INDEPENDENT HOSPITAL PRICING AUTHORITY

IHPA

Data Quality Assurance Framework

30 May 2012
v1.0

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DEFINITIONS

Term	Description
Classifications	Systems of categories to which entities are assigned according to established criteria. Health classifications consist of hierarchical systems of codes. Classifications support data analysis.
Data set specification	Metadata sets that are not mandated for collection [under the National Health Information Agreement] but are recommended as best practice*. IHPA uses the ABF Data Set Specification format to nominate its data requirements for production of the National Efficient Price.
Metadata	Metadata provide the underlying definitions and representation that supports collection, reporting and use of data within a specified context. For the national metadata registries, metadata is structured information that describes data about aspects of the systems the user community manages and for which they want to compare and share information.*
National Health Data Dictionary	The published Australian National Standard of data definitions recommended for use in Australian health data collections and National Minimum Data Sets agreed for mandatory collection and reporting at national level. The NHDD is the authoritative source of health data definitions used in Australia where national consistency is required. The Dictionary is designed to improve the comparability of data across the health field. It is also designed to make data collection activities more efficient by reducing duplication of effort in the field and more effective by ensuring the information to be collected is appropriate to its purpose.
National Bodies	IHPA, NHPA, National Hospital Funding Body
National Standards [for official statistics]	Nationally approved rules for the development, collection, processing and dissemination of official statistics. They are a set of components which, when used together produce consistent and high- quality statistical output (about the concepts which underpin the statistical variables) across collections and over time. Data standards describe the agreed meaning and acceptable representation of data for use within a defined context.*
States	States and Territories
Terminologies	The whole sphere of language used in the health system. It includes both Clinical Terminology and Classifications and their components. A standard clinical terminology gives healthcare providers a high level of confidence in the information that they record, send and retrieve, ensuring continuity of care for patients across different times, settings and care providers.*

* from the National Health Information Agreement

ACRONYMS AND ABBREVIATIONS

Term	Description
ABS	Australian Bureau of Statistics
ABF	Activity Based Funding
AIHW	Australian Institute for Health and Welfare
APC	Admitted Patient Care
ARDRG	Australian Refined Diagnosis Related Group
CAC	Clinical Advisory Committee
COAG	Council Of Australian Governments
CSO	Community Service Obligations
DSS	Data Set Specification
ED	Emergency Department
EDW	Enterprise Data Warehouse
ES	Emergency Services
IHPA	Independent Hospital Pricing Authority
JAC	Jurisdictional Advisory Committee
LHN	Local Hospital Network
METEOR	Metadata online registry
NAP	Non-Admitted Patient
NEP	National Efficient Price
NHCDC	National Health Cost Data Collection
NHFB	National Health Funding Body
NHRA	National Health Reform Agreement
NMDS	National minimum Data Sets
NWAU	National Weighted Activity Unit
PHED	Public Hospital Establishment Data
TAC	Technical Advisory Committee
TTR	Teaching, Training and Research
UDG	Urgency Disposition Groups
URG	Urgency Related Groups

1. INTRODUCTION

1.1 Context

The Independent Hospital Pricing Authority (IHPA) is established under the *National Health Reform Act 2011* ('the Act') to determine the national efficient price for health care services provided by public hospitals where services are funded on an activity basis, determine the efficient cost for health care services provided by public hospitals where services are block funded and to publish this and other information in a report each year for the purposes of informing decision makers in relation to the funding of public hospitals. This work is required to be evidence based and depends on access to high quality robust data.

1.2 Purpose

The IHPA Data Quality Framework details IHPA processes to monitor and ensure best possible data quality. This is a supplement to the 3 year data plan. The IHPA data quality arrangements are part of the broader IHPA Quality Management Framework, including systematic arrangements for service and quality, risk management, human resource, finance, information technology, standards compliance, and roles and responsibilities for all those involved in quality management.

1.3 Objectives

The objectives of the IHPA Data Quality Assurance Framework are to:

- establish the overarching principles and guide to action for IHPA with respect to achieving data quality assurance;
- implement a uniform approach to quality assurance arrangements for the collection of data for calculation of the national efficient price;
- promote a quality assurance culture within data collection and analysis systems at the IHPA; and
- contribute to good corporate governance practices with regard to data management.

1.4 Review

The Chief Executive Officer (CEO) and Pricing Authority will review the IHPA Data Quality Assurance Framework, including associated documentation, annually and as required (e.g. following legislative changes). This review will ensure the Framework remains current to support IHPA in managing its business operations and to guide continuous improvement in IHPA's data governance arrangements.

2. QUALITY PRINCIPLES

The IHPA is committed to putting in place systematic and transparent data quality assurance systems. The IHPA is aware that a data quality standard (ISO8000-Data quality) is under development, and considers that this is not yet sufficiently mature for adoption. Instead, the IHPA has taken a broader quality perspective and adapted some data principles from the broader definitions of quality provided in ISO9000.

The IHPA will, apply the following quality principles in establishing and managing its data quality assurance systems. These principles are outlined in Table 1.

Table 1: Data Quality Principles

	Quality Management Principles		Data Quality Statement	Quality Management Mechanisms
1	**Customer focus**	→	The IHPA depends on the community and decision makers in jurisdictions as its customers and will strive to understand their current and future needs, meet their requirements and exceed their expectations.	IHPA has a core commitment to transparency and will be publish its work to improve public confidence in how our public hospital services are funded and the accountability of Australian pubic hospitals. The IHPA has established formal mechanisms for consultation with jurisdictions including the Jurisdictional Advisory Committee (JAC), ABF Technical Advisory Committee (TAC) and ABF working groups to understand the Jurisdictions requirements (these are detailed in the data plan). In addition, submissions from jurisdictions and directions from Ministers will inform the data collection activity of the IHPA.
2	**Leadership**	→	The Pricing Authority and the IHPA Chief Executive will establish unity of purpose and direction of the organization, and will create and maintain the internal environment in which people can become fully involved in achieving the IHPA's objectives.	The Pricing Framework will establish the principles that will inform calculation of the efficient price. The IHPA Data Plan communicates IHPA's data requirements over the next three years to Jurisdictions and other government agencies and describes the mechanisms, including timelines that IHPA will use to collect data from the Jurisdictions. The Data Quality Framework identified the key points at which data quality assurance mechanisms are applied and the key principles applied by the IHPA in its data quality assurance mechanisms
3	**Involvement of people**	→	People at all levels of staff, stakeholder engagement and expert contribution are the essence of the IHPA and their full involvement will enable their abilities to be used to ensure high quality and value in IHPA's determinations.	The IHPA has established internal processes for ensuring staff, stakeholder and key technical expertise engagement in data management, including identifying key personnel, establishing governance, consultative and reporting mechanisms. Data quality assurance affects staff at all levels and is a fundamental underpinning of the integrity of the National Efficient Price.

4	**Process approach**	→	The IHPA will manage activities and related resources as a process to ensure desired results are achieved more efficiently.	The rolling 3 year data plan prepared annually by the IHPA details the data collection processes that will apply to data quality assurance by the IHPA for each ABF-specific data collection.
6	**System approach to data management**	→	The IHPA will identify, understand and manage interrelated data processes as a system to contribute to the IHPA's effectiveness and efficiency in achieving its objectives.	The IHPA is using existing data mechanisms and national data processes where possible. The IHPA is working with other national bodies and jurisdictions to rationalise data collections detailed in the annual data plans. Data quality assurance processes identified by the framework are incorporated into this framework.
7	**Continual improvement**	→	The IHPA has a permanent objective to continual improvement of the organization's overall performance.	The IHPA has committed to a systematic program of work as articulated in the three year data plan. This will include a systematic approach to data quality improvement in line with this framework.
8	**Factual approach to decision making**	→	Effective decisions are based on the analysis of data and information.	The IHPA has committed to an evidence based approach that relies on best available data informed through its committee structures and research. Prioritisation of classification and data specification requirements will be informed by data quality improvement objectives.
9	**Mutually beneficial supplier relationships**	→	The IHPA and its data suppliers (including jurisdictions and other national data collection agencies) are interdependent and a mutually beneficial relationship enhances the ability of both to create value.	IHPA has established committees to gain advice regarding the Activity Based Data requirements. In addition, the IHPA is actively engaged in building relationships with states and other national agencies. Jurisdictions have emphasised the importance of a collaborative approach to data quality improvement in recent submissions to the IHPA on the pricing framework.

3. ROLES AND RESPONSIBILITIES

3.1 States and Commonwealth

Under the NHRA, the Commonwealth and the States are jointly responsible for collecting and providing data to support the objectives of comparability and transparency, and to ensure that data are shared between relevant participants in national health care arrangements to promote better health outcomes. Commonwealth funding for public hospital services is dependent on the provision of data requested by the National Bodies (including the IHPA), including in relation to services to patients, information identifying the patient to whom the services were provided, the public or private status of the patient, the nature of the service and the facility providing the service.

The Commonwealth and the States are responsible for data integrity within their systems and agree to establish appropriate independent oversight mechanisms for data integrity, to provide certainty to the Australian public about the actual performance of hospitals and other parts of the health system. States and Territories, as hospital system manager are responsible for data integrity, including ensuring that state data complies with specified **standards and formats**. The key additional elements of data integrity are **accuracy and completeness**.

