?
    - What was the level of hospital expenditure?
    - How much cost data was provided (i.e. costed activity)?
    - What was the average cost of hospital patient episodes?
    - What was the average cost of patient episodes across the different hospital activity streams?

All data presented in the NHCDC Report are included in the appendix tables. The complete list of tables included in this report is shown in Table 1.

Note to readers

The scope of the NHCDC Report includes costs related to public hospital activities. Due to differing methodologies and data sources used, the costs reported here may differ from cost data published by other organisations. Such differences apply to data presented in the following Australian Institute of Health and Welfare (AIHW) report series: *Health expenditure Australia*; *Costs of acute admitted patients in public hospitals;* and *Australian hospital statistics*. The reader is advised to take care when comparing these data.

Table 1 NHCDC Report Appendix Tables, Round 21

No	Table title
1	NHCDC Round 19 to 21 summary, actual, by jurisdiction and stream
2	NHCDC Round 19 to 21 Direct and Overhead Expenditure, actual, by stream
3	Cost weights for AR-DRG Version 9.0, Round 21 (2016-17), national sample
4	Cost weights for AR-DRG Version 9.0, Round 21 (2016-17) without ED pro, national sample
5	Cost weights for AR-DRG Version 9.0, Round 21 (2016-17), national estimated
6	NHCDC Round 19 to 21 admitted acute summary, actual, by jurisdiction
7	NHCDC Round 19 to 21 admitted acute summary, actual, by peer group
8	NHCDC Round 19 to 21 admitted acute cost bucket average cost per separation, actual, by jurisdiction
9	NHCDC Round 19 to 21 admitted acute line item average cost per separation, actual, by jurisdiction
10	NHCDC Round 19 to 21 admitted acute overnight and sameday, actual, by jurisdiction
11	NHCDC Round 19 to 21 admitted acute urgency of admission, actual, by jurisdiction
12	NHCDC Round 19 to 21 admitted acute same day and overnight, Indigenous and non-Indigneous, actual, by jurisdiction
13	NHCDC Round 19 to 21 admitted acute paediatric, actual, by jurisdiction
14	NHCDC Round 19 to 21 admitted acute geographic location, actual, by jurisdiction
15	NHCDC Round 19 to 21 Emergency Department by jurisdiction
16	URG VERSION 1.45, Round 21 (2016-17)
17	NHCDC Round 19 to 21 emergency department cost bucket average cost per separation, actual, by jurisdiction
18	NHCDC Round 19 to 21 admitted Emergency Department line item average cost per separation, actual, by jurisdiction
19	Tier 2 VERSION 4.1, Round 21 (2016-17)
20	NHCDC Round 19 to 21 Non-admitted summary by Tier 2 class
21	NHCDC Round 19 to 21 Non-admitted summary by jurisdiction
22	NHCDC Round 19 to 21 non-admitted cost bucket per service event by jurisdiction
23	NHCDC Round 19 to 21 non-admitted line item average cost per separation, actual, by jurisdiction
24	NHCDC Round 19 to 21 subacute summary care type, by jurisdiction
25	ANSNAP VERSION 4, Round 21 (2016-17)
26	NHCDC Round 19 to 21 admitted subacute cost bucket average cost per separation, actual, by jurisdiction
27	NHCDC Round 19 to 21 subacute line item average cost per separation, actual, by jurisdiction
28	NHCDC Round 19 to 21 Other stream summary, by jurisdiction
29	NHCDC Round 19 to 21 Organ Procurement cost bucket average per separation by jurisdiction
30	NHCDC Round 19 to 21 mental health cost bucket average cost per separation, actual, by jurisdiction
31	NHCDC Round 21 Mental health grouped data
32	NHCDC Round 19 to 21 mental health cost bucket average cost per separation, actual, by jurisdiction
33	NHCDC Round 19 to 21 mental health line item average cost per separation, actual, by jurisdiction

What is the NHCDC?

The National Hospital Cost Data Collection (NHCDC) is an annual collection of public hospital cost data. This remarkable evidence base is used across the Australian health system.

The collection matches patient level activity data with the costs incurred by the patient's hospital. These data are submitted to IHPA by the health departments of Australia's states and territories.

The NHCDC was established in 1996 with the primary objective of providing Australian governments and the health care industry with a nationally consistent method of costing all types of hospital activity related to the care of patients.

Under the National Health Reform Act 2011, IHPA was established and assumed responsibility for the governance of the NHCDC. Through the national health reform process, a range of developments to the NHCDC have been implemented, including data quality controls, the introduction of a submission portal and developments in costing standards. These improvements have all provided increased confidence in the collection for the purpose of national reporting.

Each year, IHPA aims to produce a NHCDC dataset comprised of data that has been submitted according to nationally consistent methods of costing hospital activity.

A robust NHCDC dataset is an essential requirement for the funding of public hospital services. Once IHPA finalises the NHCDC dataset, it uses it to develop the National Efficient Price (NEP).

The Round 21 NHCDC contains hospital cost data for the 2016-17 financial year and IHPA will use it to inform the NEP 2019-20.

What is Activity Based Funding?

Activity Based Funding (ABF) is the process by which hospitals are paid for the number and complexity of patients they treat. ABF takes into account the fact that some patients are more complicated to treat than others. This type of funding model aims to improve the value of public investment in hospital care, improve transparency of funding, ensure a sustainable and efficient network of public hospital services, and provide a tool to benchmark the cost of public hospitals.

The annual National Efficient Price (NEP) and National Efficient Cost (NEC) determine the amount of funding the Commonwealth Government contributes to public hospitals. The funding is then distributed by the Administrator of the National Health Funding Pool.

The building blocks required for an ABF system are: classification systems, data collection, costing and pricing.

Scope of Round 21

The data in scope for the NHCDC includes all patient level activity for all public hospital facilities across Australia, and the costs incurred by the hospital in relation to this activity in financial year 2016-17 (Round 21). Admitted patients need to have had their episode or phase of care finalised before the end of the financial year.

Reporting requirements

To ensure consistency in the approach to costing nationally, NHCDC data is costed in accordance with the Australian Hospital Patient Costing Standards Version 3.1 (the Standards), available on IHPA's website.

The Standards prescribe the set of line items and cost centres used for mapping hospital costs in the costing process, to ensure that there is a consistent treatment of costs between hospitals. These costs are allocated to, and reported under, the NHCDC-defined 'cost buckets'.

Please refer to the Standards for the reference tables of line items, cost centre groups and cost buckets. Costed results are produced at the episode level, per cost centre and per line item. These results are provided to IHPA and are collated and analysed to produce this report.

Classifications

IHPA uses classifications to categorise, cost and fund hospital activity.

Hospital activity refers to the services and procedures received by the patient in relation to their treatment. Each patient episode receives a code that describes the type of treatment received. These codes live within the various activity streams. Each stream has a corresponding classification. The classifications are comprised of codes that provide clinically meaningful ways of relating the types of patients treated by a hospital to the resources required.

Effective clinical classification systems ensure that hospital data is grouped into outputs reflective of their resource use. Table 2 describes the different types of activity streams and the associated classification applied by IHPA for funding purposes. The NHCDC Report uses these activity streams to present the cost data[1].

[1] The Teaching Training and Research activity stream is not presented in this report as the Australian Teaching and Training Classification was only released in July 2018.

Table 2 IHPA classifications for different activity streams

Activity Stream	Description	Classification
Admitted acute care	Admitted acute care is provided to patients who are formally admitted to hospital to receive active but short-term treatment with a goal to: • cure, treat or relieve symptoms of illness or injury • reduce severity of an illness or injury • perform surgery • perform diagnostic or therapeutic procedures • manage childbirth	Australian Refined Diagnosis Related Groups (AR-DRG) Version 9
Subacute and non-acute care	Specialised multidisciplinary care in which the primary need for care is optimisation of the patient's functioning and quality of life. Sub-acute care includes the following care types: • Rehabilitation care • Palliative care • Geriatric evaluation and management (GEM) care • Psychogeriatric care Non-acute care relates to maintenance care in which the treatment goal is to support a patient with impairment, activity limitation or participation restriction due to a health condition.	Australian National Subacute and Non-Acute Patient (AN-SNAP) classification Version 4
Non-admitted care	Services provided to patients who do not undergo a formal admission process and do not occupy a hospital bed. Includes: • Hospital outpatient clinics • Community based clinics • Patients' homes	Non-admitted Tier 2 Classification Version 4
Emergency care	Services provided to patients in a hospital's emergency department	Urgency Related Groups (URG) Version 1.4
Mental Health care	Mental Health services provided to patients. Includes services provided both in admitted and community settings.	Australian Mental Health Care Classification (AMHCC) v1.0
Teaching Training and Research	Teaching and training activities which occur in public hospital services.	Australian Teaching and Training Classification (released 1 July 2018)

Admitted activity reporting scope (work in progress and mental health)

For Round 21, a Work in Progress (WIP) patient is defined as a patient during the 2016-17 financial year who was not both admitted and discharged within that year. Historically, WIP patients have been considered 'out of scope' and not included in the reporting of NHCDC cost data.

