National Hospital Cost Data Collection (NHCDC) Public Sector Review Report 2022-23

March 2025

IHACPA

NHCDC Public Sector 2022-23 Review Report — March 2025

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1 Executive Summary

1.1 Introduction

The National Hospital Cost Data Collection (NHCDC) is the annual collection of public hospital cost data and is used to inform the development of the national efficient price (NEP). In 2022-23, NHCDC data was submitted from 739 hospitals (including health entities) across all jurisdictions, except the Australian Capital Territory (ACT).

To ensure that the quality of 2022-23 NHCDC data is robust and fit-for-purpose, the Independent Health and Aged Care Pricing Authority (IHACPA) has undertaken a review of jurisdictions' submissions, and their data quality statements (DQS). The objectives of this review are to:

- understand jurisdictions' treatment of cost and activity and identify any changes from their previous submission.
- confirm jurisdictions have included appropriate costs.
- ensure jurisdictions have correctly applied the Australian Hospital Patient Costing Standards (AHPCS) Version 4.2.
- ensure jurisdictions' general ledgers (GL) reconcile with submitted cost data.

This report summarises IHACPA's review of submissions to the NHCDC Public Sector and the corresponding DQS. The DQS includes a confirmation of how a jurisdiction has applied the AHPCS and a high-level reconciliation of the cost ledger to the hospital GL.

1.1.1 NHCDC Public Sector

The NHCDC Public Sector is an annual collection of Australian public hospital cost data that is the primary source of information about the cost of treating patients in Australian public hospitals. The NHCDC is a unique collection and valuable evidence base that links patient level activity with the cost incurred by hospitals for this activity. IHACPA relies on the NHCDC to calculate the NEP used for the funding of public hospital services.

IHACPA received NHCDC submissions from all jurisdictions, except for the ACT. ACT advised IHACPA they would not be making a submission to the NHCDC in 2022-23 due to the implementation of a digital health record (DHR) and its impact on obtaining the data required to accurately cost.

The NHCDC 2022-23 includes all in-scope patient level activity and cost for publicly funded services, provided in public or private hospitals. In 2022-23, IHACPA conducted validation and quality assurance processes at all stages of the data collection process to ensure that the data submitted to IHACPA is in line with the data request specifications and reconciles with jurisdictions' expectations. IHACPA worked with jurisdictions to resolve issues or discrepancies identified in the data. IHACPA received confirmation from jurisdictions that their data was correct and final prior to producing a national dataset.

1.1.2 Australian Hospital Patient Costing Standards (AHPCS)

The current version of the AHPCS is version 4.2 and provides direction for costing practitioners to ensure all in-scope costs are included and appropriately allocated to hospital activity to reflect resource utilisation in a complete and consistent manner.

The AHPCS Version 4.2 is comprised of:

- Part 1: Standards which provides the overarching principles of the patient costing process.
- Part 2: Business Rules which provides practical guidance on translating the Standards into action.
- Part 3: Costing Guidelines which provides step-by-step guidance on how to cost various services.

The Standards are grouped by the 6 stages of the costing process.

- Stage 1: Identify Relevant Expenses
- Stage 2: Create the Cost Ledger
- Stage 3: Create Final Cost Centres
- Stage 4: Identify Products
- Stage 5: Assign Expenses to Products
- Stage 6: Review and Reconcile

Jurisdictions are asked to report any deviations from the AHPCS in their DQS. Where jurisdictions did not raise any issues, IHACPA reported jurisdictions as fully compliant under the relevant stage of the costing process.

1.1.3 Data Quality Statements (DQS)

A DQS is completed by each jurisdiction following their annual NHCDC submission. Jurisdictions' DQS must include information on their application of the AHPCS, consistency of costing practices, changes in reporting or governance impacting costing methodologies and their quality assurance processes. Each jurisdiction is required to provide a summary that compares their 2021-22 and 2022-23 NHCDC submissions, providing any reasons for significant changes in process or coverage. This includes information on and reasons for any exclusions of costs relating to specific hospitals, cost buckets or activity streams. Any changes reported by a jurisdiction in their DQS have been included in this report.

IHACPA has received a DQS from all jurisdictions.

1.1.4 General ledger (GL) reconciliation

All jurisdictions were required to provide IHACPA with a table summarising their GL reconciliation for each local health network (LHN) or district (LHD) submitted. Jurisdictions submitted this table to IHACPA either within their DQS or as a separate file.

Jurisdictions were requested to include:

- The total value of their GL
- Any adjustments to the GL, inclusions and exclusions

- Post allocation adjustments, work in progress (WIP) inclusions and exclusions
- Adjustments made at the jurisdictional level.

IHACPA's reconciliation process, involves comparing the figures reported by jurisdictions in their DQS with the data validation and preparation tables produced by IHACPA, through to the final NHCDC dataset.

1.2 Summary findings

IHACPA reviewed all the DQS and identified common themes and areas for improvement across the jurisdictions, including mental health, patient transport, blood products and pathology, and contracted care (see Section 2.1).

Jurisdictions are asked to report any deviation from the AHPCS in their DQS. Unless jurisdictions highlighted any deviations from the AHPCS, IHACPA assumes the jurisdiction fully adheres to the Standards. Table 1 provides a summary of jurisdictions self-reported application of the AHPCS.