In December 2011, the Commonwealth and the States have agreed a National Health Information Agreement (NHIA) that establishes principles, governance and processes for Commonwealth, State health and statistical authorities to work together to improve, maintain and share national health information. The IHPA, while not a signatory to this NHIA is obliged under clause 132 of its Act to have regard to any intergovernmental agreement relevant to the performance of its functions and an agreement governing national health information would appear to meet this criteria. The IHPA will work to align its functions with arrangements under the NHIA, noting that its obligations under the NHRA and its Act have primacy.

3.2 National Health Reform Bodies

The National Health reform Agreement requires that national bodies will determine their data requirements with reference to the following. A National Body must:

- seek to meet its data requirements through existing national data collections, where practical;
- conform with national data development principles and wherever practical use existing data development governance processes and structures, except where to do so would compromise the performance of its statutory functions;
- allow for a reasonable, clearly defined, timeframe to incorporate standardised data collection methods across all jurisdictions;
- support the concept of ‘single provision, multiple use’ of information to maximise efficiency of data provision and validation where practical, in accordance with privacy requirements;
- balance the national benefits of access to the requested data against the impact on jurisdictions providing that data; and
- consult with the Commonwealth and States when determining its requirements.

The National bodies’ three year data plans, once agreed through the Standing Council on Health, give effect to these arrangements. The National bodies are also establishing formalised mechanisms for improving conformance with these principles and in particular working to minimise the data burdens imposed by their related roles.

The data quality assurance plan has been prepared to be consistent with the IHPA data plan and to conform to these broader requirements, and not impose an excessive administrative burden.

3.3 Independent Hospital Pricing Authority

The IHPA, through functions provided under the National Health Reform Agreement plays a pivotal role in the national introduction of Activity Based Funding (ABF), by:

a) determining the national efficient price for health care services provided by public hospitals where the services are funded on an activity basis;
b) determining the efficient cost for health care services provided by public hospitals where the services are block funded;
c) determining adjustments to the national efficient price to reflect legitimate and unavoidable variations in the costs of delivering health care services;
d) developing and specifying classification systems for health care and other services provided by public hospitals;
e) determining data requirements and data standards to apply in relation to data to be provided by Jurisdictions, including:
    i. data and coding standards to support uniform provision of data; and
    ii. requirements and standards relating to patient demographic characteristics and other information relevant to classifying, costing and paying for public hospital functions; and
f) except where otherwise agreed between the Commonwealth and a State or Territory – to determine the public hospital functions that are to be funded in the State or Territory by the Commonwealth.

The IHPA refers the task of developing data quality standards to the CEO and the Commonwealth public servants and other staff under his responsibility. This development advice is used by the IHPA in determining data requirements and data standards that Jurisdictions will use to collect and deliver data to the IHPA. In determining these requirements, IHPA and its staff will consult with Jurisdictions and other stakeholders, and is subject to the direction of the Standing Council on Health in relation to the nature of the data to be collected.

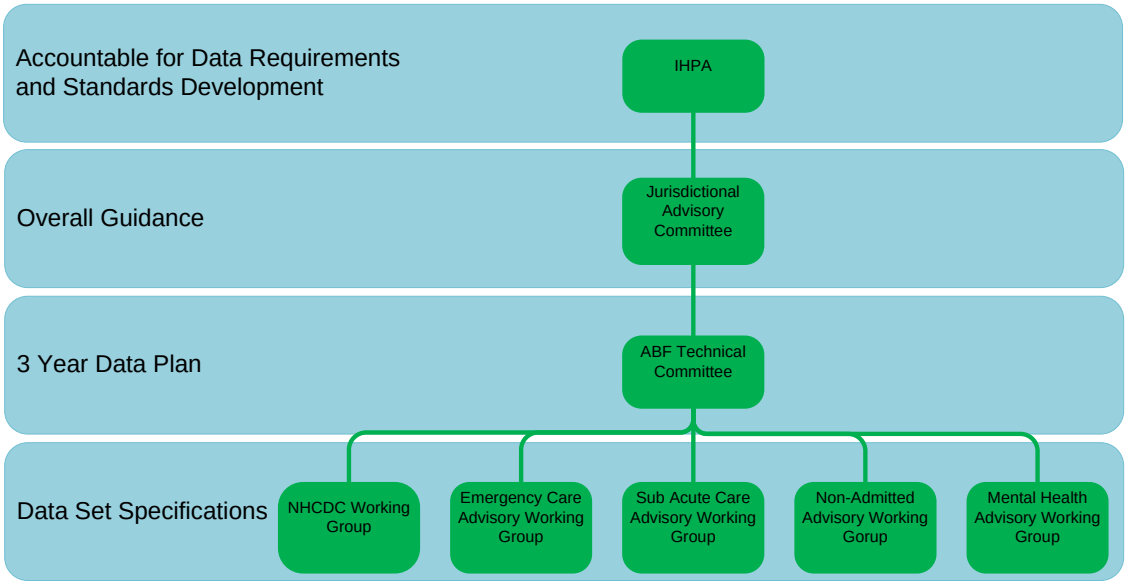
Table 2: Data Quality Assurance Roles & Responsibilities

Role	Data Quality Assurance Responsibilities
Pricing Authority	The Pricing Authority provide leadership on data quality and are responsible for functions provided under the Health Reform Act, including responsibility for ensuring data quality systems are in place to satisfy their statutory obligations. The Pricing Authority is responsible for determining data requirements that will underpin activity based funding
Chief Executive	The IHPA Chief Executive (CEO) leads and manages the IHPA, including driving change and improvement through implementing ABF. The CEO is also the data custodian for the IHPA and has responsibility for oversight of data quality assurance.
Executive Director, Activity Based Funding	The Executive Director, Activity Based Funding is responsible for overseeing the design of an activity based funding system for Australian public hospitals including coding and classification of hospital services, costing of those services and development of pricing and funding models and preparing appropriate recommendations to IHPA for the final endorsement of components of the activity based funding system. This includes ensuring ABF data quality process implementation.
Director, Data Acquisitions	Is responsible for the end-end data acquisition cycle, from specification to provision of high quality data sets for users within the IHPA. This includes Developing Data Set Specifications, in conjunction with jurisdictions, other agencies (National Health Performance Authority, National Funding Body, Australian Commission on Safety and Quality in Health Care) and acquiring, validating and loading high quality activity and cost data sets for use by IHPA technical teams.
Director, Technical Funding and Pricing Models	Is responsible for development of the efficient pricing model using activity data, costing data and other data and relevant information. The price model will be strongly influenced by the quality of the data submitted.
Director, Hospital Costing	Is responsible for all components of the NHCDC from specification and design to finalisation of cost results- across all product streams including a rolling strategy for future processing requirements. This includes responsibility for quality assurance, including development of the Costing Quality Framework.

3.4 Stakeholder engagement

Advisory committees and working groups have been established to ensure that the Jurisdictions are consulted and that the public hospital funding health reforms are implemented efficiently. Figure 1 provides an overview of the committee structure that has been established to facilitate consultation regarding the specification and collection of IHPA's data requirements.

Figure 1 - Committee and Working Group Data Requirement responsibilities



In particular, IHPA uses these committees and working groups to:

- understand the impact on Jurisdictions of collecting the IHPA required data;
- consult on timelines to incorporate standardised data collection methodologies;
- encourage and facilitate processes that will ensure data accuracy; and
- review preliminary results from hospitals and provide assistance in quality assurance.

An overview of the responsibilities of each committee is provided in the following sub-sections.

3.5 Jurisdictional Advisory Committee

The Jurisdictional Advisory Committee (JAC) is a statutory committee established by the Act. Consisting of a chair and nine other members (one each for the Commonwealth and the eight States and Territories), the JAC advises IHPA on issues regarding classification systems, adjustments to the NEP, data standards and requirements and hospital funding models. The JAC can also provide advice on any other matters referred to it by the IHPA. The Act stipulates that the IHPA must "*have regard to the advice provided by the JAC*".

3.6 ABF Technical Advisory Committee

The ABF Technical Advisory Committee (TAC) is an internal committee created by IHPA to provide advice on technical matters related to the implementation of a national ABF framework. In particular, this includes the creation and maintenance of classifications and data collections used for ABF purposes. This committee also considers issues related to the pricing models used to calculate the NEP each year.

3.7 Advisory Working Groups

To assist the TAC in its objectives, working groups have been established, one for each service category. These working groups contain representatives from each Jurisdiction and aim to reach national agreement on technical issues specific to that service category. For example, the Emergency Care Advisory Working Group may be involved in discussing potential changes to the Urgency Related Groups (URG) classification used for patients treated in Category 3B emergency departments and above.

3.8 Stakeholder Advisory Committee

The IHPA has established a Stakeholder Advisory Committee (SAC) to act as a liaison point for peak national health advocacy bodies and the IHPA. The SAC will advise the IHPA of developments within the health industry that will be relevant to the functions of the agency, the likely effects on the health industry of the decisions of the upcoming decisions of the IHPA and to advise on contemporary pricing strategies for public hospital services and best practice from other health care sectors such as the private hospital sector.