For the purposes of the Round 21 NHCDC, WIP patients have been included when they were admitted in the previous financial year (2015-16). This reflects the improvements in the quality of patient cost data reported by jurisdictions in the Data Quality Statements (DQS) and observed in the annual Independent Financial Review.

The Round 21 admitted acute cost weight tables excludes inpatients admitted prior to 1 July 2015.

In previous NHCDC reports, mental health inpatients were reported under the acute activity stream. For Round 21, these costs are identified using care type 11 and reported under the mental health activity stream (using the Australian Mental Health Care Classification).

Table 3 compares the number of admitted acute patient separations within the Round 21 NHCDC with the different work in progress and mental health conditions applied. The shaded row contains Round 21 in-scope acute admitted activity.

Table 3 Admitted acute separations, selected conditions, Round 21

Admitted acute separations:	Number of separations	Average cost ($)	Average length of stay
Including mental health, excluding Work in Progress patients	5,868,941	5,229	2.53 days
Excluding mental health, excluding Work in Progress patients	5,742,228	5,027	2.36 days
Excluding mental health, excluding Work in Progress patients admitted prior to 1 July 2015*	5,773,102	5,171	2.43 days

*In-scope admitted acute patients for Round 21 of the NHCDC

Independent Financial Review

The Independent Financial Review is a data review, performed by an independent consultancy, from a sample selection of hospitals within each jurisdiction. Activity and financial data is reviewed from source systems within hospitals and followed through the costing and submission process, leading to its inclusion in the national cost data set. The Independent Financial Review report is published on IHPA's website each year alongside the NHCDC Report.

Key results in Round 21

In Round 21:

- The NHCDC sample comprised 451 public hospitals, an increase of 108 from Round 20.
- In total, $43.8 billion of hospital expenditure was submitted for the financial year 1 July 2016 – 30 June 2017.
- This expenditure was linked to 32,487,827 patient-level encounters across all hospital activity streams.

Table 4 summarises the Round 21 results at the national level for each activity stream.

Table 4 Summary NHCDC results by activity stream, Round 21

	Number of Hospitals	Number of Episodes	Total Expenditure	Average Cost per Episode	Percent Change in Average Cost Since Round 20
			($m)	($)	(%)
Admitted Acute	344	5,773,102	29,854	5,171	-0.9
Emergency Department	265	7,662,322	5,100	666	2.0
Non-Admitted	273	18,592,529	5,742	309	2.0
Sub-Acute	331	199,558	2,793	13,997	1.4
Mental Health	242	237,826	2,506	10,538	-28.1
Other activity	138	22,490	35	1,549	-58.7

In 2016-17, the NHCDC received data for 2,333,353 emergency department patients who were subsequently admitted to hospital for further treatment.

For reporting purposes, the cost associated with these patients is duplicated at the activity level, i.e. we report on these episodes in both the emergency department and the admitted acute or sub-acute streams. As such, totalling the rows in Table 4 does not match the national total cost submitted for all hospitals of $43.8 billion, which excludes duplicate episodes.

Participation

Between Round 20 and Round 21, the number of unique hospitals that submitted cost data to the NHCDC increased from 343 to 451.

The increase was driven mostly by Queensland and Tasmania, which provided data for an additional 84 and 18 hospitals respectively.

For Queensland, the increase translated to 82 additional facilities submitting cost data for services linked to mental health and to emergency department presentations. For Tasmania, the change related mostly to an increase in the number of facilities that provided cost data for sub-acute and non-acute services.

Table 5 Number of hospitals, by jurisdiction, Round 19-21

	Number of participating hospitals		
Jurisdiction	Round 19	Round 20	Round 21
NSW	97	98	95
Vic	76	73	79
Qld	123	111	195
SA	16	16	20
WA	35	34	33
Tas	4	4	22
NT	5	5	5
ACT	2	2	2
National	**358**	**343**	**451**

Costed activity

The more complete the NHCDC dataset, the more accurate the cost information for the different hospital services provided.

To report on the NHCDC's level of completeness, IHPA examines the linkage between the patient episodes for which cost data were submitted via the NHCDC and episodes for which activity data were submitted to IHPA (for activity based funding purposes). IHPA receives the following types of episode level data:

1. Cost data, submitted annually via the NHCDC, which contains detailed information about the actual costs associated with a patient's episode.
2. Activity data, which is submitted twice per year and contains detailed information about each hospital patient's condition and treatment provided (e.g. diagnosis and procedure codes). From these data, patient episodes are categorised according to IHPA's classifications which represent each of the activity streams.

When both activity and cost data relating to a particular patient episode are submitted, IHPA links the data. 'Costed Activity' refers to this linkage. The 'percent of Costed Activity' represents the share of activity data episodes submitted to IHPA for which cost data was also submitted via the NHCDC.

In Round 21, 97 percent of the admitted acute care episodes in public hospitals (submitted via the activity data collection) had matching cost data (submitted via the NHCDC). Table 6 shows the completeness of the NHCDC data across the four major activity streams. This is represented by the increase in the percentage of activity with costs over the past three rounds. The change in the non-admitted stream is variable and reflects ongoing development of the definitions of the Tier 2 classes.

Table 6 Percentage of submitted activity data with matching cost data submitted, Round 19-21, public hospitals

Activity stream	Round 19	Round 20	Round 21
Acute admitted	94%	94%	97%
Sub acute	88%	89%	92%
Emergency Department	90%	92%	94%
Non-admitted	58%	73%	67%

Total expenditure

In Round 21 of the NHCDC, $43.8 billion of hospital expenditure was submitted for the 2016-17 financial year. This represents an 8.6 percent increase over the total for Round 20 ($40.3 billion). Table 7 shows the change in expenditure by activity stream.

Table 7 Total national expenditure, by activity stream, Round 20-21

	Round 20		Round 21		Percent Change in Total Expenditure
	Number of Hospitals	Total Expenditure	Number of Hospitals	Total Expenditure	
		($m)		($m)	(%)
Admitted Acute	327	28,222	344	29,854	5.8
Emergency Department	215	4,711	265	5,100	8.3
Non-Admitted	257	5,392	273	5,742	6.5
Sub-Acute	316	2,731	331	2,793	2.3
Mental Health	121	1,216	242	2,506	106.2
Other Expenditure	165	96	138	35	-63.5
Total*	**343**	**$40,292**	**451**	**$43,770**	**8.6**

**Total excludes duplicate episodes (it is not a sum of above rows). See note under Table 4 for more details.*

The large increase in reported mental health expenditure since Round 20 (106%) reflects the introduction of care type 11 mental health. This activity had previously been reported using care type 1 (acute admitted). Care type 11 allows patients to be identified and grouped to the Australian Mental Health Care Classification (AMHCC).

The large change in 'other' expenditure reflects a change by the ACT, which did not submit costs under the Teaching, Training and Research activity type in Round 21.

Table 8 presents the total hospital expenditure submitted by jurisdictions across the past three NHCDC rounds. While the national reported expenditure increased by 18% since Round 19, the share of this expenditure at the jurisdictional level has remained relatively stable. In each round, NSW, Queensland and Victoria have collectively submitted around 75 percent of the national hospital expenditure.

Table 8 Total expenditure, by jurisdiction, Round 19-21

Jurisdiction	Round 19		Round 20		Round 21	
	Total Expenditure	% of Total Expenditure	Total Expenditure	% of Total Expenditure	Total Expenditure	% of Total Expenditure
	($m)	(%)	($m)	(%)	($m)	(%)
NSW	$11,306	31%	$12,158	30%	$12,752	29%
Vic	$8,062	22%	$8,765	22%	$9,818	22%
Qld	$7,929	21%	$8,570	21%	$10,117	23%
SA	$3,079	8%	$3,255	8%	$3,345	8%
WA	$3,970	11%	$4,622	11%	$4,860	11%
Tas	$775	2%	$906	2%	$948	2%
NT	$761	2%	$834	2%	$919	2%
ACT	$1,083	3%	$1,182	3%	$1,011	2%
Total	**$36,965**	**100%**	**$40,292**	**100%**	**$43,770**	**100%**

Average cost

This report provides the average cost information for all hospital output assigned by the different IHPA classifications. Table 9 summarises these results by presenting the average cost at the activity stream level. While each activity stream is broad and represents a wide variety of different hospital procedures and services provided, the categories serve to provide for useful summary statistics.