Table 1: Summary of jurisdictions' application of the AHPCS

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT
Stage 1: Identify Relevant Expenses								
1.1 General	✓	●	✓	✓	✓	✓	✓	
1.2 Third-Party Expenses	●	✓	✓	●	✓	●	●	
1.3 Offsets and Recoveries	✓	✓	✓	✓	✓	✓	✓	
Stage 2: Create the Cost Ledger								
2.1 Cost Ledger Framework	✓	✓	✓	✓	✓	✓	✓	
2.2 Matching Cost Objects and Expenses	✓	✓	✓	✓	✓	✓	✓	
Stage 3: Create Final Cost Centres								
3.1 Allocation of Expenses in Production Cost Centres	✓	✓	✓	✓	✓	✓	✓	
3.2 Allocation of Expenses in Overhead Cost Centres	✓	✓	✓	✓	✓	✓	✓	
Stage 4: Identify Products								
4.1 Product Types	✓	✓	✓	✓	✓	✓	✓	
4.2 Information Requirements	✓	✓	✓	✓	●	✓	●	
Stage 5: Assign Expenses to Products								
5.1 Final Products	✓	✓	✓	✓	✓	✓	✓	
5.2 Intermediate Products	✓	✓	✓	✓	✓	✓	✓	
5.3 Work in Progress	✓	✓	✓	✓	✓	✓	✓	
Stage 6: Review and Reconcile								
6.1 Data Quality Framework	✓	✓	✓	✓	✓	●	✓	
6.2 Reconciliation to Source Data	✓	✓	✓	✓	✓	✓	✓	

✓ Full compliance ● Partial compliance ✗ Non-compliant

The NHCDC Public Sector 2022-23 Review Report found that the DQS' provided by the jurisdictions are sound and demonstrate adherence to the AHPCS. NHCDC data provided by jurisdictions is deemed to be fit-for-purpose to inform the NEP.

2 NHCDC Data Quality Statements 2022-23

2.1 Common themes

IHACPA reviewed all the Data Quality Statements (DQS) and identified common areas of interest across the jurisdictions. Jurisdictions have adhered to the Australian Hospital Patient Costing Standards (AHPCS) across submissions, with some deviations that have a minimal impact on the NHCDC dataset. Any other areas raised by individual jurisdictions are explored in the respective jurisdictional summaries.

2.1.1 Mental health

Several jurisdictions provided information on the current state of costing mental health activity at the phase level in their DQS, with Western Australia (WA) and Tasmania reporting continuing improvements in processes.

WA reported that 2022-23 is the first year in which community mental health (CMH) episode level costs were included in their NHCDC submission. WA has continued costing mental health at the phase level but as their processes have not yet fully matured, these were not submitted to the NHCDC 2022-23. However, WA aims to submit at the phase level for the NHCDC 2023-24.

Tasmania reported their costing of CMH continues to evolve each year, with improved cost separations that align with service delivery and the activity data.

The Northern Territory (NT) has not submitted phase level cost data for admitted mental health (AMH) or CMH and reported that phase level activity data was not available for 2022-23.

Table 2 shows a summary of the mental health cost data IHACPA received from jurisdictions. Phase level reporting is the preferred method, however episode level reporting can be used in its absence.

Table 2: Summary of mental health cost data submitted by jurisdictions

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT
AMH – *episodes*		✓	✓	✓	✓	✓	✓	
AMH – *phases*	✓	✓	✓	✓				
CMH – *episodes*		✓	✓		✓	✓		
CMH – *phases*	✓	✓	✓			✓		

2.1.2 Patient transport

Jurisdictions highlighted different aspects of patient transport as areas requiring improvement, in avenues for reporting actual resource allocation where current classifications do not allow.

Queensland reported that patient transport costs are significant and all in-scope costs were included in the NHCDC.

New South Wales (NSW) reported limitations in capturing costs associate with clinical consultations, assessment, stabilisation, and handover for newborn and paediatric emergency transport service (NETS).

Patient transport is an ongoing area of improvement for Tasmania. The costs associated with non-emergency patient transport provided by Tasmanian Ambulance are not captured in the NHCDC submission due to the absence of patient data until a patient is admitted to hospital. Tasmania has identified that further work and investigation is required to better understand ensure these costs are included and allocated.

Victoria identified issues using the new PatTran-Other line item accurately across the state, using the PatTran and PatTran-Other line item interchangeably in the general ledger, however they were not used interchangeably within the NHCDC submission.

South Australia (SA) advised that the costs associated with interhospital transfers for aeromedical transport was not included in the submission due to data quality issues with flight discharge information and that this continues to be an area for improvement.

2.1.3 Blood products and pathology

The inclusion and allocation of costs relating to blood products and pathology continue to be an area of improvement for several of the jurisdictions, including SA, WA, and Tasmania.

Tasmania reported issues with availability of blood and pathology data at one of their hospital's pathology units due to system changes. The service weights by diagnosis related group (DRG) from another hospital with blood and pathology data were applied to best reflect resource utilisation.

National Blood Allocation and Health Service Victoria costs are not included in the general ledger (GL). Blood product costs have been included as a line item in the submission as has the separation of Pharmaceutical Benefits Scheme (PBS) and Non-Pharmaceutical Benefits Scheme (NPBS) drugs.

2.1.4 Contracted care

Queensland and WA reported that the costing of contracted care services is an ongoing area for improvement, with WA advising they undertook significant work to improve contracted care costs and activity for the NHCDC 2022-23.