3.9 Transparency

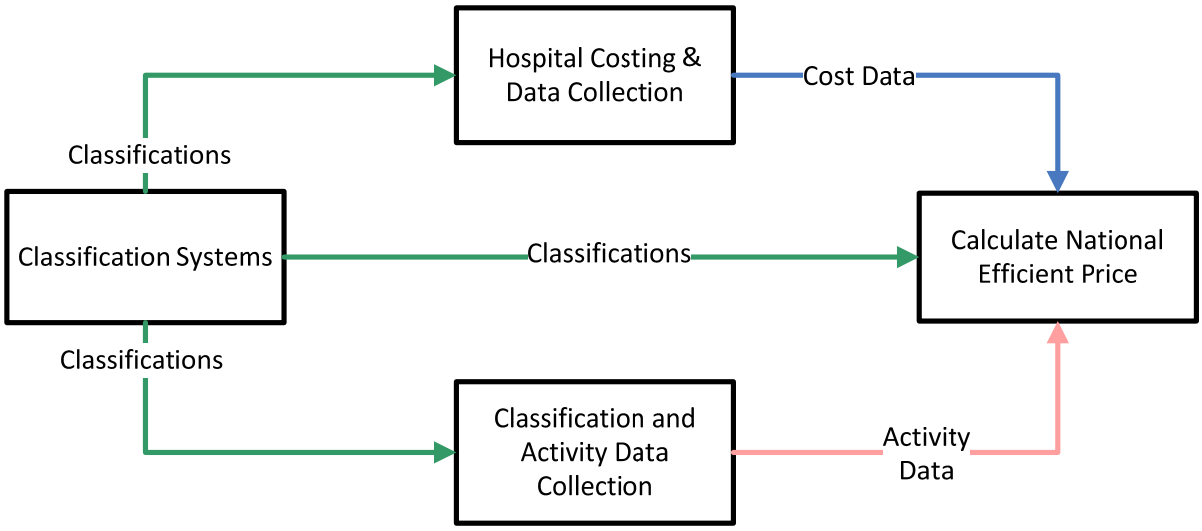
The IHPA has committed to transparency in performing its functions. The IHPA will publish information detailing its work and methodology. Some material will not be published, with decisions on release informed by data release principles in accordance with statutory obligations and consistent with Freedom of Information arrangements.

The IHPA will actively seek and have regard to submissions from the public in performing its work. The IHPA will also introduce a procedural approach to resolving issues with ABF classifications, coding and data specification and collection to enable issues with data to be flagged and addressed through the annual data cycles provided in the data plan.

4. ABF DATA PROCESSES AND QUALITY ASSURANCE CHECKS

To calculate the NEP, activity and cost data must be collected from the Jurisdictions. Once collected, those data are analysed by IHPA using a pricing model. In collecting these data, a number of data sets are used. Wherever possible, IHPA has used pre-existing classifications and data specifications, with additional data items added where needed for ABF purposes.

Figure 2 – Overview of ABF data process



As noted in the Victorian submission on the draft Pricing Framework, the current data holdings have some quality constraints, including:

> *the development of new classification systems underpinned by data collections being undertaken for the first time; and limitations to the accuracy and the fitness for purpose of National Health Cost Data Collection (NHCDC) underpinning the NEP, and the reliance on data from other jurisdictions that is being used for the first time for ABF purposes.*[1]

Other submissions made similar comments on data quality, and a sample of these are included in Appendix D. The quality framework is not intended to fix all of these immediately, but rather articulate ongoing quality assurance process that will deliver improved data over time, through a methodical approach to data improvement. It is also intended to provide a framework for acknowledging, measuring where possible and establishing priority areas for improving the data precision sensitivity.

1. Page 4, Victorian Government Submission- IHPA Draft Pricing Framework (http://ihpa.gov.au/internet/ihpa/publishing.nsf/AttachmentsByTitle/submissions/$FILE/Victoria-Final.pdf)

4.1 Activity data classification quality assurance

The IHPA collects activity data for all public hospital services from states and territories. The Classifications chosen for use in activity based funding are those that are currently available to best meet the current activity needs. These will be updated periodically to ensure that they remain clinically relevant and explain variation in resource usage within a service category. The process for updating classifications is ongoing and iterative and will have embedded quality assurance measures. The following table provides a simplified process of how these updates are progressed on the basis of best available evidence and appropriate governance arrangements.

Table 3: Activity Data Classification Development and quality assurance measures

No	Task.	Quality assurance measures
1	**Data** Current data on relevant hospital activity and costs and existing classifications (if applicable).	Accurate recent data used to inform classification work.
2	**Submissions for classification changes** - The IHPA will call for submissions to change classification systems. Submissions will be called for via the JAC, TAC and working groups and can be made as part of the annual public submissions process. The IHPA can also initiate changes to classifications. Jurisdictions will create submissions and forward them to the IHPA via the JAC, TAC and working groups or the annual submission processes.	Effected parties can contribute to development of accurate classifications to ensure these are fit for purpose.
3	**Receipt of submissions and initial assessment** - All submissions will undergo an initial assessment by the IHPA to identify how to prioritise and evaluate the proposed changes. Decisions on priorities will be informed through the IHPA committee structures.	The IHPA will take a procedural approach to evaluations, through logging submissions and tracking their progress.
4	**Advice on submissions** will be sought as appropriate from: The Clinical Advisory Committee (CAC) will provide advice on clinical aspects of proposes changes. The JAC, TAC, and/or working groups can be consulted as required to understand impacts on the Jurisdictions. External experts and consultants to undertake projects related to policy analysis, stakeholder consultation or statistical modelling (for example subacute cost driver analysis by PWC and preparation of ARDRG version 7 by Wollongong University).	Input from experts with expertise in appropriate technical or clinical areas will inform classifications.
5	**Research** -The IHPA will conduct or commission analysis to determine the impact of the proposed change. This analysis will depend on the type of changes proposed. For example, classification system changes require previous year's data to be reorganised against the proposed classification to understand the impact of the changes.	The IHPA will ensure that analysis is reproducible and correctly interprets the proposal.
6	**Proposal validation** -The IHPA will develop a change proposal taking into account the recommendations from CAC, JAC, TAC, working groups, and stakeholders referencing the analysis.	The change proposal will be documented and submitted through appropriate governance channels, in accordance with timing specified in the 3 Year Data Plan.
7	**Determination of classification changes** - The IHPA will evaluate the results from the consultation and makes a decision on the change proposal to either a) Implement the change in the next version b) Hold over changes to the next release c) Or reject the proposal.	The decision will be recorded along with information on the rationale for the decision and future work on identified topics.
8	**Publication** -The IHPA will publish updated classifications with details of changes included in the new version.	The classification update will accurately reflect the policy intent and will include details of changes between versions.

4.2 Activity data specification

IHPA issues ABF data set specifications that provide the Meta Data necessary for states and territories to collect nationally consistent activity data. The ABF data set specifications are developed in the METEOR environment by appropriately trained staff in accordance with processes developed by the AIHW in accordance with ISO/IEC 11179 - Metadata registries (MDR). This standard addresses the semantics of data, the representation of data, and the registration of the descriptions of those data. It is through these descriptions that an accurate understanding of the semantics and a useful depiction of the data are found. The data set specifications will be regularly updated to improve their quality. This will be undertaken through established governance arrangements in accordance with processes in the Data Plan.

Table 4: Change Process – data set specifications and quality assurance measures

No.	Task.	Quality assurance measures
1	**Monitor current DSS for issues** -The IHPA will maintain a log of issues arising out of the classification process and from concerns with current DSS interpretation.	A log will be maintained.
2	**Call For Submissions** - The IHPA will call for submissions to change DSSs from states through a formal request from the CE and through the working groups and as relevant through the annual public submission processes.	The requests for submissions are made in accordance with processes specified in the Data Plan.
3	**Analyse change submission** - All submissions will undergo an assessment by the IHPA The IHPA will consult on change submissions with the working group.	The assessments will be recorded and progressed through appropriate committee structures.
4	**Develop DSS change proposal** - A formal change proposal will be developed. This will be informed by the availability of any new data items. DSS changes will need to be consulted through relevant committee structures [is there a recent agreement with NHISSC to consult with them on the business case??] to understand the impacts of the changes and ensure validity of change and capacity of states to comply.	Documentation of change proposal in accordance with METEOR development environment and appropriate recording of committee evaluation and recommendations.
5	**IHPA decision** - The IHPA will decide on final changes to DSS.	The decision of the appropriate delegate will be recorded.
6	**Publish DSS** - The IHPA will make the approved changes to the DSS, supply this to states and publish the specifications.	This process is undertaken in accordance with the IHPA decision and conducted against timing in three year data plan.

