NHCDC Round 26 Data Quality

Healthcare Purchasing and System Performance

National Hospital Cost Data Collection Round 26

Data Quality Statement - Queensland

1. Overview of Costing Environment

Queensland comprises sixteen Hospital and Health Services (HHS) plus the Mater Public Hospitals (Brisbane), each providing health services to the community in admitted and non-admitted settings (acute, sub-acute, non-acute, emergency, facility-based outpatient ambulatory clinics and community-based heath intervention and support services).

Each HHS and the Mater Public Hospitals (Brisbane) undertake costing of their services and provide cost data to the Department of Health (the Department) which is then submitted to the National Hospital Cost Data Collection (NHCDC). The 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 validation and quality assurance processes conducted during the NHCDC Data transformation process undertaken prior to the submission of data to the Independent Health and Aged Care Pricing Authority (IHACPA).

The following describes the costing processes and data quality issues that have been identified in the NHCDC Round 26 (2021-2022) data for Queensland.

1.1 Processing the cost data

Of the sixteen HHSs plus the Mater Public Hospitals (Brisbane), four of the HHSs are in rural and remote areas and the costing process is undertaken on behalf of these HHSs by the costing team within the Department. The remaining HHSs plus the Mater Public Hospitals (Brisbane) have their own costing teams that undertake the costing.

1.2 Costing frequency

The frequency HHSs do the costing ranges from daily to annually, with the majority running a monthly process. Once the costing process is finalised for the reference year, the data is extracted from each site costing database and submitted to the Department. The Department then undertakes the final data transformation processes, data quality, validation and reconciliation to the general ledger required prior to submission of the NHCDC.

1.3 Costing systems

For the period covered in this report (2021-2022), there were two costing systems in use across the Queensland: CostPro and Power Performance Manager.

1.4 Jurisdiction training and support

Each HHS is a statutory body governed by a Hospital and Health Board. Each has experienced costing practitioners with the necessary expertise to undertake the costing and to manage and train new costing practitioners, in costing methodology and the technical skills required to operate the costing system. There is a costing team with the Department that works closely with each HHS providing technical advice and expertise regarding clinical costing issues as required. The Department costing team makes clinical costing resource material available including costing guidelines, standards, and audit tools. A standing monthly meeting is held to discuss, as a State, any matter arising or lessons learnt as part of the processes for counting, costing and classification of hospital activity data.

1.5 Costing improvements

Queensland HHSs 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.

The most significant changes in feeder systems during 2021-2022 included:

- improved Oral Health costing of external activity by treating the course of treatment as a singular episode to address cross financial year activity; and
- improved alignment of Pharmacy returns to the date of issue

The jurisdiction has continued to create Activity Feeds to facilitate attaching patient level COVID-19 costs at an episode level to ensure an accurate reflection of resource utilisation. The continued use of jurisdictional audit tools has ensured that all activity has been captured and costed in line with individual HHS business strategies. HHS staff have also provided details of COVID-19 related expenditure and claims made under the National Partnership on COVID-19 Response (NPCR) for reconciliation with annual cost data submitted to the Department.

2. Submitted Cost Data

The jurisdiction received data from 774 facilities costed at patient or service level in the 2021-2022 fiscal year. This included 16,473,893 episodes at a total cost of $15.2 billion. The jurisdictional costing dataset includes many facilities that are out of scope of the NHCDC, and additional costs for out-of-scope services, or services for which patient centric data was not available. These cost activity records are excluded from the activity submission. These exclusions accounted for 8.19 per cent of costs ($1.2 billion) and 22.01 per cent of episodes (3,625,934). 349 facilities were submitted as part of the NHCDC in Round 26.

2.1 Submitted Facilities

There were 349 facilities reported in Round 26, a net decrease of 9 facilities from Round 25. Table 1 shows the changes between Rounds by funding type. The decrease in facilities is due to [a] no cost data for activity based funded (ABF) Contracted services in the reference year and [b] for Community mental health facilities which remain current who are providing support services for community mental health patients but for whom they did not carry the principal referral during the reference year.