In NSW, the cost of contracted care or outsourced services were reported using the goods and services line item, reflecting the state chart of account code in the GL. NSW notes that the disaggregation of these costs into separate line items is not feasible due to the volume of contracted care.

2.2 Quality assurance processes

All jurisdictions provided a description of their processes for performing quality assurance checks with some variation in the frequency of these checks. Most jurisdictions reported having a system

that enabled internal reviews and corrections to occur at the LHN (or equivalent) level before final checks are conducted at the jurisdictional level. Some jurisdictions reported on their quality assurances processes in greater detail than others. Jurisdictions did not report any significant change in the quality assurance processes for the 2022-23 NHCDC submission.

2.3 Reconciliation

The GL reconciliation process involves comparing figures sourced from jurisdictions' GL information with NHCDC submitted to IHACPA, including adjustments to the GL and the total cost ledger. Table 3 contains a summary of GL and cost ledger information at various stages both before and after submission to the NHCDC.

No material variances were identified between jurisdictional and IHACPA's records through this process. This confirms all appropriate costs included in the GL have been included in the NHCDC 2022-23 national dataset.

Table 1: General ledger reconciliation, $ million

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT
General ledger (GL)	$24,350	$23,781	$20,473	$5,108	$9,204	$2,590	$2,057	-
Adjustments to the GL – *Inclusions*	$1,799	$842	$303	$894	$841	$50	$39	-
Adjustments to the GL – *Exclusions*	-$5,953	-$7,030	-$4,293	-$572	-$2,457	-$634	-$724	-
Total Cost Ledger	**$20,196**	**$17,593**	**$16,483**	**$5,430**	**$7,588**	**$2,005**	**$1,372**	**-**
Total NHCDC Submission Received	**$20,196**	**$17,592**	**$16,483**	**$5,430**	**$7,588**	**$2,005**	**$1,372**	**-**
Unqualified Baby Adjustment	-	-	-$0.04	-	$0.05	-$0.002	-	-
NHCDC Dataset	$20,196	$17,592	$16,483	$5,430	$7,588	$2,005	$1,372	-
NHCDC Unlinked Cost	-	-$299	-$29	-$7	-$137	-$11	-$47	-
WIP (2 years) and Exclude Cost Bucket	-$15	-$37	-$84	-$19	- $25	-$15	-$59	-
Total In-Scope NHCDC Cost	$20,181	$17,256	$16,370	$5,404	$7,426	$1,979	$1,266	-

3 Jurisdiction Summary

3.1 New South Wales

3.1.1 Summary

New South Wales (NSW) submitted cost data from 153 hospitals (including health services) across 15 local health districts (LHDs), 2 Specialty Health Network (SHN) and statewide ambulatory mental health, with 15.0 million records and a cost of $20.2 billion in 2022-23.

NSW have not reported any changes to their governance and quality assurance processes in preparing their data for the NHCDC 2022-23. IHACPA's review of NSW's reported costing and governance processes for the NHCDC 2022-23 indicated a technical and robust approach to hospital costing was applied consistently across the submitted LHDs/SHNs.

Costing in NSW is undertaken by the LHDs/SHNs in a consistent manner with any changes to the methodology for activity recording or costing communicated to costing practitioners through the NSW Health's Costing Standards User Group. NSW advised IHACPA that following the conclusion of the National Partnership on COVID-19 Response (NPCR), on 31 December 2022, they updated their costing process for COVID-19 activity from 1 January 2023.

NSW has requested that IHACPA exclude Illawarra Shoalhaven LHD from the national efficient price (NEP) determinations.

3.1.2 Applying the Australian Hospital Patient Costing Standards (AHPCS)

NSW reported that its compliance with the AHPCS is unchanged from the NHCDC 2021-22. NSW's costing practitioners adhere to the NSW developed Costing Accounting Guidelines (CAG), which includes a standard list of accounts and a standardised costing methodology. The CAG complies with the AHPCS and is updated regularly to reflect any changes to costing practices within NSW.

Stage 1: Identify Relevant Expenses

NSW reported full compliance with the Standards in Stage 1, except for Standard 1.2 Third-Party Expenses. Expenses held centrally for private patient pathology, are not included in the cost ledger.

Stage 2: Create the Cost Ledger

NSW identified a change to Standard 2.1 Cost Ledger Framework, discontinuing the use of the COVID-19 cost centres in line with the retirement of the NPCR on 31 December 2022.

NSW reported there is variation in the level of service data available across LHDs/SHNs, however, the range and extent of service data is expanding which is helping to improve product and expense matching.

Stage 3: Create Final Cost Centres

Centralised services, such as pathology, patient transport, information technology, linen or food services, are cross-charged to LHDs and SHNs (and other NSW Health Entities where appropriate), each month using the relevant intra-health account code in the general ledger (GL). All costs (salaries and wages or goods and services) associated with the particular centralised service are reflected in the relevant intra-health account code in the GL for the LHD/SHN.

Within NSW, there are instances where Intensive Care Units (ICU) and High Dependency Units (HDU) occur in the same ward, with one cost centre, and bed type is used to differentiate between ICU and HDU days/hours. The final cost allocation reflects appropriate costs for ICU and HDU patients, however there may be instances where HDU patients may have cost reported within a critical care cost centre, even though they only had HDU hours. This reporting method for critical care services deviates from the Critical Care Costing Guideline.