4.3 Activity data collection and analysis

Table 5: Classification Systems and Activity Data Collection and quality assurance measures

No.	Task.	Quality assurance measures
1.	**Formal request for data** - The IHPA emails jurisdictional contacts (by email) with instructions on method of delivery; file format; Delivery Address, Data Request Specification (DRS) and data quality conformance statement templates.	States are explicitly requested to provide a data quality conformance statement.
2.	**State data collection** - States organise their own data collections. They then collate the IHPA required data based on the DRSs.	States are required to establish independent validation process (as required at NHRA b95).
2.A	**Pre-submission validation** - States will have access to a pre-submission tool that will validate their data files conformance with the DRS standards and provide information on whether the state data set complies with the published specifications. A single tool will be provided to states by IHPA that will enable states to check their data against each set of DRS standards. This will provide error reports to states and so enable errors to be detected and checked earlier. Initially, this will be done using a stand alone piece of software (based on CHECK_IT) The longer term approach will be to integrate this into a data submission portal.	Resubmission checking will provide immediate feedback on the compliance of state data files, which will enable states to submit correct data the first time. Detailed reporting features will assist states investigate data errors that are flagged. The software is kept up to date with the latest ABF DSS specifications. The software is provided free of charge.
3.	**Initial state data submission** - States submit pre-validated data to IHPA in specified format against DRS. DATA QUALITY STATEMENT 1 – e.g by State/Territory data technical manager.	A data conformance statement by state or territory submitter including application of independent validation (as required at NHRA b95) sent to IHPA.
4.	**Initial validation of submitted data** - The IHPA validates the data against the DRS and Data Submission Requirements and identifies data anomalies.	The IHPA will confirm state data conforms with data specifications and provide a statement of errors and/or warning qualifications.
5.	**Preliminary statistical analysis and advice to states** - The state data submission will be uploaded into a data set and will be examined for overt anomalies, which will be discussed between the IHPA and submitting state to resolve where possible.	Quality assurance checks include checks such as comparison with previous reporting periods, cross jurisdictional consistency analysis and other data integrity checks.
7.	**Updated data submission** - Remaining anomalies after discussions are fixed by the Jurisdictions. The Jurisdictions will then resubmit data to the IHPA. DATA QUALITY STATEMENT 2 – e.g. by State/Territory responsible executive or delegate.	A data conformance statement by appropriate state delegate, including application of independent validation (as required at NHRA b95) sent to IHPA.
8	**Database prepared** - Once all anomalies have been addressed, the final databases are created with data from all jurisdictions merged and calculated fields added. DATA QUALITY STATEMENT 3 – by IHPA data base manager or delegate.	This data base will conform with the published DSS and will use data that states have provided a quality assurance statement. The final IHPA merged data base will be associated with a compiled data quality statement in the form of a technical report that collates qualifications from each State/Territory and includes issues identified by the IHPA validation and merge processes. The final databases are IHPA's inputs into its Pricing Model. They must have clear process trails from the raw DSS data provided by the jurisdictions and/or the 'single provision, multiple use' datasets developed for the data warehouse. The IHPA will complete a data quality statements that applies to the National collection.

4.4 Cost data classification and specification

Hospital patient costing is the process of identifying the inputs used in a hospital and applying the costs of those inputs to the measured units of output i.e. patient care delivered. In practice this is not a simple process and requires expertise in identifying inputs and outputs, guidance for allocating the costs, and complex processing to align hospital expenditure and activity data. Australia has an internationally recognised state-of-the-art hospital costing study program in its National Hospital Cost Data Collection (NHCDC). This study has been in operation for 15 years.

However, until the advent of IHPA's role of setting the national efficient price, the focus and purpose of the NHCDC hospital costing study was to provide cost weights for AR-DRGs. Its primary purpose was not to obtain a consistent absolute average cost across jurisdictions. Hence IHPA's requirement for precision and consistency in measuring actual cost rather than only relative cost is a new special focus for the NHCDC in Rounds 14 and 15 of the annual study series.

The Australian Hospital Patient Costing Standards have been developed by the NHCDC in the last three years and underpin the consistent costing of Australian hospital activity. They will provide direction for hospital patient costing through the development and publication of standards for specific elements of the NHCDC costing process and reporting requirements. The Standards also include specifications for data quality checks to ensure that each hospital can be confident that it has applied the standards correctly.

Table 6: NHCDC costing data classification and specification and quality assurance measures

No.	Task.	Quality assurance measures
1.	The IHPA will call for submissions to refine the Hospital Costing process.	Accurate recent data used to inform classification work.
2.	Jurisdictions will create submission and forward them to the IHPA.	Effected parties can contribute to development of accurate classifications to ensure these are fit for purpose.
3.	Internal Stakeholders can also create submission to develop the Hospital Costing process.	The IHPA will take a procedural approach to evaluations, through logging submissions and tracking their progress.
4.	All submissions will undergo an initial assessment by the IHPA (Hospital Costing).	Input from experts with expertise in appropriate technical or clinical areas will inform classifications.
5.	The NHCDC Technical Working Group will provide advice around proposes changes.	Input from experts with expertise in appropriate technical or clinical areas will inform classifications.
6.	The IHPA (Hospital Costing) will analyse cost and activity data to determine the impact of the change.	The IHPA will ensure that analysis is reproducible and validly interprets the proposed refinement.
7.	A change proposal is then created, taking into account the NHCDC working group recommendations and the analysis.	The change proposal will be documented and submitted through appropriate governance channels, in accordance with timing specified in the 3 Year Data Plan.
8.	The proposal is then consulted with the originators.	The originators are asked to confirm the validity of the proposed change in relation to the desired refinement.
9.	The IHPA (Hospital Costing) takes the results from the consultation and makes a decision on the change proposal.	The decision will be recorded along with information on the rationale for the decision and future work on identified topics.
10.	If the proposal is accepted the process is updated at the next release.	The classification update will accurately reflect the policy intent and will include details of changes between versions.

4.5 Cost data collection and analysis

The IHPA collects cost data from a sample of hospitals to calculate the NEP. This is collected through the National Hospital Cost Data Collection (NHCDC). The first NEP, in 2012-13, will be calculated using Round 14 (2009-10) NHCDC data. The annual NHCDC collects hospital patient costing data to produce benchmark data for use by hospitals in comparing their costs to other similar hospitals.

Table 7: NHCDC costing data collection and analysis and quality assurance measures

No	Task.	Quality assurance measures
1	**Request for data** - The IHPA Hospital Costing Team will send the Hospital Reference Manual and Data Specifications to the Jurisdictions.	The request for data is in accordance with processes specified in the Data Plan. States are explicitly requested to provide a data quality conformance statement.
2	**States prepare** -States organise their own data collections. They then collate the IPHA required data based on the Hospital Reference Manual and data specs.	States are responsible for the quality of their data. States are required to establish independent validation process (as required at NHRA b95).
3	**Submit Quality Assured Data** - States submit data to the specified data collection and consolidation contractor] DATA QUALITY STATEMENT 1 – e.g by State/Territory data technical manager.	A data conformance statement by state submitter including application of independent validation (as required at NHRA b95) sent to IHPA.
4	**Submission checks** - The IHPA (or contracted service provider undertakes initial conformance checks, and provides feedback to submitting state on compliance.	Data is checked for conformance against access templates and manually reviewed. For round 15, Visasys load the data into the Combo CM system which includes manual reviews and processing of the data received through the ms access templates as data issues may have been submitted. The data received directly from the facilities will have its format standardised to enable it to be uploaded into Combo CM.
5	**Quality Assurance checks and reports to submitters** - IHPA (or contracted service provider) checks the data against the previous year's results nationally and for that facility and returns any DRG which has more than a 20% variance.	Resubmission checking will provide immediate feedback on the compliance of data files, which will enable submitters to correct data. Detailed reporting features will assist states investigate data errors that are flagged. The software is kept up to date with the latest ABF DSS specifications. The software is provided free of charge.
6	**Updated data submission** - The jurisdictions will address the issues and resubmit the data to the IHPA (or contracted service provide). DATA QUALITY STATEMENT 2 – e.g. by State/Territory responsible executive or delegate.	A data conformance statement by appropriate state delegate, including application of independent validation (as required at NHRA b95) sent to IHPA.
7	**Create final databases** The final databases are created which contain the national costing data for all participating facilities, with separate databases for acute, subacute, emergency department and outpatient.	The final databases are IHPA's inputs into its Pricing Model. They must have clear process trails from the raw NHCDC data provided by the jurisdictions and/or the 'single provision, multiple use' datasets developed for the data warehouse.
8	**Generate Cost Weights and tables** After the final databases are created the cost weights are created. The cost tables, which form the basis for the Yearly NHCDC cost report, are also generated from the final databases.	These tables are sent to the representatives of the jurisdictions for review of cost weight tables and aggregated view of the cost data. This may require states to return to the source system to correct any errors.
9	**Sign off Data** - A meeting is then scheduled to facilitate sign off of the cost weights and cost tables from the Commonwealth, jurisdiction and Private Hospitals.	Finalisation of data is done through a collaborative process with representation by delegates. This may need reference to independent validation.

10	**Generate Cost Report** - After sign off the jurisdictions and the Hospital Costing Team work together to document the supporting text required for the cost weight tables within the NHCDC cost report.	The NHCDC produces general cost reports for particular sectors (eg States, Private and public hospitals, Hospital Peer Groups) from the NHCDC Costing Study for publication. It also produces an IHPA specific report based on the scoping of the IHPA National Efficient Price. This is the final output dataset for IHPA and the input into the IHPA Pricing Model.
11	**State review of cost report** Jurisdictions will review and sign off the final NHCDC cost report.	State input on the cost report will provide assurance that data is best available and fit for purpose.
12	**IHPA publish cost report** The summary cost report will be published. Participating hospitals and states will have access to agreed comparative data. DATA QUALITY STATEMENT 3 – by IHPA data base manager or delegate – the NHCDC technical report serves this function.	Publication of cost report provides transparency and scrutiny of process outputs and processes. The IHPA will complete a data quality statement that applies to the National collection.