Table 1: Count of facilities by funding type and facility type submitted

Funding Type	Round 25	Round 26	Variance	Percent Change
BLOCK	74	71	-3	-4.05%
NONABF	170	163	-7	-4.12%
ABF	77	81	4	5.19%
ABF CONTRACTED	37	34	-3	-8.11%
State Total	***358***	***349***	***-9***	***-2.51%***

Table 2 shows the change in episodes and cost submitted to the NHCDC between Rounds. It shows an increase of approximately 17.61 per cent in episodes and 5.2 per cent in costs across the submitted hospitals.

Table 2: Episodes and costs submitted to NHCDC

NHCDC Round	Episodes	Total Cost ($M)	EB Not recognised in R25 ($M)
25	10,924,500	$13,295	$201.3
26	12,847,959	$13,986	
Variance	***1,923,459***	***$691***	***-$201.3***
Percentage Change	***17.61%***	***5.2%***	***-100%***

$201.3 million in salaries and wages increases planned as part of Enterprise Bargaining (EB) Agreements deferred in 2020-2021 were included in the 2021-2022 financial year.

2.2 Costing movements between Rounds

COVID-19

COVID-19 continues to have an impact and non-patient costs associated with the NPCR State Public Health Payment have been excluded from 2021-2022 NHCDC submitted costs.

Table 3 shows the changes between Rounds by activity type.

Table 3: Average cost for COVID-19 episodes by activity type (all hospitals)

Activity Type	Round 25	Round 26	Variance	Percent Change
Acute admitted	$20,241	$7,000	-$13,241	-65.42%
Non-Admitted	$108	$107	-$1	-0.93%
Emergency Department	$382	$874	$492	128.8%

2.3 Factors influencing submission

Unlinked Activity

Pathology, imaging, and pharmacy records that are not able to be matched or linked to an Episode through the data matching process are currently out-of-scope for the NHCDC. These records occur for several reasons including: external referrals, legacy clinical systems with no date of order fields (but date of test is collected), planned pre-admission and pre- return presentation tests that occur prior to the episode matching window and multiple Patient Master Index (PMI) accounts.

Table 4: Unlinked Activity

LHN Code	HHS	Unlinked Records	Percent Unlinked Records
312	Cairns and Hinterland	195,539	15.23%
313	Townsville	107,965	8.61%
314	Mackay	39,474	5.09%
315	North West	29,617	8.69%
316	Central QLD	163,665	18.9%
317	Central West	11,829	12.83%
318	Wide Bay	68,061	8.23%
319	Sunshine Coast	196,166	13.19%
320	Metro North	377,883	12.12%
322	Metro South	173,936	5.14%
323	Gold Coast	45,065	2.63%
324	West Moreton	18,919	2.99%
325	Darling Downs	100,620	15.84%
326	South West	20,450	8.32%
327	Torres and Cape	54,763	13.03%
State Total		***1,603,952***	***8.87%***

Virtual Patients

There are many situations where expenditure is attributed to a virtual patient record, these include:

- Business services and defined accounts that are considered out of scope for the NHCDC, these are mapped to direct departments and are costed at service level using a virtual patient.
- Cost centres for Clinical Education and Research are mapped to direct departments and are costed at service level using virtual patients.
- COVID-19 response costs in cost centres, internal order numbers, accounts, or material groups attributable to the NPCR State Public Health Payment, that are out of scope for NHCDC, and for which there is no patient level feeder data, were mapped to direct departments and are costed at service level using virtual patients.

All virtual patient data is excluded from the NHCDC as no activity has been reported for these cost records.

It is recommended that future consideration is given to a supplementary NHCDC activity file for virtual activity is provided to enable full ledger reconciliation.

Patient Travel

Patient travel costs in Queensland are significant but are not fully reflected in the NHCDC submission. This is due to the absence of some patient level feeder data available for costing. Where patient level feeder data is not available, these services are costed against a virtual patient and are excluded from the NHCDC.

Table 5 shows a comparison between patient travel costs included and excluded in the NHCDC, by facility type.