The average cost of an admitted acute separation decreased from $5,217 in Round 20 to $5,171 in Round 21, a 0.9 percent reduction. This was reflective of the average patient's length of stay reducing and the percentage of same-day separations increasing.

The average costs for Emergency Department and Non-admitted episodes had a 2.0 percent increase between Rounds 20 and 21. For sub-acute episodes, average cost was stable with a 1.4% increase.

The improved reporting under Mental Health has resulted in a shift of activity and expenditure from admitted acute to mental health. The AMHCC defines activity at the phase level. As reporting improves, the average cost and average length of stay is expected to stabilise.

Table 9 Average cost per episode, by activity stream, Round 20-21

	Round 20		Round 21	
	Average Cost per Episode	Change in Average Cost Since Previous Round	Average Cost per Episode	Change in Average Cost Since Previous Round
	($)	(%)	($)	(%)
Admitted Acute	5,217	0.4	5,171	-0.9
Emergency Department	652	7.8	666	2.0
Non-Admitted	303	11.4	309	2.0
Sub-Acute	13,803	2.3	13,997	1.4
Mental Health	14,651	n/a	10,538	-28.1

In determining the final funding amount per service, various adjustments are applied based on patient characteristics that influence the cost of service delivery (such as indigenous status, age and remoteness). The appendix to this report includes an analysis of the cost data used to inform these adjustments.

Line items and cost buckets

Cost data submitted to the NHCDC is reported by line items and cost buckets. Line items represent types of costs (e.g. salaries and wages or goods and services) incurred by hospitals. Cost buckets represent cost pools within a hospital that relate to a particular function of the hospital – for example, the hospital operating room. The Australian Patient Hospital Costing Standards (APHCS) version 3.1 provides a detailed description of the categories of the cost buckets and line items reported below.

Table 10 presents the total average cost (in dollars) for each line item by each activity stream.

In all streams, the line items linked to salaries and wages accounted for approximately 60 percent of all costs. Within these categories, however, there is considerable variation in the costs assigned. The nursing wages line item accounts for 33 percent of sub-acute patient costs and 14 percent of non-admitted patient costs.

Similarly, the share of costs attributed to allied health salaries is higher for non-admitted patients (12 percent) and Sub-acute patients (10 percent) compared with acute and Emergency Department patients (five percent and four percent respectively). This reflects the type of care provided.

Table 10 National average cost per line item, by activity stream, Round 21

Line Item	Acute	Sub Acute	Emergency Department	Non-admitted	Mental Health
	($)	($)	($)	($)	($)
Salary & Wages Nursing	1,316	4,578	149	44	3,681
Salary & Wages Medical (nonVMO)	704	1,478	163	52	1,348
Salary & Wages Medical (VMO)	202	233	21	11	211
Salary & Wages Allied Health	230	1,457	26	38	805
Salary & Wages Other	437	1,711	63	34	1,238
Oncosts	363	1,357	52	22	917
Pathology	99	109	34	7	66
Imaging	25	31	19	2	9
Prostheses	151	10	0	1	2
Medical supplies	265	290	18	10	107
Goods and services	423	1,349	69	28	1,009
Pharmaceuticals PBS	49	34	3	35	12
Pharmaceuticals nonPBS	138	190	6	5	112
Blood	35	12	2	1	1
Depreciation building	96	277	14	7	228
Depreciation equipment	41	76	5	3	43
Hotel	146	661	14	4	379
Corporate	31	92	5	2	58
Lease	13	42	2	1	17
Total ($)	**4,766**	**13,986**	**666**	**309**	**10,243**

*Total line item dollars for acute and sub-acute activity stream do not match average cost for acute ($5,171) and subacute (13,997). This relates to cost allocation adjustments linked to new born babies and admitted emergency patients.

At the cost bucket level, the Ward Nursing cost bucket accounted for the biggest share of the costs for the admitted acute (17 percent of costs), sub-acute (32 percent) and mental health (34 percent) activity streams. Similarly, the ward medical cost bucket accounted for a high share of costs in all activity streams except the emergency department.

Table 11 National average cost per cost bucket, by activity stream, Round 21

Cost bucket	Acute	Sub Acute	Emergency Department	Non-admitted	Mental Health
	($)	($)	($)	($)	($)
Ward Medical	556	1,667	9	55	1,476
Ward Nursing	895	4,533	7	39	3,530
Allied Health	157	1,643	3	34	745
Non Clinical	306	1,536	12	28	1,293
On-costs	365	1,357	52	22	917
Pathology	178	158	45	15	88
Imaging	122	110	62	17	28
Prosthesis	151	10	0	1	2
Ward Supplies	368	1,516	11	28	1,066
Pharmacy	192	359	4	42	194
Critical Care	394	8	0	0	130
Operating Room	726	26	1	6	53
Special Procedure Suite	54	6	0	6	8
Emergency Department	408	14	425	1	338
Hotel	146	661	14	4	379
Depreciation	151	394	21	11	289
Total ($)	**5,171**	**13,997**	**666**	**309**	**10,538**

Admitted acute care

Of the six IHPA activity streams[2], the admitted acute care stream accounts for the major share of all hospital costs: in Round 21, $29.9 billion of hospital costs were associated with admitted acute care separations. Admitted acute care has the most developed classification system[3], which in turn generates the most robust cost data results.

Average cost per weighted separation

The average cost per acute separation in Round 21 is $5,171. The average cost at the jurisdiction level varied from $6,475 (Western Australia) to $3,972 (Northern Territory). The variation in average cost is caused by the admission policies of the jurisdictions and the complexity of the treatment required and other factors such as location and age.

To compare the average cost of admitted acute care separations between jurisdictions, the complexity of each jurisdiction's work profile should be considered.

[2] 1) Admitted acute, 2) Emergency department 3) non-admitted, 4) sub-acute, 5) mental health, 6) other expenditure.
[3] Australian Revised –Diagnosis Related Groups Version 9.0

To do this, IHPA creates *weighted separations*. A weighted separation considers the complexity of each type of separation relative to the other types of admitted acute separations. The level of complexity is determined based on the resources required to treat that patient.

Admitted acute cost weight tables are included in the appendix of this report. These tables include the cost weights for all Diagnosis Related Groups (DRGs) in Round 21, which are used to compare resource utilisation based on the national level.

In Round 21, a single heart transplant patient separation[4], for example, corresponds to 36.1 weighted separations[5]. In contrast, a single colonoscopy patient separation[6] corresponds to 0.42 of a weighted separation. The difference reflects the significantly greater complexity associated with a heart transplant operation.

By summing the weighted separations for each jurisdiction, we can compare the volume of jurisdictions' acute admitted activity.

Table 12 compares the average cost and average cost per weighted separation by jurisdiction. The *'average cost per weighted separation'* accounts for the relative complexity of each jurisdiction's work profile. If a jurisdiction's *average cost per weighted separation* is lower than its average cost, the jurisdiction's hospital activity comprised a higher proportion of complex Diagnosis Related Groups.

The Northern Territory has the biggest variance, with a low average cost ($3,972) and a high average cost per weighted separation ($6,587). This reflects that the complexity of separations is quite low relative to the national case-mix.

Table 12 Average cost per weighted separation (admitted acute care), by jurisdiction, Round 21

Jurisdiction	Number of separations	Number of weighted separations	Complexity factor (1)	Average cost separation	Average cost per weighted separation
				($)	($)
NSW	1,589,586	1,715,970	1.08	5,477	5,074
Vic	1,607,259	1,551,996	0.97	4,494	4,654
Qld	1,307,683	1,268,075	0.97	4,922	5,076
SA	376,885	402,558	1.07	6,008	5,625
WA	508,829	499,645	0.98	6,475	6,594
Tas	117,360	128,955	1.10	5,813	5,290
NT	156,866	94,591	0.60	3,972	6,587
ACT	108,634	111,311	1.02	5,751	5,613
National	**5,773,102**	**5,773,102**	**1.00**	**5,171**	**5,171**

(1) Determined by dividing the jurisdiction's number of weighted separations by number of separations.

[4] DRG: F23Z
[5] This is also referred to as the cost weight. Cost Weights are included for all acute admitted care separation types in the Appendix Tables.
[6] DRG: G48B

Average cost – excluding emergency department costs

On receiving cost data, IHPA identifies records that were admitted to hospital after presenting to the emergency department. The costs of the emergency department are included in the admitted costs, reported in the ED cost bucket. Table 13 compares average cost per acute separation including and excluding emergency department costs. The column 'average cost excluding ED costs' includes only the costs associated with the patient from hospital admission to separation. There is a difference of $379, which can be attributed to resource usage associated with the ED presentation.