4.6 Supplementary Data Requirements

In addition to activity and cost data, IHPA requires access to other data collections and will take a systematic approach to indentifying and collecting data that fits within the broader arrangements agreed for Health Information data collection. Examples are the Public Hospital Establishment Data (PHED) and the Hospital Casemix Protocol (HCP).

The PHED collection contains public hospital information including expenditure, revenue, staffing, beds and services provided. The HCP informs calculation of the NEP by enabling verification of ABF cost model against actual and estimated costs incurred by each LHN and make forward projections.

The collection contains de-identified information on insured patients' hospital separations, including information on patient demographics, clinical information (ICD-10-AM), hospital charges, medical information, medical charges, prosthetic items, prosthetic charges, health fund benefits and consumer out of pocket expenses. The collection has episodic, benefit and charge data for privately insured admitted patient episodes nationally from 1996/97. The IHPA is using this data to inform treatment of private patients under activity based funding.

5. QUALITY CONFORMANCE PROCESSES

The IHPA is committed to embedding quality assurance checks into business processes to ensure the data are fit for purpose. These are identified in the summary tables for each data process as part of the activity based funding data cycles. These are summarised at Appendix A.

5.1 Reporting Jurisdictions compliance with data requirements

Conformance with data specifications, timeliness and completeness are central components of data quality. Under the NHRA States and Territories are responsible for the accuracy and compliance of the data they provide. IHPA expects to work with jurisdictions and the relevant working groups on an ongoing basis improving these aspects of data quality.

The NHRA (paragraph B 102) requires IHPA to report quarterly on its website on Jurisdictions' compliance with data requirements, including an assessment of whether jurisdictions have provided data required as specified in the data request; and data in the timeframes requested.

On Tuesday, 20 March, 2012, the Independent Hospital Pricing Authority published its first quarterly Data Compliance Report on the IHPA website, as required by the National Health Reform Agreement.

5.2 Monitoring

IHPA will monitor regularly the data quality statements and make these results available to the external review of the NEP determination process.

A regular systematic and progressive analysis of data integrity of the key datasets will be commissioned from the Australian Institute of Health and Welfare. This will be a data variability analysis aimed at identifying parts of the healthcare system with atypical patterns of service data. Such patterns will then be used to trigger a more detailed analysis of whether the patterns represent real practice variations or data quality issues related to data reporting idiosyncrasies.

Provision will be made for any member of the community to report concerns about data issues. These reports will be investigated firstly by IHPA and then if necessary referred for external analysis and/or one or more of the escalation processes outlined above.

5.4 National Efficient Pricing Quality Assurance process

The IHPA will subject processes and data manipulation and analysis to external review that will be informed by these data quality processes. IHPA will also take a continual quality improvement approach to internal uses of data, and will document:

- Consultations – on data completeness and conformance with specifications
- transformations made to initial / raw data supply to prepare datasets for analysis,
- details of analytical computations etc that are undertaken – e.g. normalisation, stratification and imputation of derived variables
- access to model that articulates methodology used to establish national efficient price

5.3 Communications

It is proposed that the data submission portal arrangements will be the first line of communication on data quality. A comprehensive range of edit checks can be made on line and the organisation or individual submitting the data can be notified immediately if the record submitted data item entered complies with the allowable specifications in terms of values and formats. Feedback on key data standards conformance will be introduced as early as possible by IHPA on data submission to IHPA portal. It is proposed that IHPA will be supported by the EDW in developing this function.

Data quality standards will be published annually by updates to DSSs and classification refinements.

Annual data quality technical reports will be published on each dataset and particular priorities for data quality improvement identified together with the proposed data enhancement process plan.

APPENDIX A: DATA QUALITY ASSURANCE TREATMENT SUMMARY

A1. Data Quality Assurance Activity Data Classification Development

Function	Process	External quality assurance	Internal quality assurance
1. Activity Data Classification Development			
1.1 Data	Current data on relevant hospital activity and costs and existing classifications (if applicable).		Accurate recent data used to inform classification work.
1.2 Submissions for classification changes	The IHPA will call for submissions to change classification systems. Submissions will be called for via the JAC, TAC and working groups and can be made as part of the annual public submissions process. The IHPA can also initiate changes to classifications.	Jurisdictions will create submissions and forward them to the IHPA via the JAC, TAC and working groups or the annual submission processes.	
1.3 Receipt of submissions and initial assessment	All submissions will undergo an initial assessment by the IHPA to identify how to prioritise and evaluate the proposed changes.	Decisions on priorities will be informed through the IHPA committee structures.	The IHPA will take a procedural approach to evaluations, through logging submissions and tracking their progress.
1.4 Advice on submissions	Advice on submissions will be sought to inform analysis.	The Clinical Advisory Committee (CAC) will provide clinical advice around proposes changes. The JAC, TAC, and/or working groups can be consulted as required to understand impacts on the Jurisdictions. External experts and consultants to undertake projects related to policy analysis, stakeholder consultation or statistical modelling.	Input from experts with expertise in appropriate technical or clinical areas will inform classifications.
1.5 Research	The IHPA will conduct or commission analysis to determine the impact of the change. This analysis will depend on the type of changes proposed.		The IHPA will ensure that analysis is reproducible and correctly interprets the proposal.
1.6 Proposal validation	The IHPA will develop a change proposal taking into account the recommendations from CAC, JAC, TAC, working groups, and stakeholders referencing the analysis.		The change proposal will be documented and submitted through appropriate governance channels, in accordance with timing specified in the 3 Year Data Plan.
1.7 Determination of classification changes	The IHPA will evaluate the results from the consultation and makes a decision on the change proposal to either (a) Implement the change in the next version, (b) Hold over changes to the next release, (c) Or reject the proposal.		The decision will be recorded along with information on the rationale for the decision and future work on identified topics.
1.8 Publication	The IHPA will publish updated classifications with details of changes included in the new version.		The classification update will accurately reflect the policy intent and will include details of changes between versions.

A2. Data Quality Assurance Classification Systems and Activity Data Collection

Function	Process	External quality assurance	Internal quality assurance
2. Classification Systems and Activity Data Collection			
2.1 Formal request for data	The IHPA emails jurisdictional contacts (by email) with instructions on method of delivery; file format; Delivery Address, Data Request Specification and data quality conformance statement templates.		The request for data is in accordance with processes specified in the Data Plan. States are explicitly requested to provide a data quality conformance statement.
2.2 State data collection	States organise their own data collections. They then collate the IHPA required data based on the DSSs.	States are responsible for the quality of their data. States are required to establish independent validation process (as required at NHRA b95).	
2.3 Pre-submission validation	States will use a common tool for to check their data against each set of DSS standards. This will provide error reports to states and so enable errors to be detected and checked earlier.	States will have access to a pre-submission tool that will validate their data files conformance with the DSS standards and provide information on whether the state data set complies with the published specifications.	IHPA to provide pre-submission tool to states for data validation. Initially, this will be done using a stand alone piece of software (based on CHECK_IT) The longer term approach will be to integrate this into a data submission portal.
2.4 Initial state data submission	States submit pre-validated data to IHPA in specified format against DSS.	DATA QUALITY STATEMENT 1 – e.g by State/Territory data technical manager.	
2.5 Initial validation of submitted data	The IHPA validates the data against the DSS and Data Submission Requirements and identifies data anomalies.		
2.6 Preliminary statistical analysis and advice to states	The state data submission will be uploaded into a data set and will be examined for overt anomalies.	Data issues will be discussed between the IHPA and submitting state to resolve where possible.	
2.7 Updated data submission	Remaining anomalies after discussions are fixed by the Jurisdictions.	ANNUAL DATA QUALITY STATEMENT 2 – e.g. by State/Territory responsible executive or delegate.] The Jurisdictions will then resubmit data to the IHPA.	Data issues log and record of data quality statements to be retained.
2.8 Database prepared	Once all anomalies have been addressed, the final databases are created with data from all jurisdictions merged and calculated fields added.		ANNUAL DATA QUALITY STATEMENT 3 – by IHPA data base manager or delegate that that applies to the National collection.