Stage 4: Identify Products

Costing is undertaken by LHDs/SHNs, sourcing data from numerous local and stateside clinical and corporate systems, before submitting to NSW Health. This ensures products are correctly identified in line with Standard 4.1 Product Types and costs are correctly allocated in line with Standard 2.2 Matching Cost Objects and Expenses.

Stage 5: Assign Expenses to Products

NSW identified a deviation to Standard 5.1 Final Products, regarding contracted care. When costing patient care from the contracted establishment, expenses are reported using the goods and services line item reflecting the state chart of account code in the GL. NSW notes that the disaggregation of these costs into separate line items is not feasible due to the volume of contract care.

Costs associated with the Newborn and Paediatric Emergency Transport Service (NETS) reflect actual transport costs and exclude pre- or post-transport clinical consultation, assessment, stabilisation or handover related costs. The cost associated with NETS consultations which do not result in patient transport are not included.

Stage 6: Review and Reconcile

NSW have standardised tools, activity data extracts, and data quality checks that contribute to ensuring consistency in reporting, which are continuously refined through consultations with costing practitioners. NSW has reported they have a comprehensive data quality framework, including quality assurance processes throughout the costing process and preparation of a data set for submission to the NHCDC.

NSW completes internal quality assurance processes to ensure the NHCDC contains high-quality data. It has been identified that NSW conducted several annual checks and assessments prior to a formal sign off by the NSW Health Chief Executive to ensure a robust costing submission to IHACPA. This process remains unchanged from previous years.

To ensure all in-scope costs have been included in the NHCDC 2022-23, an extensive expense and activity reconciliation process is completed. NSW's GL reconciles with the cost ledger as well as the costs submitted to IHACPA.

3.2 Victoria

3.2.1 Summary

Victoria submitted cost data from 91 hospitals (including health services) across 38 local health networks (LHNs) with 9.9 million records and a cost of $17.6 billion in 2022-23. IHACPA consulted Victoria to confirm the Standards were correctly applied and reviewed any exceptions.

Findings of the review indicate that Victoria captured and allocated costs accurately across the state. Victoria Health uses the Victorian Activity Based Costing (VICABC) documentation to develop the Victorian Cost Data Collection (VCDC). These guidelines ensure expenses are captured accurately, including the contracted care costs based on financial arrangements between jurisdictions and LHNs.

Victoria has standardised guidance on the allocation of third-party costs to ensure costs are appropriately allocated to patients. However, there are variations in the application of this guidance across health entities. This process remains unchanged from Victoria's 2021-22 submission, as reported in their data quality statement (DQS) 2021-22.

3.2.2 Applying the AHPCS

Victoria reported that its compliance with the AHPCS is unchanged from the NHCDC 2021-22 and has reported full compliance with the AHPCS.

The VICABC includes data request specifications that details of the requirements of the files to be submitted including the structure, values, and validation rules. The documentation also includes a standardised process for mapping Victoria's cost centres to IHACPA's NHCDC final cost centres. The VCDC business rules provide guidance to local health networks (LHN) for reporting and costing to Victoria's collection, derived from the latest version of the AHPCS.

Stage 1: Identify Relevant Expenses

Victoria reported they adhered to the Standards in Stage 1, all GL expenses used in patient treatments have been allocated and reconciled. Victoria excludes expenses not used in providing treatment to patients, including specific purpose accounts not relating to the provision of treatment, capital, and depreciation expenses. Other costs excluded include out of scope programs not related to activity based funding (ABF), unlinked costs and research pending further developments in the Activity Based Funding work stream.

All medical expenses are allocated to patients regardless of funding source, except where medical expenses only relating to private patients can be distinguished between medical expenses relating to public.

National Blood Allocation and Health Service Victoria costs are not included in the GL. Blood product costs have been included as a line item in the submission as has the separation of Pharmaceutical Benefits Scheme (PBS) and Non-Pharmaceutical Benefits Scheme (PBS) drugs.

Stage 2: Create the Cost Ledger

Victoria reported they adhered to the Standards in Stage 2, create the cost ledger, with an exception to the PatTran and PatTran-Other line item. Victoria identified issues using the new line items accurately in 2022-23. There were some instances where costing practitioners across the state interchangeably used the PatTran and PatTran-Other line item, as they were unable to distinguish between them in the GL. However, they were not used interchangeably within the NHCDC submission.

Stage 3: Create Final Cost Centres

Victoria reported they adhered to the Standards in Stage 3, create final cost centres. The use of nationally derived relative value units (RVUs) used for cost allocation is avoided to remove any bias that would impact the integrity of the results. RVUs are updated by the LHNs regularly and in accordance with the AHPCS. It is the responsibility of the health services' costing team and/or costing consultants, in conjunction with their stakeholders, to update the RVUs as deemed appropriate.

Stage 4: Identify Products

Victoria reported they adhered to the Standards in Stage 4, identify products into patient and non-patient products. Where the sole purpose of an activity is teaching, and training Victoria includes these costs as an overhead. Where teaching and training cannot be separated from routine work undertaken, it is included as a salary and wages expense. This remains unchanged from Victoria's 2021-22 submission, as reported in their DQS 2021-22.

Stage 5: Assign Expenses to Products

Victoria reported they adhered to the Standards in Stage 5, assign expenses to products. It was noted that posthumous organ donation expenses have been allocated to the associated products but may not align with the relevant AHPCS costing standards and guidelines. This remains unchanged from Victoria's 2021-22 submission, as reported in their DQS 2021-22.