Table 13 Average cost per admitted acute separation, excluding ED cost bucket, by jurisdiction, Round 21

Jurisdiction	Average cost	Average cost, excluding Emergency Department costs	Difference
	($)	($)	($)
NSW	5,477	5,096	381
VIC	4,494	4,156	338
QLD	4,922	4,534	388
SA	6,008	5,627	381
WA	6,475	6,011	464
Tas	5,813	5,323	490
NT	3,972	3,666	306
ACT	5,751	5,325	427
National	**5,171**	**4,792**	**379**

Patient length of stay

In Round 21, the national average length of stay (ALOS) for admitted acute patients is 2.43 days, continuing a downward trend from Round 20 (2.53 days) and Round 19 (2.75 days).

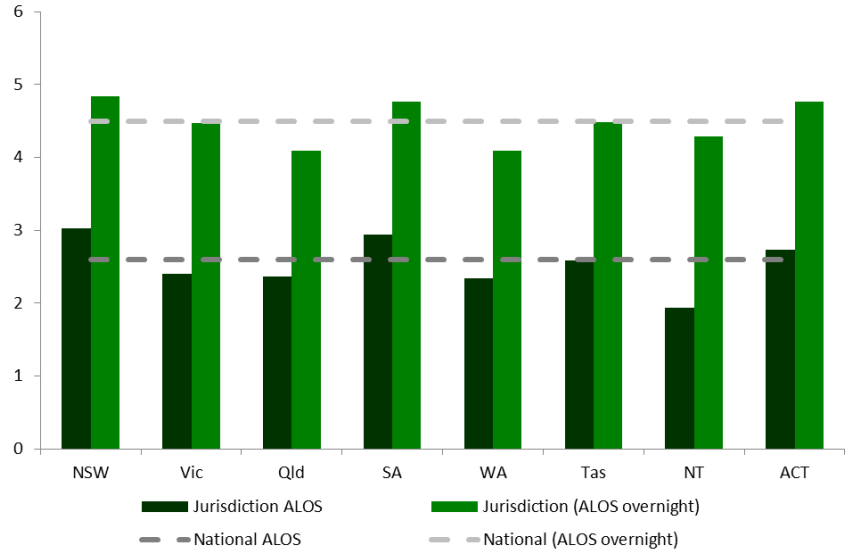
Two factors are contributing to this trend: an increased share of same-day patients, and shorter average stays for overnight patients.

An increasing share of admitted acute separations represents patients admitted and separated from the hospital on the same day. In Round 21, 55.7 percent of patients (3.2 million) were same-day separations, an increase from Round 20 (54.6 percent) and Round 19 (53.6 percent).

For patients who stayed overnight in hospital, the national average length of stay was 4.24 days, down from Round 20 (4.45 days) and Round 19 (4.77 days).

Figure 1 compares the average length of stay of all patients and overnight patients between jurisdictions.

Figure 1 Admitted acute average length of stay of all separations and all overnight separations, by jurisdiction, Round 21



The Northern Territory, which had the highest share of same-day patients (71 percent), had the lowest average length of stay (1.97 days). Conversely, New South Wales, which had the lowest share of same-day patients (48 percent), had the highest average length of stay (2.88 days).

Mental health

For Round 21 of the NHCDC, IHPA is reporting mental health costs as a separate product for the first time. The change reflects the recent introduction of the Australian Mental Health Care Classification (AMHCC). In previous rounds of the NHCDC, mental health costs were reported as part of the admitted acute activity care type.

Under the AMHCC, patient events (episodes or phases) that hospitals report as 'mental health admitted acute' (using patient care type 11 in the activity dataset submitted by Admitted Patient Care) are considered as 'admitted mental health patients' rather than admitted acute costs. This change in reporting resulted in a large increase (106%) in the volume of mental health expenditure between Round 20 (from $1.2 billion to $2.5 billion).

Mental health care is provided in both admitted and community settings. The admitted setting includes consumers who are formally admitted for treatment in a general ward or a designated psychiatric unit in a general or a psychiatric hospital. The community setting includes mental health care services delivered to consumers who are not admitted to an inpatient facility or who reside in a residential mental health care facility.

The AMHCC contains 91 end classes (45 in the admitted setting and 46 in the community setting). A patient's end class is determined based on a range of variables including the setting (admitted or community), the clinician-assigned mental health phase of care, age group, mental health legal status (for admitted patients); the Health of the Nation Outcomes Scale (HoNOS) score, and the Life Skills Profile-16 (LSP16) (for community patients). More information on the structure of the AMHCC is available at www.ihpa.gov.au.

In the Round 21 NHCDC, there were 131,083 admitted setting mental health separations and 106,743 mental health community setting cost items reported. IHPA has grouped the care type 11 activity using AR-DRGs. Appendix table 29 presents admitted setting mental health care activity and costs using the AR-DRG classification. The total expenditure submitted amounted to $2.1 billion and the average length of stay was 12.8 days.

In Round 21, limited phase level cost and activity data has been linked in the admitted setting and no phase level cost data was reported in the community setting. In total, costed phase-level data was provided for 52,922 admitted mental health care phases. Table 14 reports the number of phases and average cost per phase by jurisdiction.

Table 14 AMHCC phase level cost data reported to NHCDC, by jurisdiction, Round 21

Jurisdiction	Phases	Average cost, per phase
		($)
QLD	32,706	13,635
SA	14,286	11,530
WA	5,898	22,594
ACT	32	18,238

Supplementary material

More information about the Round 21 NHCDC results is available in the following supplementary material:

- **Round 21 NHCDC Report Appendix tables** – Detailed multi-year NHCDC results by activity stream and jurisdiction. Refer to Appendix A.

Data Quality Statements

Each jurisdiction provides IHPA with a Data Quality Statement (Appendix B) to highlight key aspects that may impact on a jurisdiction's results. This may include variations with respect to costs, practices, participation and coverage of results that have occurred in the Round.

These Data Quality Statements should be considered when reading the NHCDC Report and when using data included in the report.

Appendix B. Data Quality Statements

ACT

ACT Government
Health

ACT DATA QUALITY STATEMENT

ROUND 21 (2016-17) NATIONAL HOSPITAL COST DATA COLLECTION

All data provided by ACT to Round 21 (2016-17) of the NHCDC has been prepared to the best of ACT's knowledge in adherence with the Australian Hospital Patient Costing Standards (AHPCS) Version 3.1.

The following data quality statement describes changes in the scope of the collection and costing allocation processes for the NHCDC R21 (2016-2017) data for the ACT.

Reporting hospitals

ACT's submission of the Round 21 (2016-17) NHCDC included Canberra Hospital and Health Services (CHHS) and Calvary Public Hospital, Bruce (CPHB).

Changes to treatment of Overheads

As the ACT is a single government tier, there is a requirement for ACT Health to facilitate and provide the full range of operational hospital and health services and Ministry services.

As part of the System-wide Data Review, ACT Health reviewed the 2016-17 NHCDC submission. This review had a particular focus on the identification of Ministry costs, non-hospital related expenditure and expenditure that does not relate to direct patient care, all of which were excluded from the 2016-17 NHCDC submission.

This change has improved the accuracy of the cost allocations thus refining the quality of ACT's NHCDC submission.

Work in Progress

Patients are allocated costs based on their consumption of resources during the reporting year (1 July 2016 - 30 June 2017). Episodes admitted in the collection year but yet to be discharged are costed and will be included in the Round 22 submission.

Blood Products

The National Blood Authority expenses are held within ACT Health's General Ledger. ACT Health then provides both the public hospitals with that blood expenditure data to be allocated and reported to the NHCDC. The cost of blood products supplied to private hospitals are out of scope for NHCDC and are not reported.

Pharmacy and Diagnostic Data

Pathology, Imaging and Pharmacy datasets, including Highly Specialised Drugs are linked according to the data matching rules. Where records were not matched, these records have been costed but considered out of scope and excluded from the 2016-17 NHCDC submission.

Private patient pathology activity and costs are also excluded from the NHCDC.

Unlinked Feeder data

Pathology, Imaging and Pharmacy data that was not able to be matched or linked through the data matching process has been excluded from the NHCDC.

Teaching, Training and Research

For 2016-17, Teaching, Training and Research (TTR) costs were identified and allocated at a patient level for the purpose of internal reporting. These costs were removed from the NHCDC submission but were identified in the NHCDC checklist provided to IHPA.

Other improvements between Round 20 and 21 NHCDC

1. Continue to include bonuses paid to staff specialists from cost centres outside ACT Health's General Ledger in accordance with Costing Standard COST 3A.002;
2. Revision of cost allocations for CHHS and CPHB;
3. Refinements to linking rules in consultation with both sites; and
4. Submission of admitted palliative care patient data at the phase level.