Table 5: Linked and unlinked patient travel costs by facility type

Facility Type	Included ($M)	Excluded ($M)	Total ($M)
ABF	$29.92	$52.53	$82.45
ABF CONTRACTED	$0.10	$0.30	$0.39
BLOCK	$10.21	$17.02	$27.24
NONABF	$3.04	$12.35	$15.39
NONABF CONTRACTED	$0.00	$0.01	$0.01
State Total	***$43.27***	***$82.20***	***$125.47***

2.4 Challenges costing specific products

Mental Health

Mental Health (MH) cost data is initially matched to activity records in the Mental Health Care Episode dataset and subsequently to a phase of care in the Mental Health Care Phase level dataset. Matched episodes with one or more phase record/s have been submitted at phase level and matched episodes without a phase record are submitted at episode level.

Not all clinical activity undertaken by the MH teams meets the Mental Health National Best Endeavours Data Set submission requirements, however all activity is costed. The episodes not submitted as part of the activity submission cannot be matched and therefore submitted as part of the NHCDC. Though most HHSs are costing ambulatory MH activity, some costing teams did not cost some or all ambulatory MH services during the reference year. This has impacted the number of episodes and costs submitted for ambulatory mental health services. These costing teams will improve this in subsequent collections.

There was an overhaul of Mental Health data that impacted four HHSs data submissions due to the jurisdiction being requested to re-extract costing data for Round 26 or where an HHS submitted late. This data overhaul overrode unique identifiers and other key fields reducing match rates for activity to costed data. The jurisdiction will be discussing the impact and timing of data overhauls to mitigate any reoccurrence where possible.

Palliative care costing

Palliative care patients are costed in the costing system at intermediate product level. This allows for the costing of all services at multiple levels based on the date of service for each intermediate product. Costing episodes with one or more phases of care have the costs apportioned via pro-rata length of stay during the jurisdictional data transformation process after episode matching and these records are reported at Phase level. Where there has not been a specific phase reported or where there is a single phase for the full episode of care these patient costs have been submitted at episode level.

Non-Admitted activity reporting and encounter costing

The counting rules for ABF purposes involving multiple health care providers stipulates that irrespective of whether the patient was seen jointly or separately by multiple providers, only one non-admitted patient service event may be counted for a patient at a clinic on a given calendar day (noting that for counting purposes multidisciplinary group sessions with three or more practitioners are identified as such).

Sites using the state-wide costing system, have incorporated business rules as part of the episode matching process to align outputs with the counting rules. These sites do not require any rollup of outpatient data. For the remaining sites the data is specific to the service and reports for each separate service event. To be consistent with the ABF counting rules the costs of patients with multiple clinic records on the same day are rolled up into a single clinic visit. There are instances where a Non-Admitted activity service event has been recorded during an inpatient stay due to the patient being seen in that setting and the activity

recorded in enterprise systems. Where this has occurred, the costs associated with the Non-Admitted activity has been matched with the inpatient service event.

Contracted Services

It has been identified that some HHSs may not be costing contracted services optimally. The jurisdiction has reviewed the data and note that there are only 35 Diagnosis Related Groups that have a statistically significant number of separations where the cost to price variation is greater than 25 per cent. The jurisdiction will work directly with HHSs to improve costing accuracy for contracted care.

2.5 Quality Assurance

Initial quality control is carried out at the HHS level, each HHS has its own quality assurance processes in place to assess the suitability of the data for inclusion in NHCDC. Once the HHS has finalised the costing for the period and data quality issues addressed, they advise the Department that the data is ready to be extracted, in the case of the state-wide system, or formally submit the data to the Department for collation into the NHCDC.

Further checks are then carried out to ensure consistency of the data and mapping of the data to the NHCDC costing framework which include:

- Orphaned cost and encounter records
- Unmapped departments
- Unmapped items
- Invalid / missing product codes
- Low-cost encounters
- Negative costs
- Linking to activity data sets
- Date / time validations
- Validations on demographic information
- Validations on morbidity information

A financial reconciliation is undertaken, and the data transformed into the NHCDC data specification format. This information is provided to each HHS for confirmation of results prior to submission to the IHACPA.

A five-year cost summary report is compiled which allows HHSs to compare their data with the consolidated Queensland results and with other HHSs, at various levels of aggregation, e.g. HHS, facility, product, cost bucket.