Stage 6: Review and Reconcile

Victoria reported they adhered to the Standards in Stage 6, review and reconcile. The VICABC contains a comprehensive and robust data quality framework, assurance, and a 5-stage process to guide the costing practitioners to identify costing information and submission requirements. Each health entity provides a data quality statement to the Victorian Department of Health, confirming their data preparation, how the VICABC guidance has been applied and that the submission complies with the AHPCS. To ensure all in-scope cost have been included in the NHCDC 2022-23, a reconciliation review was completed between Victoria's GL and the costs submitted to IHACPA. Victoria's GL reconciles with the cost ledger as well as the costs submitted to IHACPA. Victoria identified a minor reconciliation variance between the total submitted to the NHCDC submission and the NHCDC Quality Assurance Reports, however confirmed the variance is not material.

3.3 Queensland

3.3.1 Summary

Queensland submitted cost data from 360 hospitals (including health services) across 16 Hospital and Health Services (HHS) with 13.1 million records and a cost of $16.48 billion in 2022-23.

It should be noted there was a small variation in the number of activity records reported by Queensland compared to the NHCDC records. This is primarily due to ambulatory service contacts being rolled into a single episode in the NHCDC, while Queensland counts these as separate events.

IHACPA's review of Queensland's costing processes, as detailed in their DQS 2022-23, found that the costing frequency remains unchanged from 2021-22 and HHS continue to use either CostPro or Power Performance Manager. HHSs complete costing from daily to annually, with the majority completing a monthly process. However, Queensland noted they have implemented changes aimed at building costing practitioner capability and updates to feeder systems to improve service level data.

In 2021-22, Queensland previously reported they identified that contracted services may not have been costed optimally but have outlined in their DQS 2022-23 their approach to costing with contracted care arrangements.

Queensland have standardised GLs in place to ensure ledgers flow across HHS' and all third-party costs are appropriately allocated with billings to relevant entities.

3.3.2 Applying the AHPCS

Queensland Health continues to use the Queensland Clinical Costing Guidelines (QCCG), a jurisdictional adaptation of the AHPCS, to consistently guide costing practitioners on the application of the AHPCS in a technical environment.

Queensland reported that its compliance with the AHPCS is unchanged from the NHCDC 2021-22 and has reported full compliance with the AHPCS.

Stage 1: Identify Relevant Expenses

Queensland Health operates a unified state-wide GL where each HHS maintains a subledger within the overarching main ledger. All costs related to the provision of public health services by Queensland Health are consolidated within the ledger. This remains unchanged from Queensland's 2021-22 submission.

Queensland noted that any mental health activity that does not meet the Mental Health National Best Endeavours Data Set submission requirements is not submitted, and the corresponding costs are therefore also excluded from their submission to the NHCDC. This remains unchanged from Queensland's process for the NHCDC 2021-22.

Stage 2: Create the Cost Ledger

Queensland Health did not identify any issues in Stage 2 of the AHPCS standards and were in full compliance. Queensland identified that expenditure attributed to business services and defined accounts that are considered out-of-scope for the NHCDC are mapped to direct departments and costed to a virtual patient. This is unchanged from 2021-22.

Stage 3: Create Final cost Centres

Queensland reported full compliance with Stage 3's Standards but noted that contracted care activity is incorporated in the jurisdictional corporate HOMER Queensland Interface Data feed. Invoiced amounts are allocated into facility specific Costing Departments with RVUs utilised to apportion the charges across specific products. Where these changes were not individually itemised, they were submitted under the Goods and Services Line Item and applied to an appropriate Final Cost Centre.

Stage 4: Identify Products

Business rule 4.2C Feeder Data and Matching, aims to ensure that costed products are derived from expenses and activity that have been matched using feeder data from local activity information systems and to ensure that intermediate products described in feeder data are matched to the appropriate patient activity and final product. Queensland identified a significant improvement to the feeder systems was the inclusion of enterprise patients, admissions, discharges, and transfers data to feed nursing home and multi-purpose health service activity data into the costing system.

Queensland Health did not identify any issues in Stage 4 of the AHPCS standards and were in full compliance.

Stage 5: Assign Expenses to Products

Queensland reported full compliance with the Standards in Stage 5, all expenses in final cost centres will be matched to final cost objects. However, they have noted that various factors continue to influence their submissions to the NHCDC, including costs related to unlinked activity, virtual patients, and patient travel.

Unlinked activity such as pathology, imaging and pharmacy records that are not able to be matched or linked to an episode through data matching are currently out of scope for the NHCDC. All cost assorted with a virtual patient with no activity is excluded from the NHCDC. Queensland reported that patient transport costs are significant, but only 35% of these costs were included in the NHCDC. When there is an absence of patient level data Queensland allocates the cost to virtual patients and excludes from the NHCDC submission.

Stage 6: Review and Reconcile

Queensland reported full compliance with the Standards in Stage 6. Queensland implements quality assurance checks and processes at the HHS and Department level, before submission to ensure the NHCDC contains high-quality data that can be used to develop the NEP. A financial reconciliation process undertaken at the HHS level and Departmental level before submission to IHACPA. It has been identified that Queensland conducted several annual checks and assessments

prior to a formal sign off by the Deputy Director General to ensure a robust costing submission to IHACPA. This process remains unchanged from previous years.

To ensure all in-scope cost have been included in the NHCDC 2022-23, a reconciliation review was completed between Queensland's GL and the costs submitted to IHACPA. Queensland's GL reconciles with the cost ledger as well as the costs submitted to IHACPA.