Exceptions to the 2016-17 NHCDC Submission

ACT did not include Depreciation costs in the 2016-17 NHCDC submission.

Assurance

Assurance is given that to the best of my knowledge the data provided are suitable to be used for the primary purpose of the NHCDC, which includes development of the National Efficient Price and National Efficient Cost.

Signed:

Michael De'Ath
Interim Director General, ACT Health.

New South Wales

NSW GOVERNMENT | Health

Ms Olga Liavas
Acting Chief Executive Officer
Independent Hospital Pricing Authority
PO Box 483
DARLINGHUST NSW 1300
Email: olga.liavas@ihpa.gov.au

Your ref D18-14889
Our ref S18/378

Dear Ms Liavas

Thank you for your letter regarding submission of a data quality statement for the Round 21 National Hospital Cost Data Collection (NHCDC) Cost Report 2016-17.

Please find attached the NSW data quality statement for NSW for Round 21 (2016-17).

All data provided by NSW for Round 21 of the NHCDC has been prepared in adherence with the Australian Hospital Patient Costing Standards, Version 3.1 and is complete and free of material errors.

Assurance is given that to the best of my knowledge, data provided is suitable to be used for the primary purpose of the NHCDC, which includes development of the National Efficient Price and National Efficient Cost.

If you would like more information please contact Neville Onley, Executive Director, Activity Based Management on 9391 9035 or at neville.onley@health.nsw.gov.au.

Yours sincerely

Elizabeth Koff
Secretary, NSW Health
16/8/18

NSW Ministry of Health
ABN 92 697 899 630
73 Miller St North Sydney NSW 2060
Locked Mail Bag 961 North Sydney NSW 2059
Tel. (02) 9391 9000 Fax. (02) 9391 9101
Website. www.health.nsw.gov.au

Overview

The NSW Round 21 2016-17 National Hospital Cost Data Collection (NHCDC) is based on the NSW Health District and Network Return (DNR). Guidelines for preparing, quality checking and submitting the DNR are published in the NSW Health Cost Accounting Guidelines (CAG), which aligns to Version 3.1 of the Australian Hospital Patient Costing Standards (AHPCS). Version 4.0 of the AHPCS will be implemented throughout 2018-19.

The DNR is prepared and submitted by each of the 15 Local Health Districts and three Specialty Health Networks (Districts/Networks). In NSW, financial results are published and audited at the District/Network level and not at hospital level.

The DNR includes all products for all Districts/Networks and reconciles to the published financial results. DNRs are consolidated and formatted to comply with the NHCDC data set specifications. To comply with Independent Hospital Pricing Authority (IHPA) requirements, work in progress (WIP) expense from previous Rounds are included.

The DNR is a single submission used to satisfy reporting requirements for the NHCDC, Public Hospital Establishments Collection, Mental Health Establishment National Minimum Dataset and Health Expenditure submissions. This facilitates reconciliation across all reporting requirements.

Coverage

NSW submitted patient level data for all hospitals considered in-scope for activity based funding (ABF) for 2016-17; a total of 95 hospitals.

Only patient level data is submitted for NSW. No aggregate non-admitted patient or teaching and training (TT) products are submitted for the NHCDC.

Only General Fund expense is allocated at the patient level in the DNR. Restricted Asset Fund expenditure is included but not allocated at patient level in the DNR. Custodial Fund expenditure is not included in the DNR.

Data quality

Data quality processes for Round 21 were further developed from Round 20 initiatives. A web-based tool; the Reasonableness and Quality Application (RQ App) is utilised during the DNR draft submission period to enable Districts/Networks to access aggregate results and patient level data quality checks. Each quality check is scored and this scoring is based on either pass/fail logic or a sliding percentage scale. The pass/fail logic is applied to quality checks to ensure errors that should not occur in the data are identified.

The DNR draft submission period enables Districts and Networks to utilise the RQ App and assess the reasonableness of aggregate cost results when compared with peer hospitals. The

DNR can be resubmitted throughout the draft submission period should the quality reviews require amendments and resubmission.

Some of the RQ App data quality checks were informed by the IHPA National Efficient Price Determination Technical Specifications and Round 20 NHCDC quality assurance checks.

During the draft submission period teleconferences were held separately with each District/Network Chief Executive to review the draft submission, highlight any material movements in average cost, or data quality issues requiring further investigation or remediation. These teleconferences greatly assisted in the timely analysis of Round 21 cost results.

DNR audit program

A mandatory audit program was further refined for the 2016-17 DNR with a few minor changes. Risk ratings were also applied to a number of key tests.

Completion of this audit program is part of a robust governance framework encompassing costing to improve the accuracy and reliability of data used to make ABF decisions. The completion of the audit program is included in the 'Conditions of Subsidy' and District/Network Service Agreement with the Secretary, NSW Health.

District/Network DNR audit reports were submitted to local Audit and Risk Board Sub-Committees. District and Network Chief Executives were required to submit an attestation certificate to the Secretary, NSW Health upon completion of the DNR audit program. A peer review is also undertaken.

Technical issues

Professional indemnity costs – this expense is held centrally by NSW Health and is not distributed to Districts/Networks. It is therefore not reported in the financial statements. To ensure compliance with AHPCS SCP 2.003 Expenditure in Scope, this expense is distributed to Districts/Networks and added to the general ledger loaded into PPM2. This adjustment is noted in the District/Network reconciliation scheduled that is submitted as part of the DNR.

S100 drug costs – expense associated with S100 drugs is not linked and included to the relevant non-admitted patient level service event. The NSW Cost Accounting Guidelines standard requires all S100 drug costs to be reported separately.

Work in progress (WIP) – WIP encounters were included in Round 21 where the admission year was either Round 17, 18, 19 or 20. Round 17, 18, 19 or 20 cost components of the encounter were included.

Critical care - cost allocation reflects appropriate nursing ratios such as 1:2 for ICU/HDU patients. In some instances where a patient only has HDU hours, the cost centre will map to

critical care, but there will be no ICU hours. Additionally, only facilities with Level 3 ICUs will map their cost centre to critical care, even though locally they may use the ICU bed type.

Medical cost allocation – Visiting Medical Officer expense is not allocated to private patients in the DNR. Staff specialist costs are allocated to both public and private patients with no adjustments.

Hosted services – a number of Districts/Networks have hosted service arrangements in place. These are for services such as information technology. Where appropriate the expense associated with these services is adjusted for both the host District/Network and the hosted District/Network. This adjustment is noted in the District/Network reconciliation schedule that is submitted as part of the DNR.

The precision of linking encounters is ongoing through the NSW Costing Standards User Group with improved costing at episode level.

Cost methodology changes

A State-wide extract was developed for non-emergency patient transport services for Round 20 and further improved in Round 21. Relative value units (RVUs) used for the cost allocation methodology for metropolitan Districts/Networks was revised to reflect the actual number of kilometres travelled.

Mental health inpatient nursing RVUs were reviewed in consultation with mental health clinicians. These revised RVUs were applied in Round 21 costing of mental health data.

Australian Mental Health Care Classification phase of care level data was costed for the first time in NSW in 2016-17. There were some data quality issues experienced due to the implementation of a new classification system which should resolve over time. NSW intends to submit phase of care level costed data for 2016-17.

Northern Territory

DEPARTMENT OF
HEALTH

Chief Executive
Level 4 Health House
87 Mitchell Street
DARWIN NT 0800

Postal Address
PO Box 40596
CASUARINA NT 0811

T 08 8999 2761
E Catherine.Stoddart@nt.gov.au

File Ref: EDOC2018/122089

James Downie
Chief Executive Officer
Independent Hospital Pricing Authority
PO Box 483
DARLINGHURST NSW 1300

Dear Mr Downie

Round 21 National Hospital Cost Data Collection Data Quality Statement

I am pleased to provide this Data Quality Statement to be published as part of the Round 21 (2016-17) National Hospital Cost Data Collection (NHCDC) Cost Report, as requested in correspondence dated 18 July 2018.

All data provided by the Northern Territory (NT) to Round 21 of the NHCDC has been prepared in adherence with the Australian Hospital Patient Costing Standards (AHPCS) Version 3.1.

Data provided to this submission has been reviewed for adherence to the AHPCS Version 3.1 and is complete and free of material errors.