Cost C Exclusions

Most exclusions prior to the final jurisdiction submission are associated with matching cost records to the activity records submitted to IHACPA. This can be at phase level or episode level.

3. Adherence to National Costing Standards

Guidance for preparing cost data is 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 HHS costing teams in the application of the AHPCS within the technical environment of the feeder data

and costing systems used within Queensland Health. These guidelines are applied by each HHS in the preparation of their costing data and therefore are compliant with AHPCS Version 4.1.

The IHACPA and the Administrator of National Health Funding Pool are required to carry out several functions to implement the financial arrangements as specified in the NPCR and in response, IHACPA released the *COVID-19 Response Costing and pricing guidelines Version 0.4* which specifies IHACPA's process for costing and pricing of activity for the duration of the NPCR.

Survey documents received from HHSs indicate that continued disruption to hospital activity, models of care, procurement of services and products, Queensland costing practitioners found accurately costing 2021-2022 challenging however all sites ensured adherence with AHPCS Version 4.1 and the majority worked commendably towards compliance with the *COVID-19 Response Costing and pricing guidelines Version 0.4.* Specific information regarding the application and compliance with the *COVID-19 Response Costing and pricing guidelines Version 0.4* is included in section 2.2.

4. Governance and use of cost data

4.1 Use of Cost Data

Within the Department, the consolidated patient costed data are used for a variety of purposes including:

- Health service planning
- Queensland funding models and localisations
- Research
- Benchmarking
- Informing the determination of appropriate funding levels for specified services, for example in business cases for change.

4.2 Contributions to jurisdictional and other national collections

As well as extensive use with the Department and HHSs, the data is provided to other national collections including subscription based external benchmarking organisations including Health Roundtable and Women's and Children's Healthcare Australasia.

4.3 Costing practice consistency

A governance process has been adopted to ensure decisions associated with costing are undertaken in a collaborative manner between the HHS and corporate units. This allows for ongoing benchmarking and variance analysis to occur, whilst maintaining a robust costing system with outputs that meet HHS, State and National reporting requirements. Central to this is the HHS Funding and Costing Network and Clinical Costing Working Group which meet monthly to discuss costing issues as they arise.

4.4 Review and approval

Queensland Health is required under the National Health Reform Agreement to provide an attestation as to the completeness and quality of the costing and activity data provided to the Commonwealth for the

NHCDC. Specifically, a Statement of Assurance from jurisdictions (under Clause I40) and the Commonwealth (under Clause I41) will include commentary on:

- steps taken to promote completeness and accuracy of activity data (for example, audit tools or programs, third-party reviews, stakeholder engagement strategies).
- efforts applied to ensure the classification of activity was in accordance with the current year's standards, data plans and determinations.
- variations in activity volumes and movements between activity-based funding and block funding; and
- other information that may be relevant to users of the data, as determined by the signing officer.

To meet the requirement, a Statement of Assurance for NHCDC Round 26 (2021-2022), a Costing Survey spreadsheet which describes current clinical costing processes, feeder systems used by the HHS for costing and any changes to costing methodologies since the previous collection is sent to HHSs. The Statement of Assurance has three components:

- HHS Reconciliation Summary
- Costing Methodology Questions
- Standards Compliance Questions

The survey is completed by the HHS Clinical Costing Manager, endorsed by the Chief Finance Officer. Then a financial reconciliation is undertaken. All data is validated by the Department and the HHS prior to submission to the IHACPA.

Declaration

All data provided by Queensland Health to Round 26 (2021-2022) of the NHCDC submitted to the Independent Health and Aged Care Pricing Authority has been prepared in adherence with the Three-Year Data Plan 2021-22 to 2023-24, Data Compliance Policy June 2021, and the Australian Hospital Patient Costing Standards (AHPCS) Version 4.1.

Section 3 provides details of any qualifications to our adherence to the AHPCS Version 4.1 and the *COVID-19 Response Costing and pricing guidelines Version 0.4*.

Assurance is given that to the best of my knowledge the data provided meets the requirements of the NHCDC as best as possible considering the constraints and challenges outlined in this statement.

Signed:

Melissa Carter
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Healthcare Purchasing and System Performance