3.4 South Australia

3.4.1 Summary

South Australia (SA) submitted cost data from 25 hospitals (including health services) across 11 LHNs with 2.9 million records and a cost of $5.2 billion in 2022-23.

The review of SA's costing and governance processes has indicated that costs are assigned appropriately. These costs are robustly allocated to patients with quality assurance checks that ensure consistency and accuracy. This process remains unchanged from SA's 2021-22 submission, as reported in their DQS 2021-22.

It has been identified that the major cause of overall activity and cost variance to the dataset for 2022-23 is the exclusion of COVID-19 vaccinations.

SA reported their processes and methodology have been consistent with prior NHCDC submissions. While development of local costing standards and guidelines are in progress, there is currently no standardised approach to costing practices across LHNs for the GL.

3.4.2 Applying the AHPCS

SA reported that its compliance with the AHPCS is unchanged from the NHCDC 2021-22 and has reported full compliance with the AHPCS.

Stage 1: Identify Relevant Expenses

SA reported full compliance with the Standards in Stage 1 of the costing process. Data quality for health entities is updated through centralised patient costing systems and is checked to ensure high standards of the cost data are maintained.

It should be noted, interhospital transfers for aeromedical transport have not been included in the 2022-23 costing data and continues to be an area for improvement.

Stage 2: Create the Cost Ledger

SA reported full compliance to Stage 2, create the cost ledger, LHNs use the same guidelines for costing patient level data, while LHNs may choose different cost drivers in particular instances, the methodology is consistent.

Stage 3: Create Final Cost Centres

SA reported full compliance to Stage 3, create final cost centres. The process of matching final and intermediate products is well-established and quality assurance checks are consistently performed to correct any discrepancies in the data. This remains unchanged from SA's NHCDC 2021-22 submission.

Stage 4: Identify products

SA reported full compliance with the Standards in Stage 4, identify products. LHNs have standardised quality assurance processes, covering aspects such as activity and cost data linking and negative costs.

Stage 5: Assign Expenses to Products

SA reported full compliance with the Standards in Stage 5 of the costing process, however, has identified they do not cost private patient pathology at patient level as data matching is not accurate enough to provide adequate costing allocations. This remains unchanged from SA's 2021-22 submission.

Stage 6: Review and Reconcile

LHNs follow standardised guidelines to cost patient level data. The cost data is then submitted to SA's central Patient Costing Team in the Department of Health and Wellbeing (DHW) who also apply a standardised methodology to create the NHCDC submission. SA maintains a centralised costing function that runs a review, reconciliation, and assurance process in consultation with submitting LHNs. The cost reconciliation process is undertaken across all LHNs to ensure that all expenses and allocation methods are correctly undertaken.

SA completes internal quality assurance processes to ensure the NHCDC contains high-quality data that can be used to develop the NEP. SA reports they conduct several annual checks and assessments prior to a formal sign off by the Chief Executive Officer to ensure a robust costing submission to IHACPA.

To ensure all in-scope costs have been included in the NHCDC 2022-23, a reconciliation review was completed between SA's LHN GL, and the costs submitted to IHACPA. SA's GL reconciles with the cost ledger as well as the costs submitted to IHACPA.

3.5 Western Australia

3.5.1 Summary

Western Australia (WA) submitted cost data from 36 hospitals (including health services) across 5 health service providers (HSP) with 4.68 million records and a cost of $7.59 billion in 2022-23. WA's 2022-23 submission included community mental health (CMH) costs for the first time from an additional 23 sites.

The review of WA's costing and governance processes demonstrated that there are rigorous costing processes in place. This process remains unchanged from WA's 2021-22 submission, as reported in their DQS 2021-22.

3.5.2 Applying the AHPCS

HSPs use the Western Australia Costing Guidelines which provide localised guidance to support practitioners in applying and complying with the AHPCS. WA has reported full compliance with the AHPCS, except for standard 4.2.

Stage 1: Identify Relevant Expenses

WA reported full compliance with the Standards in Stage 1, except the costing of ancillary services such as pharmacy, pathology and imaging that were not linked to activity, have been excluded. Blood products have also been excluded in WA's submission and they are looking to include blood products in future submissions.

Significant work has been undertaken around contracted care services in WA, however, it has been identified that further work is required, and WA reported their intention to include contracted care activity and costs in future submissions to the NHCDC.

All cost identified for exclusion in their NHCDC submission for 2022-23 remains unchanged from WA's 2021-22 submission, as reported in their DQS 2021-22.

WA reported that WA's costing guidelines relating to teaching and training does not comply with the Standards, therefore being excluded from the submission.

Stage 2: Create the Cost Ledger

WA reported full compliance with the Standards in Stage 2, create the cost ledger. Similar to 2021-22, WA Health has continued to focus on standardising costing practices across HSP, but variation may occur due to specific HSP requirements. HSPs are responsible and accountable for the delivery of safe, high-quality, efficient and economical health services to their local areas and communities.

Stage 3: Create Final Cost Centres

WA reported full compliance with the Standards in Stage 3, create final cost centres. WA has implemented standardised costing practices wherever feasible across HSP, but variation may occur due to specific HSP requirements.

Stage 4: Identify Products

WA reported partial compliance with Standard 4.2 Information Requirements, as mental health costs were not submitted at the phase level due to data limitations, this remains unchanged from WA's 2021-22 submission, as reported in their DQS 2021-22. WA intends to submit at the phase level in future submissions. This should be noted that it was the first year that WA included CMH costs in their submission.