Adherence to the AHPCS Version 3.1 is qualified by the following items:

- *SCP 3F.001 – Matching Production and Cost – Order Request Point*
  NT uses the 'date of service' to link patients and services, such as x-ray. The 'date of request' was not used as the related data available in our patient administration system is currently unreliable.
- *GL 4A.002 – Critical Care Definition*
  NT costs High Dependency Unit and Intensive Care Unit patients the same way at the Royal Darwin Hospital as the data available does not differentiate the HDU and ICU patients.
- *COST 3A.002 – Allocation of Medical Costs for Private and Public Patients*
  NT included medical costs reported in the General Ledger. Expenses that sit outside the GL paid from the Private Practice Trust Fund have not been included as they are considered immaterial.

Assurance is given that to the best of my knowledge the data provided are suitable to be used for the primary purpose of the NHCDC, which includes development of the National Efficient Price and National Efficient Cost.

Yours sincerely

Professor Catherine Stoddart
10 August 2018

Queensland

Round 21 National Hospital Cost Data Collection Sign-Off Statement

All data provided by Queensland to Round 21 (2016 -17) of the National Hospital Cost Data Collection (NHCDC) has been prepared in adherence with the Australian Hospital Patient Costing Standards (AHPCS) Version 3.1.

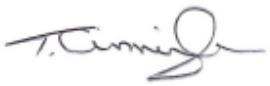
Data provided to this submission has been reviewed for adherence to the AHPCS Version 3.1 and in accordance with the data quality statement provided.

Adherence to the AHPCS Version 3.1 is qualified by the following items:

1. Patient- level identifiable costs for the posthumous retrieval of organs have not been included for the donor patient as source data does not include an episode change type for the donor. These costs are spread across other patients in the cost areas where this activity occurs.
2. Costs for direct education and research have not been submitted to IHPA as there was no corresponding activity record to which the costing data could be matched. Summary level data for these product classes can be supplied on request.

Assurance is given that to the best of my knowledge the data provided are suitable to be used for the primary purpose of the NHCDC, which includes development of the National Efficient Price and National Efficient Cost

Signed:



A/DDG HPSP

NHCDC R21 Data Quality Statement

Healthcare Purchasing and Funding Branch

National Hospital Cost Data Collection (NHCDC) Round 21 (R21) Data Quality Statement

The National Hospital Cost Data Collection (NHCDC) is the primary data collection used to develop the National Efficient Price (NEP). To ensure accurate information is submitted to the NHCDC and subsequently available for the NEP determination, there are robust validation and quality assurance processes conducted.

Guidelines for preparing cost data are published in the Queensland Clinical Costing Guidelines (QCCG). It is a supplementary document to the Australian Hospital Patient Costing Standards (AHPCS) and is a guide to the Hospital and Health Services' (HHS) costing teams in the application of the AHPCS within the technical environment of the costing systems used within Queensland Health.

Costing data are prepared for 16 Hospital and Health Services (HHS's) and the Mater Public Hospitals (Brisbane). Once costing is finalised by the HHS a reconciliation is undertaken and the data transformed into the NHCDC specification format. All data are validated, by the Department of Health and the HHS prior to submission to the Independent Hospital Pricing Authority (IHPA).

The following data quality statement describes changes in the scope of the collection, costing processes and issues that have been identified in the NHCDC R21 (2016-2017) data for Queensland.

Data Submission

Of the 434 facilities which have been costed at patient or service level data in the 2016-2017 fiscal year (including a number of facilities that are out of scope for the NHCDC such as nursing homes for which cost data are held by the Department of Health), 195 were submitted as part of the NHCDC in Round 21. The excluded facilities accounted for 9% per cent of costs and are all out of scope for the NEP determination.

Changes in Reported Facilities

There are a significant number of facilities (88) being reported to NHCDC for the first time in this Round, the majority of which are community mental health facilities. These new facilities arise because the cost data can now be matched to the mental health activity data collection and submitted as part of the Community Mental Health – Specialised product type. Previously, these costs were included in the Tier 2 outpatient clinic (40.34 - Specialist Mental Health) but could not be submitted as they did not link to an outpatient activity record. There were 4 facilities not reported this year, these were 4 rural and remote primary health centres.

Specialised Mental Health

This is the first year the specialized mental health activity data have been available for linking to the cost data. Previously, these costs were included in the Tier 2 non-admitted clinic (40.34 - Specialist Mental Health) but could not be submitted to NHCDC as they did not link to a non-

admitted activity record. This year they are submitted as part of the Community Mental Health – Specialised product type.

A matching process was undertaken to link the cost data to the activity data. Matching is complicated by a difference in the level of granularity between the two datasets. The cost data are at the service event level and the activity data are at the occasion of service level. The cost data were disaggregated from the service event level to the occasion of service level to link to an activity record to enable submission to IHPA.

Outpatient Rollup

In earlier rounds, the linkage rate between the cost data and non-admitted activity data has been low which has impacted the amount of non-admitted data Queensland has been able to submit to IHPA for NHCDC. The reason for this is due to the difference in granularity between the cost data and the activity data sets. The general counting rules for ABF purposes involving multiple health care providers stipulate that irrespective of whether the patient was seen jointly or separately seen by multiple providers, only one non-admitted patient service event may be counted for a patient at a clinic on a given calendar day. In costing these encounters they are reported as separate records, due to the variation in the specialty and time of the events, however, to be consistent with the ABF counting rules the cost data are rolled up in this year's submission.

Unlinked Diagnostic data

Pathology, Imaging and Pharmacy data that were not able to be matched or linked through the data matching process are excluded from the NHCDC. For Round 21, there were approximately 347,000 unlinked utilisation records which account for $172 million of cost, $156 million at ABF sites. The increase rate of unlinked diagnostics is in some way attributed to the introduction of new non-admitted patient management system as well as the treatment of patients across the public and private hospital sector, for example in the case of the new Sunshine Coast University Hospital ($21 million).

ABF Facility	Round 20	Round 21	Change
	$112,044,522	$156,789,245	$44,389,246

This should be taken into consideration when comparing the costs of diagnostic clinics between Rounds.

Teaching, Training and Research

The majority of facilities are allocating direct teaching and training costs to patients. This is achieved through directly mapping to a suite of patient level products such as the patient's "admission", "outpatient clinic attendance" or "emergency department attendance", or using the indirect allocation structure to other direct patient care departments. Several smaller facilities are allocating direct teaching and training to system-generated patients which are excluded from the

NHCDC. For all facilities, embedded teaching and training costs are not separately identified and any teaching or training that occurs in the course of patient care is included in patient costing.

Patient Travel

Patient travel costs in Queensland are significant but are not fully reflected in the NHCDC submission. This is mainly due to the absence of feeder system data as the cost may reside with the 'sender' hospital and not with the facility in which the patient was treated. Furthermore, the costs have not been separately identified in R21 and are bundled in goods and services. Of the $192 million recorded as patient travel in the initial NHCDC extract, the majority ($125 million) are allocated to system-generated patients and excluded. Only approximately $62 million is included in the patient level submission (which is bundled in with the $884 million of goods and services).

A number of HHS's have commenced the identification of patient transport/transfer costs attach where previously they were treated as virtual products. This accounted for approximately $20M of costs in the initial costing system extract and it is expected this will increase in future as more HHS's link to the patient inter-hospital transport/transfer feeder data.

Blood products

Blood product costs continue to be included at patient level in the NHCDC. In 2016-17 approximately $40.5 million has been included in the submission, compared with $42.6 million in the prior year.

Costing Systems

Queensland defines within the HHS Service Agreements the standard costing submission specifications, which is also published on the States Corporate Reference Directory Services.

New Feeder Systems for Clinical Costing

Queensland Hospital and Health Services (HHS) continually monitor the implementation of new clinical data collection systems to assess whether they can be utilised for clinical costing, and they also work collaboratively with data managers to improve existing systems to attain minimum requirements for costing. As part of the digital hospitals program, several new products being rolled out across Queensland:

- FirstNet – Emergency Department information system
- SurgiNet – Perioperative and anaesthesia information system
- Enterprise Scheduling Manager (ESM) – Non-admitted appointment scheduling system

HHSs are working with the integration teams and vendor to further refine and improve the clinical costing results as these are phased into production.

Other Issues

The following issues in Round 21 do not have a significant impact on overall cost outcome (s) but are noted here for completeness:

- The initial extracts from the costing system before the NHCDC transformation included 10,357,639 records of which there were only 89 encounters with zero cost; this comprises less than 0.000859 per cent of records.