A3. Data Quality Assurance NHCDC costing data classification and specification and quality assurance measures

Function	Process	External quality assurance	Internal quality assurance
3. NHCDC costing data classification and specification and quality assurance measures			
3.1 Call for submissions	The IHPA will call for submissions to change the Hospital Costing process.		Accurate recent data used to inform classification work.
3.2 Submit costing change submission	Jurisdictions will create submission and forward them to the IHPA. Internal Stakeholders can also create submission to change the Hospital Costing process.	Effected parties can contribute to development of accurate classifications to ensure these are fit for purpose.	
3.3 Receive submission	All submissions will undergo an initial assessment by the IHPA (Hospital Costing).	Input from experts with expertise in appropriate technical or clinical areas will inform classifications.	The IHPA will take a procedural approach to evaluations, through logging submissions and tracking their progress.
3.4 Gain expert opinion	The NHCDC Working Group will provide advice around proposes changes.	Input from experts with expertise in appropriate technical or clinical areas will inform classifications.	
3.5 Analyse activity and costing data	The IHPA (Hospital Costing) will analyse cost and activity data to determine the impact of the change.		The IHPA will ensure that analysis is reproducible and correctly interprets the proposal.
3.6 Develop change proposal	A change proposal is then created, taking into account the NHCDC working group recommendations and the analysis.	Change process submitted through appropriate governance channels, in accordance with timing specified in the 3 Year Data Plan.	The change proposal will be documented.
3.7 Consultation with originators	The proposal is then consulted with the originators.	Originators can provide input on proposed changes	The change proposal will be documented.
3.8 Change for next version	The IHPA (Hospital Costing) takes the results from the consultation and makes a decision on the change proposal.		The decision will be recorded along with information on the rationale for the decision and future work on identified topics.
3.9 Publish next version	If the proposal is accepted the process is updated at the next release.	Classification and specification details published and available for external scrutiny.	The classification update will accurately reflect the policy intent and will include details of changes between versions.

A4 Data Quality Assurance NHCDC costing data collection and analysis

Function	Process	External quality assurance	Internal quality assurance
4 NHCDC costing data collection and analysis and quality assurance measures			
4.1 Request for data	The IHPA Hospital Costing Team will send the Hospital Reference Manual and Data Specifications to the Jurisdictions.		The request for data is in accordance with processes specified in the Data Plan. States are explicitly requested to provide a data quality conformance statement.
4.2 States prepare	States organise their own data collections. They then collate the IPHA required data based on the Hospital Reference Manual and data specs.	States are responsible for the quality of their data. States are required to establish independent validation process (as required at NHRA b95).	
4.3 States submit Quality Assured Data	The data is quality assured by the jurisdictions and sent to IHPA (or service provider- ie for round 15 this service will be provided by Visasys).	DATA QUALITY STATEMENT 1 – e.g by State/Territory data technical manager filed by IHPA A data conformance statement by state submitter including application of independent validation (as required at NHRA b95) sent to IHPA.	Data conformance statements are filed.
4.4 Submission checks	The IHPA (or contracted service provider undertakes initial conformance checks, and provides feedback to submitting state on compliance.		Data is checked for conformance against access templates and manually reviewed.
4.5 Quality Assurance checks and reports to submitters	IHPA (or contracted service provider) checks the data against the previous year's results nationally and for that facility and returns any DRG which has more than a 20% variance.	Resubmission checking will provide immediate feedback on the compliance of data files, which will enable submitters to correct data. Detailed reporting features will assist states investigate data errors that are flagged. The software is kept up to date with the latest ABF DSS specifications.	
4.6 Updated data submission	The jurisdictions will address the issues and resubmit the data to the IHPA.	DATA QUALITY STATEMENT 2 – [e.g. by State/Territory responsible executive or delegate. A data conformance statement by appropriate state delegate, including application of independent validation (as required at NHRA b95) sent to IHPA.	Data conformance statements are filed.
4.7 Create final databases	The final databases are created which contain the national costing data for all participating facilities, with separate databases for acute, subacute, emergency department and outpatient.		

Function	Process	External quality assurance	Internal quality assurance
4 NHCDC costing data collection and analysis and quality assurance measures			
4.8 Generate Cost Weights and tables	After the final databases are created the cost weights are created. The cost tables, which form the basis for the Yearly NHCDC cost report, are also generated from the final databases.	These tables are sent to the representatives of the jurisdictions for review of cost weight tables and aggregated view of the cost data. This may require states to return to the source system to correct any errors.	
4.9 Sign off data	A meeting is then scheduled to facilitate sign off of the cost weights and cost tables from the Commonwealth, jurisdiction and Private Hospitals.	Finalisation of data is done through a collaborative process with representation by delegates. Independent validation may be sought.	Records of meeting and sign off will be retained and filed.
4.10 Generate Cost Report	After sign off the jurisdictions and the Hospital Costing Team work together to document the supporting text required for the cost weight tables within the NHCDC cost report.		Records of meeting and sign off will be retained and filed.
4.11 State review of cost report		Jurisdictions will review and sign off the final NHCDC cost report. State input on the cost report will provide assurance that data is best available and fit for purpose.	Records of sign off will be retained and filed.
4.12 IHPA publish cost report	The summary cost report will be published. Participating hospitals and states will have access to agreed comparative data.	Publication of cost report provides transparency and scrutiny of process outputs and processes.	DATA QUALITY STATEMENT 3 – by IHPA data base manager or delegate – [the NHCDC technical report serves this function] for the National collection.

APPENDIX B – DATA QUALITY STATEMENTS

Data conformance certification will be prepared for data collected for ABF. This will be formalised through a data quality statement for the activity and costing data collections.

B1- Data quality statement process- activity data

The data quality statement for activity data is to capture activity data collections for

- Acute
- Emergency Department (admitted and non-admitted)
- Non Admitted- Clinic and Community Based Non Admitted
- Subacute
- Mental Health

Each data collection will be subject to three data quality statements.

Data statement and timing	Details to be included
QUARTERLY-DATA QUALITY STATEMENT 1 – e.g by State/Territory data technical manager	A data conformance statement by **state or territory submitter** including: ▪ Details of independent data integrity check ▪ Qualification of data -missing records, missing variables, coding errors, ▪ Issues with application of standard definitions ▪ Reliance on recoding, mapping limitations/basis for estimates/defaults.
ANNUAL- DATA QUALITY STATEMENT 2 – e.g. by State/Territory responsible executive or delegate.	A data conformance statement by **appropriate state delegate** including: ▪ Statement of best endeavours to provide true and accurate data ▪ Details of independent data integrity check ▪ Qualification of data -missing records, missing variables, coding errors, ▪ Issues with application of standard definitions ▪ Reliance on recoding, mapping limitations/basis for estimates/defaults.
ANNUAL- DATA QUALITY STATEMENT 3 – by IHPA data base manager or delegate – the NHCDC technical report serves this function	The **IHPA Executive Director- ABF** will prepare the final merged data base and a compiled data quality statement in the form of a technical report. The IHPA technical report will be submitted to the Pricing Authority and include: ▪ Collated qualifications from each State/Territory. ▪ Tabulated issues identified by the IHPA validation and merge processes. ▪ Prioritised data improvement recommendations for inclusion in forthcoming issues of the data plan. Once endorsed by the pricing Authority this will be published to ensure transparency and enable scrutiny of process outputs, processes and data quality.

The activity data collections will also be supported by IHPA documentation that details of processes followed for each stage in the collection cycle:

- Details of classification development process
- Details of DSS development (including links to DSS)
- Details of data compliance statement and other activity data recording, including:
    - Data has been submitted in accordance with DSS
    - Checkit validation undertaken
    - Data checked for consistency validity at national level.

B2- Data quality statement templates- activity data

Notification of data submission to IHPA

Instructions for use	This form is to be submitted: 1. Quarterly on by technical officer on initial supply of CHECKIT validated data to IHPA [INITIAL SUBMISSION] 2. Annually by appropriate delegate after IHPA validation of state dataset in consultation with state technical officers [FINALISATION OF STATE DATA SET]
1 (a) Notice of submission	I, [INSERT FULL NAME HERE] as [INSERT TITLE] have submitted the [INSERT JURISDICTION] dataset specified by [INSERT DSS NAME HERE] covering activity for the period from [dd/mm/yyyy] to [dd/mm/yyyy]. [SIGNATURE]
1 (b) Date-time submitted	[dd/mm/yyyy]
1 (c) Method of submission:	[eg portal, email, disk, USB flash drive / memory stick]
1 (d) Delivery media and details	[eg If Australia Post/courier provide reference number, if electronic file transfer- provide link or reference number]
2 (a) Notice of conformance	The dataset detailed above conforms as closely as achievable with the specifications, definitions and coding standards detailed or referenced in the DSS [SIGNATURE/INTIAL]
2 (b) Notice of quality assurance	The following data quality assurance checks have been made on the data: [INSERT DETAILS OF STATE DATA QUALITY ASSURANCE ARRANGEMENTS, INCLUDING AS A MINIMUM INDEPENDENT DATA INTEGRITY ARRANGEMENTS]
3 (a) Notice of data limitations	I provide notice of the following known limitations in relation to [INSERT JURISDICTION] compliance with the DSS specifications[SIGNATURE/INTIAL] [IT IS EXPECTED THAT THIS LIST MAY IDENTIFY ISSUES IN THE FIRST SUBMISSION THAT CAN BE RESOLVED BEFORE FINALIZATION. POSSIBLE EXAMPLES INCLUDE: • DATA COMPLETNESS • POSSIBLE DUPLICATION OVERLAPS • VARIABLES WITH CODING LIMITATIONS • COUNTING QUALIFICATIONS
3 (b) Notice of state plans to address data limitations	[INSERT SUMMARY DETAILS HERE- ADDING PAGES AS NECESSARY- MORE DETAIL MAY BE REQUIRED BY IHPA TO PROVIDE APPROPRIATE ADJUSTMENTS TO NATIONAL EFFICIENT PRICE METHODOLOGY]
3 (c) Notice of request for data limitations to be addressed through National approach	I request that the IHPA facilitate collaborative review of conformance of this dataset with the DSS to evaluate the following specific data quality or conformance areas: [INSERT SUMMARY DETAILS HERE- ADDING PAGES AS NECESSARY] [IT IS ANTICIPATED THAT THE DETAILED ISSUE WOULD BE RAISED AND ADDRESSED THROUGH THE APPROPRIATE IHPA COMMITTEE STRUCTURE]
4 Notice of conditional submission	I advise that [INSERT JURISDICTION NAME] is undertaking further consolidation and checking of the source data and an updated dataset will be provided on [dd/mm/yyyy]