Stage 5: Assign Expenses to Products

WA reported full compliance to the Standards in Stage 5. WA Health costing is undertaken in a consistent manner through WA Health and is all conducted using a single instance of the Power Performance Management version 2 patient costing system.

Stage 6: Review and Reconcile

WA reported full compliance to the Standards in Stage 6. Quality assurance and reconciliation processes are undertaken at the individual HSP level as well as at the jurisdictional level. Within the patient costing system WA utilise standardised systematic checks for validation at the HSP level.

WA reports that the HSPs undertake rigorous quality assurance processes, utilising a set of quality assurance tests developed by WA Health prior to submitting their costing data to the Department. Submissions are reviewed by the Department, and unexpected results are resolved prior to submission to the NHCDC.

WA completes internal quality assurance processes to ensure the NHCDC contains high-quality data that can be used to develop the NEP. It has been identified that WA conducts several annual checks and assessments prior to a formal sign off by the Director General to ensure a robust costing submission to IHACPA.

To ensure all in-scope cost have been included in the NHCDC 2022-23, a reconciliation review was completed between WA's GL and the costs submitted to IHACPA. WA's GL reconciles with the cost ledger as well as the costs submitted to IHACPA.

3.6 Tasmania

3.6.1 Summary

Tasmania submitted cost data from 24 hospitals (including health services) across one LHN with 1.12 million records and a cost of $2.74 billion in 2022-23.

The review of Tasmania's costing and governance processes as detailed in their DQS 2022-23, found that the costing frequency and systems remains unchanged from Tasmania's 2021-22 submission, as reported in their DQS 2021-22.

Episodes submitted as part of the NHCDC decreased by 15% from previous year. The decrease is due to a reduction in outpatient appointments including COVID-19 vaccinations and COVID-19 diagnosis appointment.

3.6.2 Applying the AHPCS

Tasmanian Department of Health undertakes the costing within Tasmania this results in costing being consistent across the jurisdiction. Tasmania reported that its compliance with the AHPCS is unchanged from the NHCDC 2021-22 and has reported partial compliance with the following stages from the AHPCS.

Stage 1: Identify Relevant Expenses

Tasmania reported full compliance with the Standards in Stage 1 of the costing process, except for Standard 1.2, reporting partial compliance. There are instances where third-party expenses were not clearly identified by the LHNs to the Tasmanian Department of Health's costing team. This remains unchanged from Tasmania's 2021-22 submission, as reported in their DQS 2021-22.

Tasmania has reported that all contracted care services are included in the cost calculation to ensure accurate and comprehensive costing, however, there remains ongoing challenges due to the absence of patient level data, costs are distributed based on the contracted value, however there is a possibility of costs not reconciling due to the financial year boundary. This remains unchanged from Tasmania's 2021-22 submission, as reported in their DQS 2021-22.

Patient transport is an ongoing area of an improvement for Tasmania. The costs associated with non-emergency patient transport provided by Tasmanian Ambulance are not captured in the NHCDC submission due to the absence of patient data until a patient is admitted to hospital. Tasmania has identified that further work and investigation is required to better understand ensure these costs are included and allocated.

Due to the change in cost bucket name from 'patient travel' to 'patient transport' in the AHPCS, Tasmania was required to undertake significant reworking of the transport costs across their GL to ensure they were identified and included.

Stage 2: Create the Cost Ledger

Tasmania reported full compliance with Stage 2, ensuring corporate cost centres that provide a service to the LHN are included and ensuring stakeholders are consulted to accurately allocate

overhead cost centres to production cost centres. The DQS outlines a consistent, standardised preference for matching.

Stage 3: Create Final Cost Centres

Tasmania reported full compliance with Stage 3, create final cost centres. Tasmania has reported standard expenditure data processes regardless of the NHCDC 2022-23 submission, this allows for easier reconciliation. Any expenditure that does not form part of the Tasmania's costing standards is allocated to a non-patient product and can be reported on internally. This process remains unchanged from Tasmania's 2021-22 submission.

Stage 4: Identify Products

Tasmania reported full compliance with Stage 4, identify products. However, there are limitations in the ability to identify teaching and training expenses due to data quality issues, resulting in the exclusion of these expenses. There are also data quality issues regarding the linking of subacute, mental health (phase and episode level) and palliative care cost data with activity data. This remains unchanged from Tasmania's 2021-22 submission, as reported in their DQS 2021-22.

Stage 5: Assign Expenses to Products

Tasmania reported full compliance with the Standards in Stage 5, however, it has been identified that blood and pathology data from one of the four major hospitals could not be sourced in 2022-23. Therefore, service weights based on the same AR-DRG at another hospital in Tasmania was used to ensure consistency of service allocation across the jurisdiction.

Tasmania has reported that all contracted care services are included in the cost calculation to ensure accurate and comprehensive costing, however, there remains ongoing challenges due to the absence of patient level data, costs are distributed based on the contracted value, however there is a possibility of costs not reconciling due to the financial year boundary. This remains unchanged from Tasmania's 2021-22 submission, as reported in their DQS 2021-22.

It has been identified that Tasmania's home delivered outpatient services have not been fully captured in the past, some of these services were costed in other areas such as pharmacy, allied health, or ICU. The Clinical Costing Unit have consulted internally and have aligned cost with the service delivery; however, further work is required to accurately reflect the cost of the service.