South Australia

Government of South Australia
SA Health

Office of the Chief Finance Officer

Finance and Corporate Services
Citi Centre Building
11 Hindmarsh Square
Adelaide SA 5000

PO Box 287, Rundle Mall
Adelaide SA 5000
DX 243
Tel 08 8226 6082
Fax 08 8226 6111
ABN 97 643 356 590
www.health.sa.gov.au

CE18-0475

Mr James Downie
Chief Executive Officer
Independent Hospital Pricing Authority
PO Box 483
DARLINGHURST NSW 1300

Dear Mr Downie

RE: ROUND 21 NATIONAL HOSPITAL COST DATA COLLECTION DATA QUALITY STATEMENT

Thank you for your letter of 18 July 2018 concerning the release of the 2016-17 NHCDC cost data so as to support the production of the Round 21 (2016-17) National Hospital Cost Data Collection Cost Report.

As requested, attached are South Australia's Data Quality Statement and Data Collection Sign Off Statement to be included in the report.

Should you require any further information, in the first instance your officers are welcome to contact Stuart Conboy, Manager Funding Models & Allocations on 08 7425 3632.

Yours sincerely

Jamin Woolcock
Chief Finance Officer
SA Health
2 / 8 / 2018

South Australia 2016-17 Data Quality Statement

Participation and Coverage

South Australia's 2016-17 cost data is produced by the Department for Health and Wellbeing (DHW) using one instance of the patient costing system. The maintenance of the patient costing system and the processing of data are undertaken centrally by staff within the DHW based on advice from Local Hospital Network (LHN) representatives and with reference to the Australian Hospital Patient Costing Standards v3.1.

In Round 21, cost data was submitted for eight metropolitan hospitals and ten (an increase of four) large country hospitals. Stand-alone rehabilitation hospitals are not included in the South Australian cost data.

The data was extensively reviewed by the DHW staff, in conjunction with the LHNs and signed off by the LHNs, before submission to the National Hospital Cost Data Collection (NHCDC). The costing data was subjected to considerable scrutiny, with appropriate corrections and resubmissions as required to ensure that it was fit for this purpose.

Teaching, Training and Research (TTR)

Teaching, Training and Research (TTR) direct costs are not reported at the patient level, however they are reported in the reconciliation of total costs. TTR costs have been treated in compliance with the Australian Hospital Patient Costing Standards v3.1.

Blood products

Blood product costs were not included in the cost data submitted.

Work in Progress

In the patient costing process, all work in progress is costed, however only work in progress for patients that were admitted prior to 1 July 2016 and discharged during 2016-17 were submitted. As directed by IHPA the escalation factor was not applied to all work in progress records.

Changes to costing or admission policies between Round 20 and 21 NHCDC collections

SA's LHNs continued to refine their costing processes during 2016-17, however there were no material changes in the overall costing process.

As in previous years, SA has not complied with costing standard 3A.002 – Allocation of Medical Costs for Private and Public Patients. Only medical costs that are reported in the hospitals operational accounts have been included in the costing process. Public and private patients are treated the same in the allocation of medical costs to patients.

There was no change to the admission policy between the two rounds.

Other

South Australia has a common chart of accounts and one general ledger from which each hospital's financial data is extracted for processing. Other data is also sourced from central data collections were possible and with LHNs providing the balance of necessary data to permit accurate cost attribution.

In addition, costs for centralised services such as ICT and procurement are included in the patient costing process.

As per Round 20, ancillary costs for private patients are included except for pathology because the hospitals are not charged for these services.

Pathology services are provided to the hospitals by SA Pathology and hospitals are charged for the services provided to public patients but this does not cover the full cost of the service. An additional loading is applied to the hospital's pathology cost to reflect full cost of the service.

The costing data submitted has been reconciled to the Public Hospital Expenditure (PHE) with work continuing to minimise the variation between the two data sources.

Round 21 National Hospital Cost Data Collection Sign-Off Statement

All data provided by South Australia to Round 21 (2016 -17) of the National Hospital Cost Data Collection (NHCDC) has been prepared where possible to adhere with the Australian Hospital Patient Costing Standards (AHPCS) Version 3.1.

Data provided to this submission has been reviewed for adherence to the AHPCS Version 3.1 and is materially complete and free of material errors except where qualified by the following items:

1. Medical Rights of Private Practice are excluded as they are reported outside the hospital's operational accounts due to expenses not being legally controlled by the LHN entity.
2. Private pathology costs are excluded and have not been able to be reliably identified.
3. Blood product expenses that do not form part of the NEP and NEC are excluded.

Assurance is given that to the best of my knowledge the data provided are suitable to be used for the primary purpose of the NHCDC, which includes development of the National Efficient Price and National Efficient Cost.

Signed:

Jamin Woolcock
Chief Finance Officer
2 / 8 / 2018

Tasmania

Department of Health
PLANNING, PURCHASING & PERFORMANCE

GPO Box 125, HOBART TAS 7001 Australia
Ph: 1300 135 513
Web: www.dhhs.tas.gov.au

Tasmanian Government

Contact: Mohammed Huque
Phone: (03) 6166 1096
Email: mohammed.huque@health.tas.gov.au
File: 107101

Ms Olga Liavas
Acting Chief Executive Officer
Independent Hospital Pricing Authority
Level 6, 1 Oxford Street
SYDNEY NSW 2000

Dear Ms Liavas

Subject: Round 21 National Hospital Cost Data Collection Data Quality Statement

I refer to your letter dated 18 July 2018, requesting that Tasmania provide a 'Data Quality Statement' to be published as part of the Round 21 National Hospital Cost Data Collection (NHCDC) Cost Report.

I note that a recommendation of the Round 19 Independent Financial Review was that an approved and signed jurisdictional statement, in relation to the application of the Australian Hospital Patient Costing Standards, should be included as part of each jurisdiction's future annual NHCDC submissions. I understand this was supported by IHPA's NHCDC Advisory Committee and approved by the Pricing Authority.

Accordingly, Tasmania now confirms that:

- all data provided by Tasmania to Round 21 (2016-17) of the NHCDC has been prepared in adherence with the Australian Hospital Patient Costing Standards (AHPCS) Version 3.1
- data provided to this submission has been reviewed for adherence to the AHPCS Version 3.1 and is complete and free of material errors
- adherence to the AHPCS Version 3.1 is qualified by the following items: No known qualifications
- assurance is given that to the best of my knowledge the data provided are suitable to be used for the primary purpose of the NHCDC, which includes development of the National Efficient Price and National Efficient Cost.

Should you require any further information, please contact Mohammed Huque, Manager Health Informatics and Information Governance on telephone (03) 6166 1096 or email mohammed.huque@health.tas.gov.au.

Yours sincerely

Michael Pervan
Secretary

25 July 2018

Victoria

VICTORIAN DATA QUALITY STATEMENT

ROUND 21 (2016-17) NATIONAL HOSPITAL COST DATA COLLECTION

All data provided by Victoria to Round 21 (2016-17) of the National Hospital Cost Data Collection (NHCDC) has been prepared in adherence with the Australian Hospital Patient Costing Standards (AHPCS) Version 3.1.

Data provided to this submission has been reviewed for adherence to the AHPCS Version 3.1 and is complete and free of material errors.

Adherence to the AHPCS Version 3.1 is qualified by the details below.

Overview

Victorian public hospitals are required to report costs for all activity and are expected to maintain patient level costing systems that monitor service provision to patients and determine accurate patient-level costs.

Victorian health services are required to adhere, where possible, to the Australian Hospital Patient Costing Standards (AHPCS) – version 3.1 (or the most recent version in the instance that a successor becomes available), the Victorian Cost Data Collection (VCDC) business rules and specifications and any other guidance provided by the department in the coming year.

Business Rules

Compliance to standards

The Victorian submission to the Round 21 (2016-17) National Hospital Cost Data Collection (NHCDC) is based on the Victorian Cost Data Collection 2016-17.

The business rules for the VCDC collection are published annually by the Department of Health and Human Services, Victoria and provides guidance to health services in the costing and reporting of patient level cost data to the VCDC (http://www.health.vic.gov.au/hdss/vcdc/index.htm).

Exceptions

1. Excluding AHPCS standards relating to:
   (a) **Capital and Depreciation** (DEP 1.002, 1A.002,1B.002,1C.002 1D.002 and 1E.002), Victoria does not include non-cash expenditures such as depreciation as it does not impact upon operational costs and comparisons should not be driven by an asset's estimated life.
   (b) **Teaching and Training costs** (SCP 2A.003), where the sole purpose of the activity is teaching and training Victoria includes these costs as an overhead. Where teaching and training cannot be separated from routine work undertaken, it has been included as a salary and wages expense.
   (c) **Research costs** (SCP 2B.002), these activities and costs are excluded from Victoria's submission pending further developments in the Activity Based Funding work stream.
2. Transitioning to AHPCS standards for:

VICTORIA State Government | Health and Human Services

(d) **Allocation of Medical costs for private and public patients** (Cost 3A.002), Victorian health services will allocate medical expenses only relating to private patients where these can be distinguished between medical expenses relating to public. Otherwise all medical expenses are allocated to patients regardless of funding source.