B3- Data quality statement process – Costing

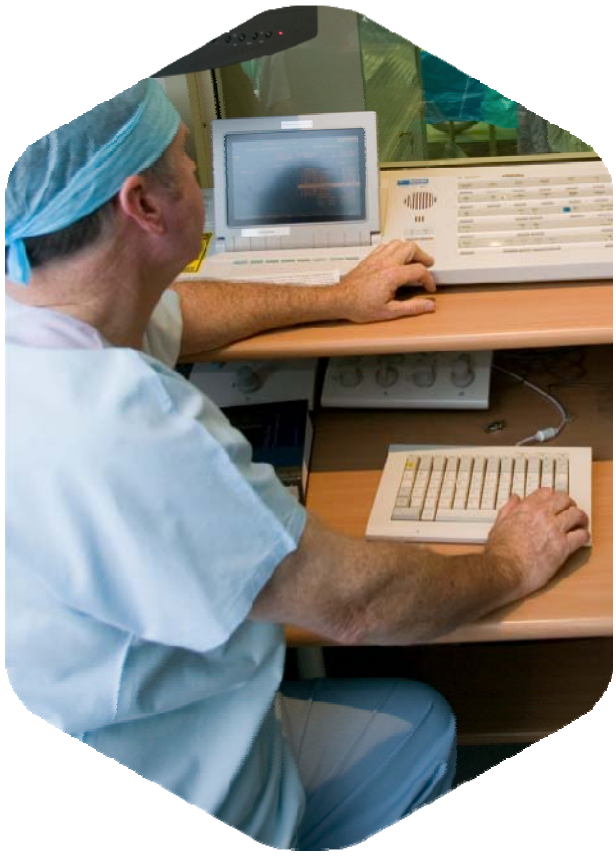
The data quality statements for Costing data will be informed by examination of conformance with the specifications for the three streams of data required for accurate costing of public hospital activity. These are activity data, utilisation data and financial data. Each have related but differing quality requirements and levels of available precision and detail.

Data statement and timing	NHCDC-Activity data	NHCDC-Utilization data	NHCDC Financial data
DATA QUALITY STATEMENT 1 - e.g. by State/Territory data technical manager.	A data conformance statement by **state or territory submitter** including: • Details of independent data integrity check • Qualification of data - missing records, missing variables, coding errors, • Issues with application of standard definitions • Reliance on recoding, mapping limitations/basis for estimates/defaults.	A data conformance statement by **state or territory submitter** including: • Details of independent data integrity check • Qualification of data - missing records, missing variables, coding errors, • Issues with application of standard definitions • Reliance on recoding, mapping limitations/basis for estimates/defaults.	A data conformance statement by **state or territory submitter** on expenditure financial data – including • Reconciliation and public audit status • Metadata and mapping data • Product fraction quality and precision measures • Inclusions of intermediate product costs in hospital expenditure • Revenue offset practice conformance with NHCDC standards • Cost of capital and depreciation recording practices.
DATA QUALITY STATEMENT 2- e.g. by State/Territory responsible executive or delegate.	A data conformance statement by **appropriate state delegate** including: • Statement of best endeavours to provide true and accurate data • Details of independent data integrity check • Qualification of data - missing records, missing variables, coding errors, • Issues with application of standard definitions • Reliance on recoding, mapping limitations/basis for estimates/defaults.	A data conformance statement by **appropriate state delegate** including: • Statement of best endeavours to provide true and accurate data • Details of independent data integrity check • Qualification of data - missing records, missing variables, coding errors, • Issues with application of standard definitions • Reliance on recoding, mapping limitations/basis for estimates/defaults.	A data conformance statement by appropriate state delegate including: • Statement of best endeavours to provide true and accurate data Reconciliation and public audit status • Metadata and mapping data • Product fraction quality and precision measures • Inclusions of intermediate product costs in hospital expenditure • Revenue offset practice conformance with NHCDC standards • Cost of capital and depreciation recording practices.

DATA QUALITY STATEMENT 3- by IHPA data base manager or delegate – the NHCDC technical report serves this function.	The **IHPA Executive Director-ABF** will prepare the final merged data base and a compiled data quality statement in the form of a technical report. The IHPA technical report will include: • Collated qualifications from each State/Territory. • Tabulated issues identified by the IHPA validation and merge processes. • Prioritised data improvement recommendations for inclusion in forthcoming issues of the data plan.	The **IHPA Executive Director-ABF** will prepare the NHCDC costing study technical report for submission to the Pricing Authority. Once endorsed by the pricing Authority this will be published to ensure transparency and enable scrutiny of process outputs, processes and data quality issues.	The **IHPA Executive Director-ABF** will prepare the NHCDC costing study technical report for submission to the Pricing Authority. Once endorsed by the pricing Authority this will be published to ensure transparency and enable scrutiny of process outputs, processes and data quality issues.

The Costing data collections will also be supported by IHPA documentation that details of processes followed for each stage in the collection cycle:

- Details of classification development process
- Details of data specifications (including links to specifications)
- Details of data compliance statement and other activity data recording, including:
  - Data has been submitted in accordance with specifications
  - Check validation undertaken
  - Data checked for consistency validity at national level



B4- Data quality statement template – Costing

Notification of data submission to IHPA

Instructions for use	This form is to be submitted twice: 1. Completion by technical officer on initial supply of CHECKIT validated data to IHPA [INITIAL SUBMISSION] 2. Completion by appropriate delegate after IHPA validation of state dataset in consultation with state technical officers [FINALISATION OF STATE DATA SET]
1 (a) Notice of submission	I, [INSERT FULL NAME HERE] as [INSERT TITLE] have submitted the [INSERT JURISDICTION] dataset specified by [INSERT DSS NAME HERE] covering activity for the period from [dd/mm/yyyy] to [dd/mm/yyyy]. [SIGNATURE]
1 (b) Date-time submitted	[dd/mm/yyyy]
1 (c) Method of submission:	[eg portal, email, disk, USB flash drive / memory stick]
1 (d) Delivery media and details	[eg If Australia Post/courier provide reference number, if electronic file transfer- provide link or reference number]
2 (a) Notice of conformance	The dataset detailed above conforms as closely as achievable with the specifications, definitions and coding standards detailed or referenced in the DSS [SIGNATURE/INTIAL]
2 (b) Notice of quality assurance	The following data quality assurance checks have been made on the data: [INSERT DETAILS OF STATE DATA QUALITY ASSURANCE ARRANGEMENTS, INCLUDING AS A MINIMUM INDEPENDENT DATA INTEGRITY ARRANGEMENTS]
3 (a) Notice of data limitations	I provide notice of the following known limitations in relation to [INSERT JURISDICTION] compliance with the DSS specifications[SIGNATURE/INTIAL] [IT IS EXPECTED THAT THIS LIST MAY IDENTIFY ISSUES IN THE FIRST SUBMISSION THAT CAN BE RESOLVED BEFORE FINALIZATION. POSSIBLE EXAMPLES INCLUDE: • DATA COMPLETNESS • POSSIBLE DUPLICATION OVERLAPS • VARIABLES WITH CODING LIMITATIONS • COUNTING QUALIFICATIONS
3 (b) Notice of state plans to address data limitations	[INSERT SUMMARY DETAILS HERE- ADDING PAGES AS NECESSARY- MORE DETAIL MAY BE REQUIRED BY IHPA TO PROVIDE APPROPRIATE ADJUSTMENTS TO NATIONAL EFFICIENT PRICE METHODOLOGY]
3 (c) Notice of request for data limitations to be addressed through National approach	I request that the IHPA facilitate collaborative review of conformance of this dataset with the DSS to evaluate the following specific data quality or conformance areas: [INSERT SUMMARY DETAILS HERE- ADDING PAGES AS NECESSARY] [IT IS ANTICIPATED THAT THE DETAILED ISSUE WOULD BE RAISED AND ADDRESSED THROUGH THE APPROPRIATE IHPA COMMITTEE STRUCTURE]
4 Notice of conditional submission	I advise that [INSERT JURISDICTION NAME] is undertaking further consolidation and checking of the source data and an updated dataset will be provided on [dd/mm/yyyy]

APPENDIX C: PRICING FRAMEWORK SUBMISSIONS: - DATA QUALITY QUOTES

Rationale for quoting stakeholders on data quality

The following quotes drawn from submissions on the draft Pricing Framework provide a selection of concerns by states, territories and other interested parties relating broadly to issues of data quality. These are not meant to be comprehensive, nor to represent the full thinking of the stakeholders, but rather to provide some indication of concerns in this domain, and the broad support for ensuring the information upon which the IHPA bases the efficient price is informed by the best available data, and to indicate that there is broad support for an approach that leads to ongoing improvements in the quality of data available to the IHPA.