Stage 6: Review and Reconcile

Tasmania reported partial compliance to Standard 6.1 of the costing process, but full compliance with Standard 6.2. While a robust data quality framework is in place, there is minimal independent assurance of the cost data and no formal auditing. Tasmania has identified that further work in this area is required. This remains unchanged from Tasmania's 2021-22 submission, as reported in their DQS 2021-22.

The Tasmanian Department of Health completes patient costing annually. Due to the size of Tasmania's Clinical Costing Unit, the Department performs the functions of a LHN and jurisdiction, this results in costing being consistent across the jurisdiction with minor regional difference.

Tasmania completes internal quality assurance processes to ensure the NHCDC contains high-quality data that can be used to develop the NEP. The quality assurance process includes annual review of activity data with source feeder systems, trend analysis and a consultation and governance process overlaying the costing process. It is noted Tasmania maintains no local costing guidelines. It has been identified that Tasmania conducted several annual checks and assessments prior to a formal sign off by the Associate Secretary to ensure a robust costing submission to IHACPA.

To ensure all in-scope cost have been included in the NHCDC 2022-23, a reconciliation review was completed between Tasmania's GL and the costs submitted to IHACPA. Tasmania's GL reconciles with the cost ledger as well as the costs submitted to IHACPA.

3.7 Northern Territory

3.7.1 Summary

The Northern Territory (NT) submitted cost data from 6 hospitals (including health services) with 0.7 million records and a cost of $1.4 billion in 2022-23.

NT Department of Health are in the process of replacing the current clinical administration system across the jurisdiction which resulted in a delayed in the NHCDC submission this year. The implementation and build of the data warehouse is not complete and NT expect that there will be further delays for the NHCDC 2023-24.

Costing is completed by one team in NT Department of Health, completing costing at the hospital level applying a consistent methodology across all facilities that is compliant with the national costing standards and guidelines. This process remains the same as previous submissions.

3.7.2 Applying the AHPCS

NT reported that its compliance with the AHPCS is unchanged from the NHCDC 2021-22 and has reported partial compliance with the following stages from the AHPCS.

Stage 1: Identify Relevant Expenses

NT reported partial compliance to the Standards in Stage 1, identity relevant expenses, including medical costs reported in the GL, as expenses that sit outside financial accounts (third-party expenses) are not included. There is ongoing work to include these costs in future submissions. This remains unchanged from NT's 2021-22 submission, as reported in their DQS 2021-22.

Stage 2: Create the Cost Ledger

NT has a robust approach to Stage 2, create the cost ledger, ensuring the organisation's GL is transformed into a structured financial statement that enables product costing. Financial, clinical and activity information is extracted and loaded into the clinical costing software PPM. NT has an extensive engagement process that drives any changes to RVUs, linking of activity to areas, financial modelling, and reclassification of journals, to ensure a consistent, defensible approach is applied.

Stage 3: Create Final Cost Centres

NT reported compliance to the Standards in Stage 3, create final cost centre. It should be noted that NT does not implement costing guidelines for teaching and training, research, posthumous organ donation and mental health services, as these are not practicable to implement due to system and data limitations, noting that the principles in the Standards have been followed to allocate costs appropriately. This remains unchanged from NT's 2021-22 submission, as reported in their DQS 2021-22.

Stage 4: Assign Expenses

NT reported compliance to the Standards in Stage 4, except for 4.2 information requirements. NT undergo significant clinical and non-clinical stakeholder engagement to ensure the cost allocation using RVUs are calculated correctly. However, NT has reported that the Community Care Information System (CCIS) and Primary Care Information System (PCIS) data is excluded from costing process but is included in the submission files due to completeness of the data and data quality issues.

Standard 4.2 Information Requirements, outlines that the measurement of patient products shall align with specification in a related National Data collection for the reporting period. NT reported that mental health was submitted at the episode level due to the absence of phase level activity data available for 2022-23. This approach is compliant with the standard, as it aligns with the Mental Health National Best Endeavours Data Set (NBEDS).

Stage 5: Assign Expenses to Products

NT reported compliance to the Standards in Stage 5. NT ensures all expenses in final cost centres are be matched to final cost objects. NT Health ensures the completeness of activity and cost data through consultation with clinical and hospital stakeholders. Draft results are presented to reference groups and executives for approval and verification.

Stage 6: Review and Reconcile

NT reported compliance to the Standards in Stage 6. The validation and review processes currently in place are robust, utilising significant clinical and non-clinical stakeholder engagement throughout the costing process. NT regularly review granular level data with administrative teams and clinical team leaders to drive data quality improvements and costing process improvement. Several quality assurance tests are undertaken throughout the costing exercise with a focus on accuracy of costing methodology as well as completeness of activity and cost data utilised in the costing study.

Post engagement phase, the costing team use robust operational knowledge and clinical expertise provided by clinical leaders to progress through the clinical costing submission preparation along with the external consultants Power Health Solutions.

To ensure all in-scope cost have been included in the NHCDC 2022-23, a reconciliation review was completed between NT’s GL and the costs submitted to IHACPA. NT’s GL reconciles with the cost ledger as well as the costs submitted to IHACPA.

3.8 Australian Capital Territory

3.8.1 Summary

Australian Capital Territory (ACT) was unable to submit NHCDC data for 2022-23 due to internal circumstances. ACT's data has not been included in this review report.

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