(i) Victoria's department is currently working with health services to determine their capability to comply with this standard as outlined in V3.1. However Victoria will be reliant on further development of the V4 to the AHPCS to provide clarification and specific guidance on this standards application.

Activity

There were no significant changes to admission policies from Round 20 to 21. For further details please refer to the Victorian Hospital Admission Policy 2016-17 at https://www2.health.vic.gov.au/about/publications/policiesandguidelines/victorian-hospital-admission-policy-2015-16.

The patient demographics that are linked to the cost data collection are collected based on the specifications outlined in the following manuals:

- Victorian Admitted Episodes Dataset (VAED) manual 26th Edition (Admitted)
- Victorian Emergency Minimum Dataset (VEMD) manual 21th Edition (Emergency)

These patient demographics are then converted to the relevant national minimum dataset or IHPA data set specification based on the Victorian department's interpretation of the specifications.

For further details please refer to Victoria's health data standards and systems link at https://www2.health.vic.gov.au/hospitals-and-health-services/data-reporting/health-data-standards-systems

Victorian admitted specialist clinic patient demographics have been submitted nationally at patient level to the non-admitted patient activity dataset. The cost data will be based on the specifications outlined in the Victorian Integrated Non-Admitted Health Minimum Dataset (VINAH) manual.

There has been differing details reported impacting on the ability to link between the activity and cost data submitted. To enable IHPA to identify Tier 2 classifications and funding source for use in the National non-admitted pricing model, a supplementary file is submitted containing the details relevant to enable this link.

Scope

Reporting hospitals

The number of hospitals that report to the NHCDC can vary from year to year due to the timing of the submission date required by the IHPA. This has resulted in the following exclusions/inclusions between 2015-16 and 2016-17.

3. The following campuses for Peninsula Health are reported in 2016-17:

- 210901250 – 3THN - Rosebud Hospital
- 210902220 – 3FPH - Frankston Hospital
- 210904083 – 3GHR - Golf Links Road Rehabilitation and PCU
- 210904084 – 3MOR - The Mornington Centre

4. New campuses reporting in 2016-17:

- 210103080 – 3COR – South West Healthcare [Camperdown]
- 210203180 – 3WID – Dimboola District Hospital

Ancillary costs for private patients

The majority of Victorian Health Services include ancillary costs for private patients in their NHCDC submission with the exception of:

- Northern Health (Private patient pathology and radiology costs are excluded from the VCDC)
- Barwon Health (Private patient pathology costs are excluded from the VCDC)
- Ballarat Health (Private patient pathology and radiology costs are excluded from the VCDC)
- Peninsula Health (Private patient pathology costs are excluded from the VCDC)
- Western Health (Private patient pathology costs are excluded from the VCDC)
- Alfred Health Caulfield Campus (Private patient radiology costs are excluded from the VCDC)

Reporting of ICU and Mechanical ventilation hours

ICU Hours – Where ICU and CCU coexist, Victoria is unable to distinguish the time spent in a CCU or ICU.

PICU Hours and NICU Hours – PICUs are located at Monash Medical Centre and the Royal Children's Hospital only. NICUs located within four Victorian hospitals - Mercy Hospital for Women, Monash Medical Centre, Royal Women's Hospital and the Royal Children's Hospital.

However, where a patient spends time in a PICU and NICU, Victoria is unable to distinguish PICU from NICU hours.

PsyICU Hours – Victoria does not collect the amount of time measured in hours that a patient spends in a state of psychosis while in an ICU.

Mechanical ventilation hours – Victoria only collects the total duration of Mechanical Ventilation (MV) in hours provided in an approved ICU or NICU only. MV hours provided in a non-approved ICU are not collected.

Mental Health Legal Status – Only patients in Approved Mental Health Service or Psychogeriatric Program in public hospitals whose care is funded by Mental Health Services can report the status. Patients in all other care types, report the 'not applicable' code.

Reconciliation

The reconciliation report is designed to assist the department to understand the completeness of a health service's final submission including the source data by which the VCDC is created and its reconciliation. The data entered into this report is to represent the data used for the final VCDC and NHCDC submissions for FY2016-17.

In accordance with local and national financial reviews it is recommended that a director's attestation will need to be signed when submitting the reconciliation report. This will acknowledge the validity and completeness of the data to be submitted and used through the local and national cost collections.

Assurance

Assurance is given that to the best of my knowledge the data provided are suitable to be used for the primary purpose of the NHCDC, which includes development of the National Efficient Price and National Efficient Cost.

Signed:

Director General/Secretary/Head of Ministry/ Department

To receive this publication in an accessible format phone 9096 2404 if required, or email VCDCassist@dhhs.vic.gov.au.

Western Australia

Western Australia Round 21 Data Quality Statement

Participation and coverage

Western Australia (WA) contributed patient level data for thirty-three public hospital sites to the Round 21 National Hospital Cost Data Collection (NHCDC). All hospitals that are considered in scope for Activity Based Funding are currently part of the NHCDC submission for WA.

The Round 21 submission included one less site than the previous round due to the closure of Swan District Hospital in 2015/16.

Data Quality

Round 21 was the fifth year Power Performance Management 2 Software (PPM2) was used in the preparation of the costing submissions for all sites with instances of the patient costing system being managed at each of the four Health Services Providers (HSP). Work has been ongoing in terms of data quality and standardisation and all NHCDC submissions were completed in compliance with version 3.1 of the Australian Hospital Patient Costing Standards (AHPCS). Data submissions were extensively reviewed by the HSP, prior to official sign off and submission to the Department of Health (the Department)

On submission to the Department, the HSP submissions were tested and reconciled with HSP corrections and resubmissions being made if required. The Department then made adjustments to the data including incorporating Work in Progress (WIP) from previous rounds, before the data was consolidated and formatted in accordance with IHPA specifications. Data matching and validation also occurred to ensure the costed data sets aligned with the activity data submitted to IHPA for other patient collections.

Products costed

WA has provided its most extensive NHCDC submission with patient level coverage of Inpatient, Emergency and Non Admitted patients in accordance with the IHPA data specifications. WA's Outpatient activity was predominantly costed at a patient level however work is continuing on disaggregating and costing the small amount of activity that remains non patient costed and is excluded from the submission.

All WA hospital submissions were reconciled to total accrued operating expenditure as per the audited financial statements with a reconciliation statement supplied for each site.

For Round 21, Teaching, Training and Research costs were identified by site and allocated at a patient level for the purpose of local management use. In accordance with the relevant AHPCS, these costs were removed from the costing submission but identified in the reconciliation process.

For Round 21, a change in practice has resulted in an increased amount of Health Support Services (HSS) costs, including payroll, human resources and information technology, being charged to the HSP.

Overhead costs for PathWest, the pathology provider for all WA public hospitals, have been applied to the NHCDC Costing process for the first time in Round 21, resulting in a significant cost increase for all participating hospitals.

Blood product costs are managed by the Department, and not included in the Round 21 submission.

Costs of ancillary services including pathology, imaging and pharmacy, that are not able to be linked to patient episodes have been costed, but excluded from the submissions.

Only costs for those patients that were discharged in the reference year (2016/17) were included in the Round 21 submission. These included Work in Progress costs incurred in previous years. End of year work in progress, that is, patients admitted during the reference year but not discharged during that year are fully costed and will form part of future submissions. No escalation has been applied to the prior year work in progress.

Aside from the inclusion of additional HSS and Pathology overhead cost allocations at all sites, there were no significant changes to admission or costing policies between rounds 20 and 21.

Round 21 National Hospital Cost Data Collection Sign-Off Statement

All data provided by Western Australia to Round 21 (2016 -17) of the National Hospital Cost Data Collection (NHCDC) has been prepared in adherence with the Australian Hospital Patient Costing Standards (AHPCS) Version 3.1.

Data provided to this submission has been reviewed for adherence to the AHPCS Version 3.1 and is complete and free of material errors.

Adherence to the AHPCS Version 3.1 is qualified by the following items:

1. Blood product costs were not included in the costing submission as required by SCP 2.003 – Product Costs in Scope.

Assurance is given that to the best of my knowledge the data provided are suitable to be used for the primary purpose of the NHCDC, which includes development of the National Efficient Price and National Efficient Cost

Signed:

Dr D J Russell-Weisz
DIRECTOR GENERAL

07 August 2018

Independent Hospital Pricing Authority

Level 6, 1 Oxford Street
Sydney NSW 2000

Phone 02 8215 1100
Email enquiries.ihpa@ihpa.gov.au
Twitter @IHPAnews

www.ihpa.gov.au

IHPA