It is recommended that each quote be considered in the context of the broader submission from which they are drawn. These are available at: http://www.ihpa.gov.au/internet/ihpa/publishing.nsf/Content/sub-received

State submission quotes on data quality

In keeping with its functions as set out in Clause B3b and B3c in the NHRA, the IHPA has a key role to play in strengthening data quality across the system, working alongside states to support improvement rather than penalise poor data quality. While states are ultimately responsible for providing accurate data, the IHPA has the capacity to advise states in identifying and addressing data quality issues. This function is a natural by-product of the IHPA's analysis and work on defining data definitions, standards and so on. [2]

The new arrangements generate significant funding distribution uncertainty, which needs to be managed. This is generated by, among other things the development of new classification systems underpinned by data collections being undertaken for the first time; and limitations to the accuracy and the fitness for purpose of National Health Cost Data Collection (NHCDC) underpinning the NEP, and the reliance on data from other jurisdictions that is being used for the first time for ABF purposes. [3]

Implementation and ongoing operation should not escalate the data burden.[4]

2. Activity Based Funding for Australian Public Hospitals: Towards a Pricing Framework, NSW Government Submission, page 6
3. Victorian Government Submission- IHPA Draft Pricing Framework
4. Victorian Government Submission- IHPA Draft Pricing Framework
5. Western Australia's response to the Activity Based Funding for Australian Public Hospitals: Towards a Pricing Framework

There are known limitations for mental health data in the NHCDC which reflect inaccurate costs when determining a NEP. There is sufficient costed data evidence to suggest that further investigation into mental health data is required.

That the IHPA acknowledges the current limitations of a payment model based on DRGs for mental health services. Further, that the IHPA fully assesses the available options (ie block funding, mix of ABF/block funding) and applies a fair and transparent process for allocating prices for mental health services to ensure that the mental health sector is not disadvantaged, under the ABF framework and in the interim period.[5]

Public submission quotes on data quality

The AHHA recommends that a Continuous Quality Improvement (feedback and evaluation) process be incorporated into the Pricing Framework in order to continually assess the ongoing effectiveness of IHPA's functions, as distinct from a 'phasing and feedback adjustment' discussed in Chapter 10 of the draft Pricing Framework. The AHHA is already on the record as recommending the implementation of an evaluation process for the National Health Reform (NHR) as a whole. The Association has called for this process to be akin to Continuous Quality Improvement rather than a conventional academic evaluation to stimulate the system to 'learn and apply' as it goes, thus engendering a research culture within health services for those in both health management and clinical roles.[6]

Of great concern is inadequate testing and scepticism on the adequacy of existing classification systems and data quality to fairly implement ABF. The principles may sound good but if there is not the validity in the data or data is not comparable then the nicest principles will mean nothing.[7]

Until issues like:

- Significant variation in counting, coding, costing across hospitals
- Deficiencies in current casemix classification system like those outlined above
- Linkage between cost and process/clinical practice (with national standards) for high volume conditions need to exist or at a very minimum a detailed review to identify the size of the costing issues nationally

Till then linkage of cost to "best practice" will be little than a worthless accounting exercise that will fail to link clinical practice patterns to real efficiency and quality improvements.[8]

6. Australian Healthcare and Hospitals Assoc submission
7. Public Submission to IHPA – Pricing Framework Consultation Paul Tridgell Page: 3
8. Public Submission to IHPA – Pricing Framework Consultation Paul Tridgell Page: 3
9. Public Submission to IHPA – Health Information Management Association of Australia Limited
10. Public Submission to IHPA – CHF

Our members are very interested in the outcome of the pricing framework within the ABF environment and can contribute to the preparation and implementation of ABF in the following ways:

- review of classification systems and processes;
- data collection and analysis of costing data for non-inpatient services;
- data quality review and matching;
- collection and reporting of patient related characteristics and extraction of diagnosis and procedure data, including complications and hospital acquired conditions;
- understanding of coding ethics, auditing requirements and application of coding standards; and
- provision of education regarding accurate documentation, casemix and costing through education materials and toolkits [9]

These concerns relate to the absence of national standardised data to inform hospital funding[10]

While we understand the time requirements that the IHPA is operating under, a longer-term view is also required in relation to the development and maintenance of classifications. Such a longer term view is essential if the activity based funding model is to be progressively improved over time. This means that:

1. The classifications that are selected for ABF in 2012/13 need to be assessed for their appropriateness and performance before classification decisions are made for future ABF programs.
2. Decisions about classifications for use in 2013/14 and beyond, need to be informed by research and evidence. This requires an investment in research and development as soon as possible.

There is a need for a budget and a process for progressive refinement of patient classification systems over time. This needs to involve local system development and improvements. It also needs to involve strategic Australian contributions to, and evaluation of, international classifications.

Our very strong view is that ongoing research and development should be managed through strategic partnerships rather than through short term contracts and consultancies. There are very few people currently in Australia who have expertise in morbidity and casemix classification. Longterm investment in capacity building is urgently required.[11]

The focus of the outputs of these efforts will be largely reliant on the integrity of the data provided from which to make relevant decisions. It is a sad fact that data integrity in Australia is not as good as it could be, and there is a consequent risk of deliberate up coding and general mistakes being made. It will be a crucial factor in the setting of an efficient price that the integrity of the data be oversighted in the first instance and then followed on a regular basis for a number of years to ascertain if there are anomalies. The Industry believes this is sufficient a risk that the Independent Hospital Pricing Authority should ensure it develops methods of both control and sanction if there is obvious abuse.[12]

Overall, we see that there are two key priorities in the refinement of the Pricing Framework to support the robust implementation of activity based funding (ABF) through a national efficient price:
The establishment of nationally agreed definitions that underpin the scope and measurement of eligible services and enable consistent data.
A compliance and monitoring framework, including quality control strategies, to enable ongoing monitoring, review and improvement.[13]

In addition to defining the key terms that will be used as part of an efficient price and the pricing framework, effort focused on data collection, consistency and clarity will form a solid base from which a national efficient price can be determined. The current data collected has limitations in terms of timing, quality and consistency (given the disparity in the definitions outlined above). A credible efficient price relies on a strong base of reliable and valid data.[14]

11. Public Submission to IHPA – National Casemix and Classification Centre
12. Public Submission to IHPA – Private Healthcare Australia
13. Public Submission to IHPA – PWC
14. Public Submission to IHPA – PWC

The need for compliance monitoring, evaluation and review

A monitoring and evaluation framework is critical to the success of a nationally efficient price and the pricing framework itself. As better data is collected and regular, formal compliance reviews are completed, the 'efficient price' will have the robust evidence base necessary to engage stakeholders and to aid agreement to the pricing outcomes. Some key steps to consider in the development of a compliance monitoring framework and review process are to:

- identify key areas in the system where compliance monitoring/audit and quality control is required
- design compliance monitoring and quality control methodology and metrics, for example probe audit samples of material changes in activity patterns
- define and develop infrastructure to capture data to enable monitoring, for example the use of quarterly data uploads of qualified services and data mining for anomalies
- define and develop an implementation plan for the compliance program, including for example ongoing communication to providers of the parameters of the compliance framework and the focus of current audits (this approach is known to promote enhanced compliance)
- complete formal and regular evaluation of the framework and its outcomes.
- The need for a national efficient price is clear and funding on the basis of activity, where possible, will allocate funds based on services provided to the patient, encourage efficiency in health service provision and provide a robust evidence base to inform policy regarding the efficient funding of our public hospital services. Our submission aims to build on the work developed in the draft pricing framework report to highlight the key areas where future effort could be spent on completing the final pricing framework.

It is well recognised (and demonstrated in PwC's project work) that there is considerable variation in the operational definition of public hospital services between and within jurisdictions that undermines the reliability and validity of current data sets. Should such variation persist in an ABF environment public confidence in the outcomes of activity based funding (ABF) would be undermined. We therefore concur with the Pricing Framework moving ahead with the 'IHPA determination' pathway and in our responses to the questions below we focus on the need for the criteria and 'guidance notes' to be more precise.[15]

Develop compliance monitoring and quality control strategies

- Identify key areas in the system where compliance monitoring/audit and quality control is required.
- Design compliance monitoring and quality control methodology and metrics.
- Define and develop infrastructure to capture data to enable monitoring.
- Define and develop implementation plan.

Monitor, evaluate and review

- **Monitor:** Perform annual review of funding outcomes, and identify:
  - Areas of funding deficit and surplus, including identification of causes.
  - Using the quality control framework identify unintended adverse consequences, eg cost shifting, patient selection, up-coding etc.

- **Evaluate:**
  - Validate findings.
  - Evaluate validated findings against existing definitions, scope, criteria and funding methodology, and determine medium to long term impact.

- **Review:** Consultation and propose changes:
  - Classification system development, including specification of the data elements that support ongoing research.
  - Payment methodology.
  - Funding eligibility criteria.
  - Implementation of mechanisms to minimise unintended and adverse consequences.

15. Public Submission to IHPA – PWC
16. Public Submission to IHPA – PWC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